



National Centre for Research Methods Report

Short courses in advanced research methods:
Challenges and opportunities for teaching and
learning

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Abstract

The concern to ensure an appropriately prepared and skilled research workforce in the UK has led to considerable investment in training provision in advanced research skills. Recent research attention within the ESRC National Centre for Research Methods has also turned to the teaching and learning of advanced methods, with the intention of enhancing the pedagogical culture surrounding advanced research methods and short course provision. This paper draws on a year-long study comprising an adapted expert panel method (interviews with methods specialists with emergent themes followed up in focus group interviews with experienced and specialist methods teachers and in an online forum with doctoral and early career methods learners), combined with detailed observation and video recording of short course teaching/training events used to stimulate focus group dialogue. In this paper the dataset from the study is used to explore the (sometimes) distinctive pedagogical challenges faced by methods teachers and learners with the aim of stimulating further dialogue as well as providing practical guidance. The challenges are discussed, largely in the participants' own terms, alongside various ways in which they are being addressed by those involved.

Introduction

There has been relatively little scholarly attention paid to how research methods are taught and learnt. This situation has been reflected in recent reviews of the literature; Wagner, Garner and Kawulich (2011) conclude, based on systematic review, that the teaching of social research methods lacks a 'formal pedagogical culture' and Earley (2014) argues that too little attention has been paid to learners, whether in relation to the aims, delivery, or outcomes of taught courses in research methods. While our own review (Kilburn, Nind, and Wiles, 2014) identifies a burgeoning dialogue concerning how research methods are taught and learnt, this remains largely confined to instructor reflections rather than empirical engagement. This paper presents findings from a qualitative study into how research methods are taught and learnt on short courses aimed at learners who have already embarked on research careers (often referred to as 'advanced training'). Three themes from this research are explored here: firstly, the qualities and characteristics of learners; secondly, the starting points, structure and timing used by teachers; and thirdly, the role of data in teaching research methods.

Our study has focused on those learners who are already involved in research (at postgraduate level and beyond), whether in academia or in other sectors. Advanced training in social research methods is primarily meant to distinguish between teaching/training aimed at (and usually only accessible to) students on taught degrees, and training that is also available to those who have already embarked on an academic/research career. In this respect, Earley

(2013) offers a useful distinction between learners as *producers* and *consumers* of research – with our study being focused on methodological teaching and learning aimed at those seeking to produce research (whether as postgraduate research students, or researchers in the higher education, public, or private sectors). There is a considerable volume of training of this kind on offer for researchers in the UK, whether through ESRC-funded initiatives or offered by higher education institutions, research organisations, or commercial providers (see Moley, Wiles and Sturgis, 2013). However, to date we are not aware of any research which has specifically examined the teaching and learning processes involved in the sorts of short (one- to five-day) training courses offered by these providers.

The research informing this paper has been aimed at fostering and sustaining a dialogue between academics involved in steering and developing advanced methods training, teachers on a number of research methods training courses, and learners of research methods. These stakeholders share – both with us and with each other – a common interest in research methods and methodologies. Our research was therefore designed with the aim of creating a pedagogic dialogical space, within which the processes and outcomes of this research might stimulate an open discussion regarding how different research methods are taught and learnt. This approach was intended to balance our commitment to conduct research *with* (rather than *on*) these participants, with the intention of elucidating how the teachers and learners saw and responded to the pedagogical challenges associated with short courses in advanced research methods. With this in mind, our research questions included:

- i. What distinctive pedagogical challenges arise in teaching advanced, or innovative, social science research methods?
- ii. How do teachers and learners respond to those challenges? and
- iii. What is the nature of teachers' pedagogical content knowledge and learners' insight into this?

The research was designed around two key components. The first of these was an 'expert panel' method. This comprised individual interviews with eight senior academics with specialist knowledge or strategic roles in capacity-building for a range of research methods (see Appendix for a list of participants). The key themes from these interviews were then fed back to the interviewees themselves, before being used as the basis for three additional face-to-face focus groups comprising 15 teachers who are deeply immersed in teaching particular methods and an open online discussion involving 18 PhD students and early-career researchers (as learners or prospective learners of advanced research methods). The method thereby involved the generation of data through an iterative dialogue with these various groups of participants with pertinent expertise. The second component involved focus group discussions with teachers and learners on four selected advanced research methods training courses to incorporate their valued practical and experiential expertise. These focus groups were based around video-

stimulated recall and reflection on the training sessions themselves (see Nind, Kilburn and Wiles, forthcoming). Compact high-definition cameras and an omni-directional microphone were used to record video from the training sessions to a laptop computer (for further information see Kilburn, 2014). Video clips were then selected for playback as a means of stimulating discussion in these focus groups around particular moments from the day's training. Four video-stimulated focus groups were conducted involving between three and twelve learners and one to three teachers – one on multi-modality (MM), one on computer-assisted qualitative data analysis software (CAQDAS), one on multi-level modelling (MLM), and one on systematic review (SR).

Data from these various group discussions and individual interviews were transcribed from audio recordings, before undergoing a thematic analysis and coding using NVivo. Three prominent meta-themes which emerged from this analysis are presented in this paper: The qualities and characteristics of learners; the ways in which teachers start, structure, and pace their training sessions; and the role played by various types and sources of data for teaching social research methods. These themes emerged through dialogue amongst and between teachers and learners. They are presented here as a means of elucidating how teachers and advanced learners experience and respond to the potential challenges and opportunities associated with learning research methods on short training courses. In what follows, the methodological specialists from the initial expert panel interviews are referred to by their role (these individuals gave consent for their names to be used in the report and are listed in the appendix); other participants are referred to by pseudonyms.

Learner Qualities

Short courses in research methods are designed to meet the needs of learners who are seeking to develop certain methodological skills. This may sound simple to achieve, especially where experienced researchers and teachers are able to bring their methodological and pedagogical knowledge to bear. However, short training courses in research methods typically draw together diverse groups of learners, including doctoral researchers, academics, and research staff, all from a range of disciplinary and professional backgrounds. This diversity may present both challenges and opportunities in terms of anticipating the prior knowledge, skills and expectations of learners, and addressing these through the course design, content, and teaching approach.

Learners' expectations of methods training courses are likely to vary widely. As Vincent, a civil service researcher attending the MLM course, explained: *'everyone comes here with a different idea of what they want to get out of the course, so maybe as you teach, somebody may be thinking "oh okay, I may be able to use that", or "that would be helpful", or "I don't think I knew*

that”, and then some people may be also just trying to get more information to assess how they can apply it to their research’. Unlike on many taught degree modules for research methods, learners typically self-select into particular training courses. This was echoed by one of our methods specialist interviewees who explained how their research students ‘*come to their PhD wanting very, very advanced training, and so often they’re coming to the DTC to do very, very specific techniques*’. Armin echoed this when discussing his expectations of the multi-level modelling course as a source of insight for his research: ‘*I am basically starting a PhD on multilevel modelling, or something related to multilevel modelling, so was just wondering, like, what research can I ponder over the next four years?*’. Learners therefore hold understandably high expectations in seeking training that will develop their methodological repertoire, whether with a view towards expanding their knowledge or acquiring the skills necessary to undertake a particular research problem or task.

While learning new methodological skills can constitute a source of anxiety, some learners nevertheless welcomed the expectation that they would find the content on these advanced research methods courses challenging, as illustrated by this exchange with a learner on the SR course:

- Melanie: *So you were looking for a challenge?*
Tina: *So, I was looking for something that was more than basic.*
Melanie: *And were you challenged; was it advanced enough for you?*
Tina: *Yeah, I think so.*

Addressing expectations regarding the difficulty of the content may sometimes pose particular challenges for teachers and organisers of advanced methods courses. As Jason, a learner on a MM course, explained: ‘*It’s because we are all from different backgrounds, and for me, it could have been much more complex, it could have been more in depth, and I would have really liked this kind of challenge but for others this was something completely new, so that’s the difficulty*’. A key question thus begins to emerge over how course content is communicated in advance, such that prospective learners can anticipate the level of difficulty. As Tina explained in relation to the SR course, ‘*I remember seeing the word advanced somewhere. And I thought it’s got to be the next stage on from things that I’ve learnt previously or things I already know, so I think that was key*.’ Learners thus appeared conscious of the challenges involved, both in accommodating a range of skills within a course, but also in ensuring that the content remains sufficiently challenging so as to meet learners’ expectations. Teachers were also sympathetic to the situation of learners, as Thelma concluded based on her experience of teaching advanced courses in narrative methods: ‘*Students are often funding things themselves and really, it’s a big chunk of money, it’s a bit of a personal gamble actually*’. Teachers’ decisions over the content and delivery of methods training must therefore be seen in the context of an awareness of the

investment or commitment learners have made in attending a course, and the importance of meeting the expectations they hold.

Learners come to training sessions with varied skills, expertise and experience; teachers almost invariably mentioned variation in skills as a key challenge of teaching short methods courses. For instance, Sandy considered this the major challenge in her experience of teaching courses in qualitative/narrative methods: *'I think definitely the skills of learners, and I think especially the fact that the skills are so varied. So whether you are teaching a module within the University or whether you were doing these kind of more workshop-py ones that are open to more people, you're going get a real range of skills'*. Similarly, in his experience of teaching quantitative methods to PGR and PGT students, Kev responded to the question of 'challenges': *'You've got some people who've got mathematical background and then all the way through to some people who might have stopped doing maths at sixteen'*.

More experienced learners can constitute a resource for teachers; our findings suggested that it is common for experienced researchers to attend short course training sessions. These learners may be seeking to develop their skills in a method similar to those which they use in their own research, or they may simply be seeking opportunities to meet or network with others who practice similar methods. As Thelma described, with reference to her teaching of narrative research: *'Particularly if you are thinking about advanced methods, you [may] have scholars there who maybe have an expertise in one particular kind of field of qualitative research but are relative novices, say, in narrative or another [method]. And then you have the kind of doctoral students who have extraordinary expertise ...'*. Similarly, one of our qualitative specialist interviewees described how the NCRM 'NOVELLA' node attracted a broad range of learners, by *'not setting ourselves up as the experts on [narrative analysis], but working with the people who are more knowledgeable than we are'*. In this case, NOVELLA's teaching approach explicitly sought to nurture co-learning between participants and the teachers of short courses.

The presence of researchers or practitioners with particular experience in the method at hand can also be a source of anxiety for teachers. Nadia explained how her initial feelings in response to finding out that a learner on her CAQDAS course had experience with the software: *'So that was a challenge for me, because when she introduced herself and she told me that she'd used [software name] interview projects before. That was kind of, "argh, she's going to know more than I do"'*. However, Nadia went on to explain how she used techniques to involve the more experienced learners in sharing their knowledge and expertise during the session, which she described as *'a really good teaching mechanism for me'*. When asked about the role that the more experienced learners played in that particular session, one learner (Kim) commented: *'I found that useful. I did, so it's good to have, because it's another perspective in the room, somebody who's used it. I thought it worked really well'*. Teachers may therefore wish to

consider ways in which they might harness particular levels of expertise within their learner groups. One option may be through co-teaching, whereby more experienced learners are invited to contribute in particular ways during class dialogue or exercises, as occurred during the CAQDAS training we observed.

Levels of knowledge, expertise or experience amongst learners are often an unknown quantity; this was another of the most common responses when teachers were asked about the challenges they encountered when teaching short courses. Given the self-selecting nature of most courses, coupled with the fact that learners come from a broad range of backgrounds, the level of experience in a given group of learners can constitute an ‘unknown’ for teachers (such as might not occur on a degree course). Anne described the challenge of teaching short courses in multimodal analysis: *‘I think it’s partly not knowing where everybody else is coming from in terms of starting from scratch with the idea of multi-modality and some people being really quite experienced with it and finding some way that’s going to hopefully pitch it about right for everybody’*. Her colleague Evie added: *‘I totally agree, I mean that’s something you need to do ... We have to plan it before you know who the participants are’*.

Teachers of short courses must therefore strike a balance between the need to plan their teaching and the difficulty in anticipating the level of the learners. Anton reflected on this when identifying the challenges of teaching multi-level modelling: *‘What people’s background knowledge is, where they’re starting, the baseline knowledge about different things, you don’t want to make too many assumptions’*. This was echoed by Jayne, with reference to teaching advanced qualitative methods: *‘That’s been one of the more frustrating aspects of teaching methods at that level ... that you couldn’t make any assumptions about any disciplinary grounding or particular knowledge’*. Given that much teaching preparation is based around assumptions regarding the competence and needs of learners, the difficulties associated with making these assumptions for a one-off course pose a substantial challenge. The majority of courses (including all the ones featured in this research) provide information about the required level of prior knowledge for prospective attendees. However Phoebe, one of our teacher focus group participants emphasised how *‘it’s hard to know what advanced means’* (with respect to teaching qualitative or mixed methods). She went on to explain how the *‘theoretical and critical skills’* required are *‘not easily measured by, “well I’ve done this course in something or other, therefore I am at this level”’*.

In table 1 we summarise the challenges relating to learners’ expectations, preparedness and skills, together with the solutions to them that were discussed or observed.

Challenges	Possible Solutions
Assisting prospective learners to self-select onto a course on which the content meets their needs or expectations	Ensuring that a clear, concise, yet sufficiently detailed description of the course aims and content are provided in advance
Teaching learners with a wide range of prior skills or experience (regardless of the level at which courses are advertised)	Including a degree of flexibility or contingency, to account for possible variation in the skills of learners Incorporating more experienced learners to draw on their expertise to benefit the learning of others
Anticipating learners' experience levels	Explicitly stating the prerequisite level of experience or prior knowledge Assessing applicants against entry requirements

Table 1: Summary of challenges and possible solutions related to learners' expectations, preparedness, and the matching of skills

Starting Points, Structure, and Timing

Given the relatively intensive nature of short courses, especially those pitched at a more advanced level, teachers are likely to face important decisions regarding how best to structure the content that they wish to cover within a given time frame. These decisions appear as particular challenges in the context of the issues discussed above, concerning the difficulty of anticipating and meeting the needs of diverse groups of learners on research methods courses. When planning and preparing for courses such as these, teachers may therefore find themselves having to make decisions about where to start, what to include, and how best to structure the material, for groups of learners about whom they know relatively little in advance.

Evaluating learner unknowns and making decisions about how to pitch the training appeared to be one of the most challenging aspects in planning training and adapting plans to meet the needs of the learner group. Teachers identified the importance of understanding the knowledge, abilities and experiences within the learner group. As Abigail, one of the tutors on the MLM course, noted: *'Well I would say probably the challenging thing is that different people come in with different levels of ability or prior knowledge or experience [and] in fact in the case of today, interests, in terms of research questions or specific problems. So trying to provide a general idea of what's important, and capture some of the very specific issues and questions that people have, and then try and keep an eye on whether people have lost the flow or have*

not and are still keeping up, I think that's the challenge with it. It's trying to get that sort of balanced view'.

Assessing learners through introductions was one key way of managing these issues. Where possible teachers asked participants to briefly introduce themselves and their previous experience and/or what they wanted from the training. Nadia, the CAQDAS course tutor, commented: *'The challenges of any session are who's going to be in the session and having to quickly work out where I'm going to pitch the way I'm talking. So that's why the introductory session's really important to me. And the smaller the group, the better that is, because the longer I can give to each person to talk. They provide a little bit of information about where they're coming from when they register, but that's really not enough. And I try to make the training workshops as relevant to the particular needs of the people in the room as possible, which is difficult when you've got lots of people, but also difficult when you've got people at different levels.'*

However as Evie, one of the MM tutors noted, this isn't always possible if the group is large and the teacher feels the time pressures of getting through the material are too big: *'this is also quite a big group, and usually what we do at the beginning is we go round and everybody introduces themselves, but when you have this many people, it can take like nearly half-an-hour to do that, and so we didn't do that'.*

Assessing learners through short tests was identified as another potential way of identifying learner's existing levels of knowledge. Lisa, one of the teacher focus group participants, noted: *'I think it would be difficult as well just to identify the existing levels of knowledge of the students, and it's not always obvious from what they say what they actually understand. So you'd be naive to take a nodding head and a smiling face as an indication that that person is fine and they definitely understand it. So, you almost want, you almost want to have like a little triage test at the beginning to actually see what people's level of understanding is for the key things which are assumed knowledge for the course'.* However, she noted that progress on a course was not just dependent on starting points and that learners' abilities to learn about new ideas quickly was also important: *'but then again with some students, they might be a little bit rusty on some sort of prerequisite sort of topics or things they need to know for the course, but they will be quite adept at ironing out things as they go along, and I think those are the students who tend ... to have a natural facility for the material, so they're very quick at kind of catching on, they're fine. Where[as] there are the other students who don't realise that they're missing some links in the chain, and that's where they sort of stumble later on and they don't understand then why they're not grasping it'.*

Checking understanding through observing body language as a course progressed was also identified as important. Teachers talked about the importance of reading learners' body

language and trying to pick up on points that they seemed to be having difficulty with as the sessions progressed. Ted, one of the SR teachers said: *'So on the first day we asked people to sort of, just to give us a little bit of a brief intro about themselves, but it's probably not nearly enough sometimes, you just kind of pick it up as you're going along I guess, and ask, keep asking any questions about it and looking at people [to see] if people look confused or sad.'*

The question of how much background to a topic to give was another challenge. Several teachers said that dealing with learners at different starting points made it hard for them to decide how much introduction to a topic they should give and that there were challenges involved in getting a group of learners to the same starting point so that they could begin teaching. Again, this is particularly challenging when there is a lot of material to get through. Sonya, one of the SR tutors said: *'we don't want to have to assume too much, but on the other hand if you go right back to explaining basic research methods, then you don't have time to get onto the synthesis bit, that which most people come for. So sometimes it's a challenge knowing exactly how much background to cover.'* Anton, in the context of the MLM course, found it less problematic: *'in theory they should come and they'd know all of those things and we'd just go straight to multilevel modelling. But obviously, yes people may have done it like twenty years ago or ten years ago and even if you've done it last year, you still may not be that familiar with the notation and you may have done things differently, and maybe you've only done it with the software rather than actually seeing it written down as a method. So I also include refreshers and reviews and so on, so that you sort of bring everyone back onto the same level and then there's a starting point and then you can sort of build up from that'.*

A balance of theory and hands-on sessions was identified as important for both teachers and learners. One learner on the CAQDAS course noted: *'I actually quite liked doing that conception stuff and then using the computer, because I found [it] really important, because well it's all very well being told ... click here and then you click here, but actually until you actually have to do it, then you realise that actually you've missed something, you've missed a step, so it was that combination, you have to have enough time to write your own [notes] plus actually trying things out as you go along'.* The teacher (Nadia), however, talked about the importance of holding back learners from using software too soon, despite learners' enthusiasm for 'having a go'. She found that longer time spent in helping learners' conceptual understanding meant that the hands-on experience and overall learning was greater. In relation to the CAQDAS course Nadia argued: *'so that's definitely a conscious decision, to start off, and in a two-day course, people don't open software until after lunch, and lots of people don't like that, but I think it's really important, and when I look at the evaluation forms and compare the evaluation forms from different sessions, I think people get a lot more out of it when I get them to think about why they want to use the software and how they want to use software, rather than just let them*

[do it]. Because people just want to open it up and start coding, but the coding is just coding isn't it, so I increasingly elongate that beginning bit.'

Small group work was also valued by learners who found that this aided their learning. However, this was viewed as 'risky' by one teacher on the SR course (Ted): *'the bit where there's a great big space with nothing in it, other than exercise or round table discussion, it makes me feel nervous putting it in, because you feel you've got to prepare ... and this idea of having this enormous space, and so there's always this tension that I feel when I'm putting together a programme, of just how much I'm willing to risk, and it feels like a risk'*. Another teacher (Lisa) found group work valuable but she felt that time constraints made it hard to use as much as she would have liked: *'and I know things which I think work often you don't necessarily always have time to do in a class, so asking a question and getting people to discuss it with their neighbour and then give the answer, I think encourages a much higher sort of response rate, but it takes a few extra minutes to put in that extra step each time'*.

Structuring and sequencing of course content is another important feature of short courses when time is inevitably limited. Short courses need to be well structured to provide learners with the incremental learning required to reach the desired course objectives in terms of knowledge and/or skill. In short courses, dealing with learner's questions can be challenging and throw the direction of the training off its planned trajectory. Commenting on her CAQDAS course, Nadia said that the order and sequence of the course was very important and that *'I know sometimes people might ask a question and I'm not ready to answer it because I haven't got there yet and so I don't'*. Careful structuring and sequencing of a training course can be very important in giving learners the confidence that the teacher has a plan that will mean they achieve the necessary understanding. As a learner on this course Kim noted *'But I think you signposted, which again is a really nice strategy, so you would give hints that you were going to do something. So when I said I'm still to be convinced of something, you were giving me enough security that I would get it by the end of the day that I didn't stress about it.'*

The short course structure was viewed as posing constraints in terms of time which impacted on the way courses were taught. Given the amount of material to be covered the pace was inevitably quick which meant that learners needed to keep up or risk losing track. Several learners on the MLM course noted, like Jake *'you're always on the edge so that you don't want to miss out a line that's being spoken'* and Stuart who noted the need to *'keep your attention at a high level so [as] not to miss anything'*. However this need for intense concentration was not limited to the quantitative courses; in relation to the CAQDAS course in which she was participating, Kim commented on *'a lot of information, that I think was necessary and I'm glad it was like that because otherwise I wouldn't have got the depth, but it really did make my head hurt, and the terminology was hard'*.

Time constraints nevertheless do limit learning outcomes from one single course. Some teachers were very critical of the short course approach and argued that it was not appropriate for teaching some (especially qualitative) methods. Lily, in one of the teacher focus groups, reflected: *'But I think, I think that the few times that we have tried to do, like actually I remember we did an NCRM three or four-day course now maybe eight years ago or something, and that was one of the more frustrating experiences we had, because the students come clean to something, and they expect it to be something like grounded theory and they want the nuts and bolts and they've paid money, or their institutions have, and they want to begin and they want to leave with something they didn't have beforehand. And I think that it's kind of hard and perhaps unrealistic to think that we can actually deliver that'*. Pete (a learner in the MM course) argued that it is important to think of a course as one step in learning about a method and that other courses should be attended to build up a learner's knowledge: *'I think there's a point here maybe, of sequencing, and if you're learning methods ... you probably do need to think about attendance at other events, because they build on each other and complement each other, so having been to the session where you can bring you own data, go to the session where you're exposed to other people's ideas more and if they can complement, so I don't think, maybe you don't look at this [session] in isolation but within the programme of events, because people do come back to more than one, and it builds, and that's how learning builds'*.

Individual needs versus the group; time constraints inevitably limit a teacher's ability to give time to small group work in the course and/or to spend time addressing individual students' interests and concerns. Anton, one of the MLM teachers, noted that, despite identifying learner's concerns and encouraging questions, *'there is a danger that if you go too far down a tangent then you lose everyone'*. The risk of this happening is something methods teachers need to weigh against the potential benefits of engaging in dialogue, knowing that even the most experienced teacher does not always get it right. This led one learner, Armin, to advocate time set aside during a course for *'a one-to-one kind of clinic, sort of dedicated time'*; he commented that *'fifteen minutes for one individual, wherein a host of questions get clarified or answered, that would have satisfied me'*.

In table 2 below we summarise the challenges and possible solutions from this section.

Challenges	Possible Solutions
Identifying learner's level and abilities at the start of a course	Individual introductions to the group of participants, their previous experience and what they want to achieve from the course Using tests pre-course or at the start of the course Recognising that ability to engage with material is not necessarily related to existing skill level
Evaluating understanding throughout a course	Asking questions Reading body language Group work and dialogue
Structuring a course to retain learners' interest	Including group work Including hands-on experience particularly once learners have sufficiently grasped the conceptual/theoretical issues to understand what they are doing
Balancing individual needs with those of the group	Addressing questions when asked <i>or</i> at a pre-planned stage in the teaching Using breaks to address individual questions Allowing Q&A time at the end of a course
Managing time constraints of the short course format	Encouraging learners to view a course as one step in learning a method Providing preparatory and follow up material

Table 2: Summary of challenges and possible solutions related to structure, starting points and pace

Using Data in Teaching Methods

At a practical level at least, methods for empirical social research concern the gathering/generation, handling, analysis and reporting of data. Despite the wide range of methodological approaches and perspectives represented by the participants in this study, it is perhaps no surprise that a common theme emerged around the use of data to facilitate the learning of research methods. However, the use of data in this respect can also pose considerable challenges. Whether in the form of video clips, extracts of text, or responses to large-scale surveys, incorporating data in a short advanced research methods course can require significant investments in terms of planning, class time, teaching support, and technical resources.

Learners using own their data became a rich seam of debate among participants. The rationale for doing this was articulated by Phoebe (talking about teaching qualitative methods): *'you do*

want them to bring their own [data], because what you want them to do is rethink what they're doing, or think what they're doing, rather than just learn the technique and then take it away and apply it. You want [them] to think about the implications of one for the other; you want them to start thinking about that while they are there.' She further explains: 'you try to ground what you're doing in what they're doing, so that they're thinking it through in relation to their own work, rather than just in the abstract, but that's quite challenging to do.' Thelma adds with regard to teaching narrative methods that when the data learners bring – and the learners themselves - are from different disciplinary backgrounds, then you have to '*think about those kind of disciplinary differences in a very kind of grounded way*'; while this seems a rich opportunity she notes both that '*you can get quite far in a day*' but that in other respects this is not ideal.

Teachers discussed how practical it is for learners to use their own data. Phoebe acknowledges this, observing that it is '*really difficult to manage, qualitatively, because*' (i) '*sometimes the issues about data aren't contained within one short transcript*'; (ii) '*they often bring massively inappropriate amounts*' of data, or (iii) '*sometimes there are ethical issues in what they bring*'. In terms of possible solutions to, or rather ways of pre-empting these scenarios, the focus group participants talked about the need to see participants' data in advance and for the whole learner group to work with the most suitable data of two or three learners while checking that the concerns of those learners does not dominate the learning space.

One of the initial specialist interviewees, in discussing the teaching of quantitative methods generally, argued that learners using their own data was not at all practical: '*practically it would be a complete nightmare. Because most data needs a bit of organising to get it into the right shape for use with whatever packages you're using, and there's always little niggles when you go from one computing environment to another, and to expect one or a couple of instructors to cope with all that in a class of ten or twenty people I think is a bit Utopia.*' There have been short courses provided by NCRM's LEMMA nodes that have achieved successful use of learners' own statistical data, but through the intensive involvement of a number of very experienced tutors (see <http://eprints.ncrm.ac.uk/3303/1/MethodsNewsSpring2014.pdf>).

Methods teachers described their own experiences with this tension between the imaged ideal and the practically feasible. For example Anne, one of the MM tutors, recounted: '*in the Summer School we did it, everybody brought their own data and their own laptops and we tried to sort of do it, we'd walk around, Fred and I, to help people work on their own material, which is great, because then you actually get to apply it to something you're working on, but there were mostly technical problems, and so we were mostly going round just helping people to install the software and troubleshooting, so it ended up being more disruptive really to the day*'. In addition to the technical challenges associated with learners using their own data in training,

participating teachers identified that the problem is in part that it takes so long to understand someone else's research. One solution seems to be separate data sharing workshops prepared specifically for this purpose, with more time and different expectations.

Ultimately, working with data that learners bring to a session was seen as good practice only if the teacher is able to put in the greater amount of work this requires. It is likely to carry risks and be somewhat unpredictable and out of the teacher's control, but manageable by experienced teachers.

Making use of the teacher's own data is a solution to some of these challenges. Phoebe, a participant in one of the teacher focus groups, introduced an alternative to using learners' own data, which is using the teacher's own data: *'I often think what works best is where you bring data and give data, because you can choose the data and you can choose what kinds of challenges and messages there are in that, and so you could do something like that and then get them to have a session where they somehow or other relate that to their own work, maybe in groups they talk about similarities and differences with their own data or something.'* This is clearly more in the teacher's control; it is more targeted while still being authentic.

One of the methods specialist interviewees expressed the value of using data in teaching methods because learners *'often struggle a little bit with, well, "what is the data within qualitative research?"'* She was less concerned with where the data comes from and more concerned with advocating that working with data needs to come early in the learning process: *'I'm a great believer that you share data, examples of data, illustrations of data very early on, and that's also something that I think shouldn't come when you're in the depths of how do you do qualitative research; I think it actually comes right at the start, [when you are exploring] what are data, and I think that also then enables quite a critical engagement, what counts as data, what counts as evidence, and really emphasising that qualitative research is no different from other kind of research, and that we are concerned with empirical data, we are concerned with evidencing the social world and we are concerned with evidencing our understanding.'*

Generating data in the session was another option for working with pseudo-authentic data that Phoebe related having used. This might involve course participants interviewing each other and then working with that interview data. She acknowledged, though, that is not without risk either, and had experience of some learners using such an opportunity well, but others doing something more 'random' and less useable. Sandy talked explicitly about the risk in this: *'sometimes it's also the risk of whether they, if you ask them to do something in the session, whether it then works, because sometimes they'll do it and they'll just say, "it didn't work", and I will then say, "what did you learn from that?"'* She argued that for generating data in the session to work, learners need to be able to 'ground that experience', raising once again the issue of how well-prepared learners are and how much teachers know about them at the start

of the training, which might affect how risky and involving teachers want to be in their teaching.

Teaching research methods is distinctive from other teaching in large part because of the role data play in learning about – and learning to use – methods. Teaching may be *about* or *through* data. Thelma described a sophisticated model of advanced training they had used in which learners brought their own data leading to joint work on this in the session, resulting in learning through ‘*co-analysis*’ of those data. As the data were substantively relevant they were able to use the analysis in a paper with tangible rewards from joint effort. As Pete described (see above), from a learner perspective it is useful to participate in a range of sessions that make different use of data in the teaching and learning.

Relevant, meaningful and engaging data; methods teachers in this study were fully cognisant of the need for the data used in their teaching to be relevant and meaningful to the learners and their lives. This idea was strongly advocated by one of the methods specialist interviewees in relation to teaching quantitative methods to undergraduates where the gap in life experience between learner and teacher may be greater. Lisa, a participant in one of the teacher focus groups, concurred with regard to advanced learners, arguing from experience that data from sport can appeal to half a group and turn the other half off. Cara added that data from learners’ own disciplines is usually more engaging. Still focused on teaching statistics, Kev argued that there is a role sometimes for fun, frivolous data examples (and datasets that are small enough to get a view of are better) ‘*because you can literally see it*’.

One of the methods specialist interviewees discussed the phenomenon of engaging data in relation to the teaching of a particularly effective colleague: ‘*he’ll always use his real data, he’s always got the relevant data and he will always have picked out different catchy things from it, before he’s going in to teach with it. So, I think he has that right emphasis on, let’s get excited about the data, and then we can learn the techniques we need to understand it better.*’ This then is about datasets that are real, that are known by the teacher, and that provide a pedagogical hook for the learners. Another methods specialist interviewee endorsed this point: ‘*Now there’s some wonderful datasets we’ve got out there, curated datasets, some of them are longitudinal, some of them are cross-sectional, but some wonderful ... the Labour Force Survey, Millennium Cohort, all of those kind of datasets that really help us and help students too, I can’t imagine many kinds of issues that the students would be interested in not having some data in those datasets that they could get their teeth into.*’ He stressed also the active learning in relation to data: ‘*So actually getting them to work practically on those datasets*’. The point was further illustrated by Cara who talked enthusiastically about an example from her teaching of using data about ‘*working hours in France versus the UK, so they were engaged [with it], it’s was like “oh who is that works harder, who is happier?”*’.

Datasets that work; teachers in the study concerned with quantitative methods discussed one further aspect of the effective use of data in their teaching and this related to whether the dataset in the teaching needed to be cleaned up. Without this teachers and learners enter the practical nightmare scenarios discussed above. Kev, talked in his focus group of a solution of giving dirty datasets and getting learners to clean them so that they learned how. This was acknowledged to take time and to perhaps require a different course, and be more relevant for less advanced learners. For those teaching qualitative methods this issue had relevance too. Nadia, who taught CAQDAS, described developing a teaching dataset for use in courses and a textbook in which the data were selected and the dataset constructed so as to be manageably small, interesting and fun, and free of ethical difficulties and distractions. Learner, Natalie related that the lack of authenticity in this did not matter to her, essentially '*because it worked*'. This raises too, the pedagogical question of whether learners might feel freer to *play* with non-real data and when playing with data aids serious learning.

The data challenges (and opportunities) in teaching short, advanced methods course are summarised in Table 3.

Challenges	Possible solutions
Enabling learners to understand the inter-related nature of data, evidence and method	Using data early on in training Teaching about and through data Using data learners can relate to and that excites them
Prompting learners to (re)think what they are doing/ to apply the learning in the short course to their own research	Learners bringing their own data to work on in the course Co-analysing data within a teaching session
Making using learners' own data practicable	Getting the data in advance and being selective about what will work Cleaning the dataset in readiness Resourcing the session with intensive staffing and technical support Offering this among a range of session options, not in every session
Enabling learners to learn through engagement with data	Generating data within the session Practical hands-on involvement with data Using datasets that connect with learners' lives Using teachers' own data that resonate because of their authenticity Using teaching datasets that are manageable and effectively target the teaching goals Making use of fun or frivolous data to make a point or enable purposeful play with data

Table 3: Summary of challenges and possible solutions related to using data in teaching methods

Conclusion

Teaching is a complex endeavour and this research has sought to specifically explore the particular challenges associated with teaching and learning on short courses in research methods that are aimed at advanced-level learners. To date, few studies have looked beyond the confines of a single course or programme to explore how social research methods are taught and learnt. To the best of our knowledge, no existing research has been conducted into how such methods are taught on short or standalone advanced courses. Through facilitating a dialogue between specialists, experienced teachers, and learners from a wide range of professional and disciplinary backgrounds, this research has elucidated how some of the key challenges involved in this form of teaching and learning are experienced and responded to. These challenges relate to: the diversity of learners and the difficulties of accommodating such diversity in the short course format; time constraints which limit opportunities for meeting all learner's needs, interests or concerns and which influence the pace, timing and structure of a course; and, the opportunities for, and challenges of, using data as a tool for teaching and learning methods. In exploring these challenges we have presented a range of responses (or tentative solutions), based on the approaches favoured or adopted by our research participants.

Debates surrounding the teaching and learning of research methods reflect concerns ranging from the absence of opportunities for early-career researchers to learn methods through immersion in the field (Hammersley, 2012) to calls for a greater focus on structured methods for teaching/learning in undergraduate social science degrees (MacInnes, 2012). The prevailing trend amongst research organisations in the UK is toward the provision of methodological training for research staff and students, a sizeable proportion of which will invariably take the form of short courses in advanced research methods. In this context, our research has sought to engage teachers and learners in a dialogue around the processes involved in teaching/learning advanced methods on these sorts of courses. This engagement has elucidated the various challenges associated with this form of methods training, as well as the considerable opportunities for both teachers and learners to capitalise on and benefit from short course training contexts. By sharing this particular subset of findings, we hope to foster further pedagogical dialogue amongst those involved in the teaching of social research methods.

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Appendix

Methodological Specialist Interviewees

Julia Brannen, Professor of Sociology, Institute of Education, University of London.

Amanda Coffey, Professor of Sociology and Faculty Dean for Education, Cardiff University.

Andy Field, Professor of Child Psychopathology (Psychology), University of Sussex.

Pauline Leonard, Professor of Sociology, ESRC DTC Director, University of Southampton.

John MacInnes, Professor of Sociology, ESRC Strategic Advisor on Quantitative Methods Training, University of Edinburgh

Pat Sikes, Professor in Qualitative Enquiry (Education), University of Sheffield.

Harry Torrance, Professor of Education, Director of the Education and Social Research Institute and Associate Dean for Research in Education, Manchester Metropolitan University.

Malcolm Williams, Professor of Social Research Methodology, Director of School of Social Sciences, Cardiff University.