

**Teaching Research Methods – Building research to develop expertise**

**Workpackage 5 Pedagogy of Methodological Learning Event 30 Nov 2016, RIBA, London**

**Workshop 4: Using digital technology to enhance the teaching of research methods**

### Resources

Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education*, 9(1). Retrieved from <http://www.citejournal.org/volume-9/issue-1-09/general/what-is-technological-pedagogicalcontent-knowledge>  
(Useful theoretical text for thinking about what you need to know to make use of digital technology in teaching).

Silver, C., Woolf, N.H. (2015) From guided instruction to facilitation of learning: the development of Five-level QDA as a CAQDAS pedagogy that explicates the practices of expert users. *International Journal of Social Research Methodology*. 18 (5): 527-543  
<http://dx.doi.org/10.1080/13645579.2015.1062626> (Useful example of technological pedagogical content knowledge in action in the development of a teaching approach)

Manifesto for Teaching Online from Digital Education at the University of Edinburgh  
<https://onlineteachingmanifesto.wordpress.com/the-text/> (An example of what a digital pedagogy looks like)

In this session we are going to look using digital technology to enhance the teaching of social research methods.

By digital technology I mean the use of computer technology (devices & software applications), the use and or storing of data & information, the semantic web, managed learning systems and social-media systems.

The workshop involves three activities:

- Looking at what the literature and findings from the NCRM Pedagogy of methodological learning research tells us about the use of digital technology and how it is being used
- Reflecting on our own experiences of using digital technology in our teaching of research methods, how we made use of it (or might do so), and for what purposes
- Thinking about what resources would be useful to support research methods teachers in discovering and exploiting the affordances of digital technologies in their teaching

### What might we learn from the research evidence?

The literature on the role that digital technology in the teaching of research methods is limited. The following is based on my review of the literature, published since 2005.

### What digital technologies are being used in the teaching of advanced social research methods?

Generic e-learning tools	Social research methods-specific
Virtual Learning Environments (VLEs) e.g. Blackboard, Moodle	Data collection software (e.g. online questionnaire tools)
Assessment software e.g. TurnItIn	Data analysis software (e.g. NVivo, R)
Discussion forums	Data visualisation software
Collaboration tools (e.g. Wiki's)	Online data sets and resources
Social Media	

### How digital technology is being used to support pedagogical goals

Examples of how digital technology is being used to support pedagogical goals<sup>1</sup> are found in the literature, and are summarised below.

Pedagogic goals	Use of digital technology
<b>Active Learning - making the research process visible by actively engaging students in aspects of the research process and highlighting the connections between theory and practice</b>	Teachers and students use actual survey data to explore topical issues and make connections between theory and methodology Teacher uses an interactive white board to demonstrate quantitative analysis technique, then students and teacher work through an example together (students using analysis software on a computer) before the student does one on their own
<b>Learning through doing - facilitating learning through the experience of conducting research</b>	Students undertake their own research project (individually and or as a group) using digital research tools, such as writing their own web questionnaire using software like SurveyMonkey, analysing qualitative data using a software package such as Nvivo, or creating a Wiki to support the writing up of a group research project. Software may also be used so that students can experiment, e.g. finding out what happens if they change the parameters of a statistical model. Students may develop their research proposal using online peer review software, where students gain experience in reviewing their peers' research proposals
<b>Critical reflection - encouraging critical reflection on research practice</b>	Online peer review or online collaboration tools are used, with students reviewing their own research proposal in light of comments received from their peers and tutor Students critique the data they collected as part of a group research project

<sup>1</sup> Earlier work by (Kilburn et al. 2014) identified three overlapping pedagogical goals expressed by teachers of advanced social research methods: active learning; learning by doing and critical reflection.

### Examples of how digital technology is supporting and developing pedagogic goals

In the literature I found some examples of how digital technology is being used to support pedagogical goals. These examples are summarised below.

Ways in which digital technology is supporting/ developing ASRM pedagogic goals	Activities & approaches
<b>Builds students and teacher confidence</b>	<ul style="list-style-type: none"> <li>developing students understanding of data analysis software architecture &amp; skills in using its features</li> <li>creating web interfaces that allow students to explore survey data with minimal guidance</li> <li>using interactive/collaborative tools to create collective, safe learning spaces</li> </ul>
<b>Helps students achieve their learning outcomes</b>	<ul style="list-style-type: none"> <li>practising ASRM skills &amp; exam technique through use of online quizzes</li> <li>receiving regular, fast feedback</li> <li>identifying problematic threshold concepts</li> </ul>
<b>Facilitates communication</b>	<ul style="list-style-type: none"> <li>between students, students &amp; teachers, students and the outside world</li> </ul>
<b>Assists with breaking down barriers to learning</b>	<ul style="list-style-type: none"> <li>facilitates access to learning resources</li> <li>can learn at a place and time of student's choosing</li> </ul>

**Consider: how complete a picture does the literature paint of the uses of digital technologies in the teaching of social research methods?**

### What we have learned from our Pedagogy of Methodological Learning research so far

In our research we have spoken with research methods teachers who are using digital technologies in their teaching, as the medium through which they teach (online) and as part of their teaching. Some additional digital technologies were mentioned, that the literature review had not identified: creating and making use of video; interactive online documents; and software development practices such as hackathons and sprints.

Our research is highlighting a range of different approaches, strategies and tactics to teaching research methods in online environments

The technology can be seen as liberating.

“I think working online means you don't have all the baggage of ... ‘now we have to write the lecture, that's going to take an hour and it's going to happen on a Wednesday afternoon’. You can dispense with all the expectations around how you deliver Research

Methods, and think about, well, what would be a creative way to think about this issue around transcription and what it means to do that, for example.”

It can introduce new ways of thinking, for example, what Richard Rogers calls the ‘digital turn’ which involves social researchers making use of approaches such as ‘hackathons, skill share workshops and sprints, these sort of traditions’ to develop digital research skills and methods.

However, it can also bring challenges. The institutional infrastructure may not be set up to support online courses or teaching (for example, one of our participant’s talked about how library books only existed in physical form rather than as e-books, reflecting the university’s preconception that students would visit the library in person to borrow resources. This was not practical for the students of this online Masters course, who were spread across the globe). Some other challenges mentioned by our research participants are presented below, along with the way(s) in which they have attempted to tackle them.

Challenge	How have teachers/ course leaders attempted to tackle it
How to engage students in research methods (in an online setting)	“In our course, we don’t have any lecturers at all. Each week is structured around a topic, or topics, and students do some core readings and some additional readings. We have a discussion area, where tutors and students talk together about the issues that came up in their readings. And then we have a set of activities...to get a real feel for what some of the stuff involves and what it feels like to do it...So for example in the first week of the course, we have about six or seven short interviews that I did with people doing digital research, in a bunch of different contexts, and we asked students to transcribe them...”
Getting to know your students in an online setting (to support a student-centred approach)	“I make assumptions obviously to start with, about where, what their [student] background is and so on... But most of all I guess it comes from dialogue with them. In talking to them you suddenly realise they’ve got that point, move on to the next one. Or that issue was easy, what about something a bit more challenging? That kind of thing. So it’s very much something that gets adapted and adopted as I go through the course ... within the constraints of the topic for that week or that session.
Adopting an experiential learning approach in a MOOC environment	“I make them do an observation..., and I tell them to go out and observe people waiting, and observe their behaviour and describe it, very detailed. Then they have to post that online, or they have to hand it in, and other people have to peer review it. ... I make the others think about it ...later on, they have to hand in their reworked assignment again, and then the others have to use the peer review to <i>code</i> it. So I ask them to code... read what’s on the observations, and ... make them write a little piece about it. And that was really, really, really hard at the beginning of this MOOC: to make people understand that this was not just peer reviewing, this was using a peer review because we didn’t have a coding tool.”
Teaching students how to use software online settings	“I’ve taught NVivo for many years now in lab type situations, and one-to-one as well, and I’m quite used to the fact that students get stuck, they do things you couldn’t imagine they could do ... or they don’t understand some kind of concept that they’re struggling with, that you want to try to explain to them. And

	<p>being there alongside them, over their shoulder or whatever, it's a really easy way to help them. It's very hard to do that online. I've tried it. We use Adobe Connect as our, within our software, and I have run NVivo through it. It's not wonderful, there are problems ... but at least you can do something [...] You have to watch the ChatBox - there'll be something in a chat or the hand will go up, in Adobe Connect you can do that as well. So that's how you know when someone's got a question or are stuck or whatever...When I have done it, it's been just a few people... one-to-one, or in one case it was three people online. It worked just about okay. But doing the twelve, yeah that's, I've never gotten that far yet."</p>
<p>Learning to talk to students through the lens of a video camera</p>	<p>"And when I started doing these [video] clips... I had to write the scripts, and I'm not the best writer in the world, especially not English ... so it took me a lot of time to write these scripts and then these were written scripts rather than spoken language. So at one point I simply ditched them and I told the story to a camera, and then it turned out that that was working much better, much more informal and I acted as if there was someone really small inside that camera..., who was my friend, and that I was explaining stuff to, and that worked."</p>
<p>How to use video in teaching</p>	<p>"...so there's activities... focusing on doing things, focusing on reflecting at times, and there's content, which is often the video, but then ways of getting students to interact with the content, interact with the doing bits and interacting with, you know, us online in ways as well..."</p>

Do these challenges sound familiar? What other challenges are there, particularly when using digital technology in a blended learning environment?

### Your own experiences

What are your experiences of using digital technology in your teaching of research methods?

What motivates you to (want to) use it?

What are the challenges you have faced (or think you will face) in using it?

How have (might) you use it in your teaching? What does (could it) help you achieve?

### Resources

What pedagogical resources are you aware of / do you use when thinking about making use of digital technologies in your teaching of research methods?

What (additional) resources would be helpful to you on making use of digital technology in your teaching?