

Teaching Research Methods – Building research to develop expertise

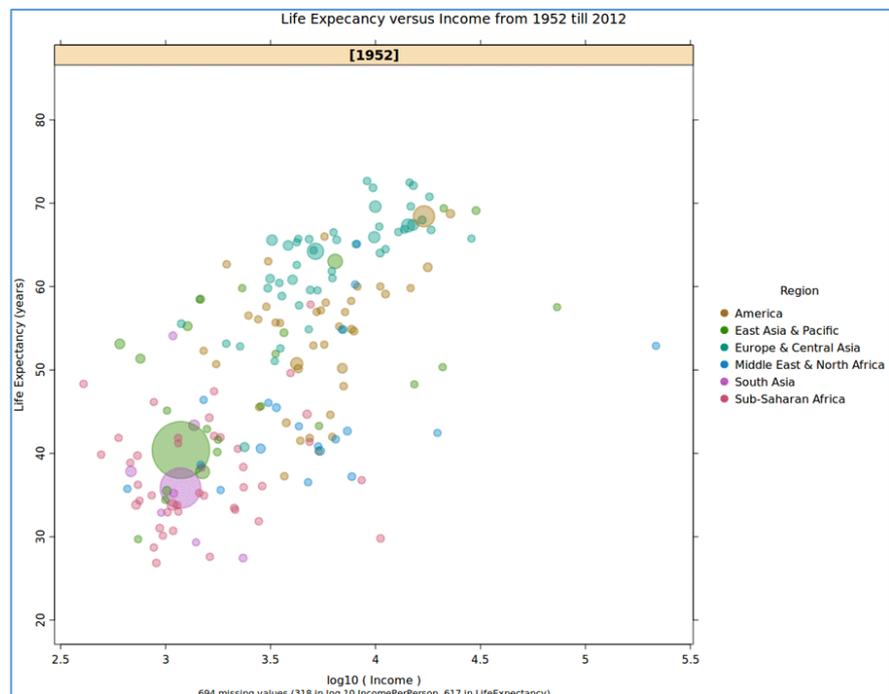
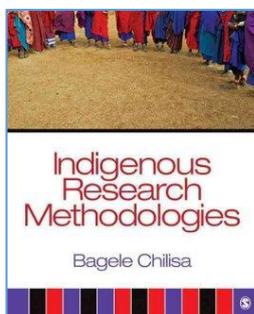
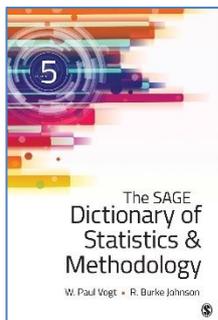
Workpackage 5: Pedagogy of Methodological Learning Event 30 Nov 2016, RIBA, London

Workshop 2: Identifying key features of a good pedagogic resource for methods teachers and learners

Aims: To share and make explicit the expertise of the group as a learning community.
To engage you in making best use of the research evidence alongside your professional knowledge.

3 key readings: Please add to the list!

- i. W. P. Vogt & R. Burke Johnson (2016) *The Sage Dictionary of Statistics and Methodology. A Nontechnical Guide for the Social Sciences*. Sage. (Example of textbook created to meet a specific teaching need in non-traditional quant learners)
- ii. C. Wild (2014-) *iNZight*. University of Auckland.
<https://www.stat.auckland.ac.nz/~wild/iNZight/index.php> (A data analysis and visualisation system with a particularly short learning curve)
- iii. B. Chilisa (2012) *Indigenous Research Methodologies*. Sage. (A pedagogic resource focused on positionality, critique and new forms of data in research)



C. Wild (2014-) *iNZight*.

Overture/cold open:

‘one man’s history’ opening scene Kinsey (2004) writer/dir. Bill Condon. Fox Searchlight.

1. What the research tells us: the value of pedagogic resources

Methods demand a unique mix of theoretical knowledge, procedural understanding and technical skill (Kilburn, Nind and Wiles, 2014).

In the literature there is a consensus that the ‘pedagogical culture’ of methods teaching is under-developed (see Earley 2014, Wagner et al., 2011). This is characterised by a lack of pedagogic research, the cross-citations that might suggest a growing body of knowledge or sustained lines of argument, and a lack of systematic investigation or evaluation of current teaching and learning (Earley 2014). This lack of research is matched by a lack of teaching resources. At present, expertise and resources tends to be built over a lifetime of teaching and research (Lewthwaite & Nind, 2016), with new entrants to methods teaching frequently relying on peers, trial and error and methodological know-how to develop their classes (Earley, 2014). There is also little known about what constitute effective pedagogic resources for methods teachers.

Pedagogical resources in the methods classroom:

There are several aspects of the methods classroom that we find to be distinct, that bring particular challenges and opportunities for methods teachers (see Kilburn et al., 2014 for more detail):

1. Using data

A common theme emerges (perhaps unsurprisingly) around the use of data to facilitate the learning of research methods. These focus on using learners’ own data (sometimes perceived as a gold standard), teacher’s data or synthetic and public datasets. Data are also improvised or generated in class. Relevant and meaningful data are often used as pedagogical hooks, to appeal to conceptual common ground and engage students.

2. Using learner experience and expertise

The diversity of methods learners has been a recurrent theme in our data, bringing both challenges and opportunities for teachers. Learners come to training sessions with varied skills, expertise and experiences. Experienced learners can constitute a significant resource for teachers.

3. The necessity of developing materials

Many of the teachers we spoke to identify themselves as learners as well as teachers. Research methods are a dynamic subject and for this reason, materials are always under development. Expert panellists described how methods textbooks were often developed to answer ongoing pedagogical needs.

Figure 1: 10 most cited methodology books in the social science (Green, 2016).

Book	Author(s)	Date	Citations
Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences	J. Cohen, P. Cohen, S. West and L. Aiken	1975	131,033
Case Study Research: Designs and Methods	Robert Yin	1984	107,931
Psychometric Theory	Jim Nunnally	1967	80,196
The Discovery of Grounded Theory: Strategies for Qualitative Research	Barney Glaser and Anselm Strauss	1967	78,385
Multivariate Data Analysis	J.F. Hair, R.E. Anderson and R.L. Tatham	1979	70,700
Qualitative Data Analysis	Matthew Miles and A. Michael Huberman	1984	59,829
Using Multivariate Statistics	Barbara Tabachnick and Linda Fidell	1989	57,324
Econometric Analysis	William Greene	1990	54,524
An Introduction to Probability Theory and its Applications	William Feller	1950	51,825
Naturalistic Inquiry	Yvonna Lincoln and Egon Guba	1985	51,169

The purpose of pedagogical resources

In our research (see Lewthwaite & Nind, 2016) we have found that pedagogical resources and materials are deployed in the classroom to four key ends:

1. **As ‘pedagogical hooks’**
Engaging learners in meaningful and interesting ways.
2. **Connecting learners to research**
Characterised by exposure to research, active learning tasks and engagement with methods
3. **Giving direct and immersive experiences of research practice**
Characterised by learning through the experience of conducting research
4. **Promoting reflexivity**
Encouraging reflection on research practice.

Pedagogic resources can be deployed to engage more than one pedagogic aims simultaneously.

Examples:

W. Paul Vogt describes the need to build vocabulary and developing a non-technical, verbal approach to quantitative teaching for non-traditional learners. As a result, he created glossaries for use in class. These became his textbook *The SAGE Dictionary of Statistics and Methodology* (5th Edition, 2016). These function as both a pedagogical hook, and seek to connect learners to research, on the way to ‘hands-on experience’

‘I taught them [students] how to read the research, what it meant. It was more like teaching a foreign language than it was like teaching statistics; then took them to the lab, gave on hands-on experience, how to do it, and that was possible - especially with user-friendly software like SPSS.’

‘Before students could do anything, they had to be able to read the research in their field; they couldn’t. So I started out in many of my books and all my teaching, having to get students to learn to read research in their fields... my first big reference book was my dictionary of statistics and methodology; that started when I was teaching courses, I would hand out to students little glossaries of terms that would occur in the articles they would read, and I collected a big collection of those, and essentially turned those into a book. The

students had very little difficulty reading research in their fields if they were provided with a list of non-technical definitions of the terms, the obscure terms, like logistic regression...'

W Paul Vogt

Chris Wild took a different approach – noticing the difficulties that his students experienced in terms of learning the software necessary for quantitative operations, and how this relates to (or inhibits) students' ability to project into and visualise the operations they need to undertake. This led to the development of iNZight, a quantitative visualisation/analysis tool with a particularly short learning curve.

'My own approach is in growing the visualisation first. Basically try to approach everything through things you can see, and, or metaphors which are often largely visual, and then backfill that with more technical things later if you need to.'

'first try to get people to a realisation that data can tell you something interesting' 'when their spark has been ignited then go back and talk about things more holistically'.

Chris Wild

Sharlene Hesse-Biber, Yvonna Lincoln and Bagele Chilisa all reported the importance of reflexivity in methods from the outset, acknowledging the situated nature of research, positionality and the researcher's standpoint. Chilisa identifies the partial, colonial aspects of research that immediately evoke issues of reflexivity and critique in research in her book *Indigenous Research Methodologies* (2012). Hesse-Biber identifies other resources that encourage reflection and opportunities to develop teachable moments.

... throughout the semester I have them [students] keep a research diary, where are they now, and I want to dip into their experience, I call it experience sampling [...] I take their experience over time in the classroom. I'm always dipping, how are things going now? What are the things you find difficult? Sharing with one another, they buddy up ... quant and qual together.

Sharlene Hesse-Biber

Across our interviews, focus groups and in-class observations using video-stimulated recall and reflection, we found the potential for developing and sharing practices to be rich and engaging.

'...everybody in my classroom gets a different colour sample card, and they take a look at some of the unique colours that have been assigned to them, like this one is called 'High Dive', 'Striking Aruba Blue'. You know they're given such beautiful names. And I talk about how these are concepts, and so concept is a very [difficult notion] to grab, so you know I find that these colour cards help me. People go from person to person, and they trade colours and they talk about blending. Hang on, someone has 'High Dive' and another person has 'Sassy Grass', alright? And so what colour do you get when you combine 'Sassy Grass' with 'High Dive'? And then they try to come up with a name. And I mention: you've just developed a concept, and that's sometimes what we do in data, we bring two different, or three different pieces together and we try to conceptualise them into a deeper meaning or ... richer meaning.'

Johnny Saldana

Table: Extract from Pedagogy of Methodological Learning Project codebook

Theme	Description	Inclusion criteria and level 3 codes
PEDAGOGIC RESOURCE	Resources used to support the teaching and learning	
subtheme a) infrastructure	Infrastructure identified as necessary and iteratively related to teaching and learning	<ul style="list-style-type: none"> i. Software ii. Computing power iii. Learning management system iv. Lab
subtheme b) people	Resources that are interpersonal and rely on learning communities of the classroom and wider professional networks	<ul style="list-style-type: none"> i. Wider teaching network ii. Teacher iii. Teaching peers iv. Student peers v. Experts
subtheme c) conceptual	Resources available by connecting to the students' prior learning and wider sociocultural experiences	<ul style="list-style-type: none"> i. Common ground ii. Learner disciplinary background iii. Metaphor iv. Symbol v. Analogy vi. Visualisations
subtheme d) data	Use of data resources for teaching	<ul style="list-style-type: none"> i. Improvised ii. Public dataset iii. Learners' data iv. Teacher's data
subtheme e) arts-based	Use of arts media for learning	<ul style="list-style-type: none"> i. Cinema ii. Poetry
subtheme f) research texts	Research texts used to support teaching and learning	<ul style="list-style-type: none"> i. Research papers ii. Bibliographies iii. Research Proposals iv. PhD Theses v. Templates vi. Textbooks vii. Multimedia
subtheme g) networked learning	Interactive and networked online technologies for learning	<ul style="list-style-type: none"> i. Blog ii. Webinars iii. MOOCs iv. Virtual worlds
subtheme h) experience	Use of research experience to illustrate a point	<ul style="list-style-type: none"> i. Research projects ii. Specific examples
subtheme i) Teaching materials		<ul style="list-style-type: none"> i. Shared teaching materials ii. Pedagogic literature

ACTIVITY 1: Identifying the pedagogical resources that you use and value.

Using the post-its and pens provided, write down the pedagogic resources that you use in your methods teaching (one per post-it).

You may want to consider which are most specific to methods teaching and which you value the most.

ACTIVITY 2: Sorting task.

As a group, sort your post-its into themed groups.

Decide your own themes or use the codebook extract (page 5) as a reference point. Consider what pedagogies these engage.

ACTIVITY 3: Discussion.

Choose a theme that you want to discuss.

Consider: why are these resources particularly valuable? Why are they necessary to methods teaching?

ACTIVITY 4: Feedback.

ACTIVITY 5: Take away for further reflection.

How can we best share and give visibility to our pedagogic resources to help develop our practice?

References / Further reading:

Earley, M. (2014). [A synthesis of the literature on research methods education](#). *Teaching in Higher Education*, 19, 242–253. doi:10.1080/13562517.2013.860105

Green, E. (2016) What are the most-cited publications in the social sciences (according to Google Scholar)? LSE Impact of Social Sciences.
<http://blogs.lse.ac.uk/impactofsocialsciences/2016/05/12/what-are-the-most-cited-publications-in-the-social-sciences-according-to-google-scholar>

Kilburn, D., Nind, M. & Wiles, R. (2014) *Short Courses in Advanced Research Methods: Challenges and Opportunities for Teaching and Learning*. Project Report. NCRM.
http://eprints.ncrm.ac.uk/3601/2/advanced_methods_short_courses.pdf

Lewthwaite, S. & Nind, M. (2016) [Teaching Research Methods in the Social Sciences: Expert Perspectives on Pedagogy and Practice](#). *British Journal of Educational Studies*. 64: 4. 413-430. doi: 10.1080/00071005.2016.1197882

Wagner, C., Garner, M., & Kawulich, B. (2011). [The state of the art of teaching research methods in the social sciences: Towards a pedagogical culture](#). *Studies in Higher Education*, 36, 75–88. doi:10.1080/03075070903452594