

The Pedagogical Content Knowledge of Social Science Research Methods Teachers and why it Matters

ECER 2017 Abstract

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Introduction

The topic of this paper is what can be known and shared about the pedagogical knowledge involved in educating social science students and researchers to be literate and competent in the use advanced and innovative research methods. The desire to build capacity among social science researchers is evident across Europe (Kottmann 2011; Murray & Pollard 2011). The need to understand the pedagogies involved in this began to be flagged relatively recently, e.g. by Hurworth (2008); Garner, Wagner and Kawulich (2009); Payne & Williams (2011). This was reinforced by literature reviews that highlighted the paucity of the pedagogical culture (Wagner, Garner and Kawulich 2011; Earley 2014). Networks supporting pedagogical developments have developed in the UK (NCRM nd); Norway and Sweden (Murray & Pollard 2011) and Spain (Hernández-Hernández & Sancho-Gil 2015). Empirical research across national, disciplinary and methodological contexts and cultures though is more recent (Nind, Kilburn & Luff 2015), with the study discussed here representing a significant advance (Nind, Kilburn and Wiles 2015; Lewthwaite and Nind 2016).

The paper discusses a UK research-council funded research project which encompasses international perspectives and data. It is aimed at: (i) advancing pedagogical culture and pedagogical content knowledge for social science research methods teaching; (ii) creating a typology of pedagogical approaches to inform policy and practice in this arena; and (iii) developing a coherent theoretical framework for methods teaching. The research questions being pursued include: (i) how is the subject matter of advanced and innovative research methods being taught and learned? And (ii) how can methods teachers' methodological and pedagogical craft be most powerfully articulated? Sub-questions within this relate to identifying the distinctive pedagogical challenges that arise in the methods classroom and how teachers respond and build their pedagogical knowledge.

Responding to the need to build social science research capacity has led to large investments, such as the UK National Centre for Research Methods funded by the Economic and Social Research Council to do just this. Alongside there has been formalization of doctoral training in Europe connected to the Salzburg Principles (Kottmann 2011). In this paper we argue that capacity will only be built if attention is paid to the pedagogies involved, knowing those pedagogies in ways that support their sharing and development. The study is underpinned by two crucial theoretical concepts: First that pedagogy is hard to know (Shulman 1987; Nind, Curtin & Hall 2016), and second, that it helps to focus not just on pedagogical knowledge or on subject knowledge, but on the combination of these in *pedagogical content knowledge* (PCK) (Shulman 1986, 1987). Shulman (1987, p. 6), referring to school-based education, observed that 'teachers themselves have difficulty articulating what they know and how they know it'. This is even more evident when there is no formal training and sparse pedagogical culture as is often the case in teaching research methods. Our research has involved a multi-component design to allow us as researchers, together with the teachers and learners involved in the study, to understand subtle aspects of teachers' pedagogical decision-making that has often been invisible to us, making tacit, practical knowledge (Traianou 2006) knowable and accessible to us as a community of stakeholders. PCK is critical in research methods education as it is PCK that allows teachers to transform their methodological knowledge and experience into a form that is comprehensible to learners in a process in which pedagogy specific to the subject matter develops (Nind, Kilburn and Wiles 2015). The study was designed to explore teachers'

active knowing (Kind 2009) taking us beyond individual pedagogical narratives (van Driel, Verloop, and de Vos 1998, 674) to useable concepts.

Methodology

The research design involves four parts: expert panel; video-stimulated recall, reflection and dialogue; learners' diary circle; and in-depth case studies. It is primarily through the first two methods that PCK has been elucidated.

Part one, the expert panel involved: first, individual interviews with 21 experienced methodologists/ teachers of methods with expert knowledge; second, their online discussion of key themes raised by them; and third, exploration of the themes by seven focus groups of methods teachers working in particular domains/ways (e.g. teaching quantitative or qualitative methods, teaching face-to-face or using digital technology). The focus was on experienced methods teachers reflecting on their craft and beginning to identify their communal PCK. While the research is based in the UK, the interviews deliberately involved participants from, or working across, Europe, the Americas, Africa and Asia to incorporate international perspectives.

Part two involved video-recording six diverse days of research methods teaching and then using excerpts of video to stimulate recall, reflection and dialogue among teachers and learners in focus groups following on closely from each pedagogical encounter. The intention here was to move the elicitation of PCK closer to the pedagogical context; it allowed exploration of action - and thinking in action - by getting close enough to it to share insights (Nind et al. 2015). Like Moyles, Adam and Musgrove (2002), we were interested in reflection as much as recall, and we sought dialogue between teachers and learners to facilitate co-production of knowledge rather than judgemental gaze.

In both parts, preliminary analysis was dialogic in the active stages of generating data. Later, data were coded independently by two researchers in a process of seeking shared interpretations between researchers and where possible between researchers and participants. The analysis focused on pedagogical themes, such as learning challenges, and on pedagogical episodes, such as when the subject matter required specialist language. To organize the codes and work towards a typology for the pedagogies, a framework of approaches, strategies, tactics and tasks was adopted, each moving closer to the minutiae of pedagogical decision-making. PCK spans all of these from approach (how the teacher goes about their pedagogica; task cohered around a theory, set of values or principles) through to task (the activity that learners or teachers actually do). This paper, though, is focused at the level of strategy - the goal directed work of implementing an approach - as this is where the PCK shows through very clearly.

Results and Findings

The research is showing how the strategies and associated PCK of methods teachers develops from their experiences of learning/being taught, methodological experiences, formal training, early experiences with teaching, pedagogical beliefs and values (their pedagogical roots). It is also showing that pedagogical challenges stimulate the development of strategies and shape the ongoing development of PCK. The data show such challenges are posed by:

- a) the learners (unpreparedness, fearfulness, poor motivation, problematic expectations, their diversity and unknown qualities);
- b) the context (constraints with time, space, group size, curriculum, teachers' own expertise and the changing data landscape); and
- c) the challenging subject matter/content (the difficult concepts and language, the complexity of the subject matter, the requirement for reflexivity and the number of decisions involved in using research methods competently).

PCK is about how the responses to these challenges form into know-how that combines pedagogical and subject matter expertise. Findings indicate this know-how relates to:

- classroom organization to meet pedagogical goals (e.g. group/pair work);
- structuring content to manage the challenges (e.g. scaffolding, chunking, reverse engineering);
- pacing strategies (e.g. the 'data sprint');
- pedagogical starting points (data vs theory, craft vs art, teacher's vs students' experiences); and
- pedagogical hooks for connecting students to research methods, getting them interested and confident.

The presentation of this paper will drill down into one particular pedagogical hook – the teaching of, with, and through data - as this represents a concentration of the teachers' PCK. This includes teachers utilising their own experiences with data and exploiting the benefits of learners' real-world or simulated immersion in authentic data to learn by doing. The findings help us to show the importance of coming to understand advanced research methods pedagogy in the social sciences as part of efforts to build methodological capacity across Europe and beyond.

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