

The state of the art of teaching research methods in the social sciences: towards a pedagogical culture

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No formal pedagogical culture for research methods (RM) in the social sciences seems to exist and as part of our endeavour to establish such a culture this article reviews current literature about teaching RM and identifies the gaps in the research. Articles in academic journals spanning a 10 year period were collected by searching academic catalogues and compiling a database of 195 articles published in 61 journals. These articles were reviewed and are discussed according to seven themes. Three specific gaps in research are identified that indicate some new agendas for research on teaching RM in the social sciences. The implications for developing a pedagogical culture for RM from the current literature reviewed are discussed.

Keywords: pedagogical culture; research methods education; social sciences

Introduction

Universities in many countries are placing increasing emphasis on training students to conduct research, and most degree programmes now contain a research methodology (RM) component. Many are offering degrees in Social Science Research, as a field of expertise in its own right. The need for expert teachers of RM is becoming correspondingly more pressing. As yet, however, limited attention has been given to developing the sort of ‘pedagogical culture’ in RM that is well established in a number of other disciplines (e.g., Coombs and Rybacki 1999; Newstead 2009). By pedagogical culture we refer to the exchange of ideas within a climate of systematic debate, investigation, and evaluation surrounding all aspects of teaching and learning in the subject. The scholarly literature contains few systematic discussions, for example, of curriculum design or teaching methods in RM; nor is there a substantial research base to inform such discussions (Garner, Wagner and Kawulich 2009,

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Introduction). Many teachers of RM, as may be the case in other subject areas, appear not to consider pedagogical questions at all.

Such discussions of RM pedagogy as do occur in the literature take place in the absence of a coherent framework. In this article we review the RM pedagogical literature. Many gaps are evident, and, we make recommendations for further work in the field. '[T]he best curriculum is worthless without proper pedagogy' (Coombs and Rybacki 1999, 56), and pedagogy must become a research pursuit among academics who investigate their own teaching (Elton 2001).

The paper addresses the following questions in relation to RM teaching in the academic literature:

- (1) What topics are considered?
- (2) What gaps can be identified?
- (3) What are the implications of (1) and (2) for the development of a pedagogical culture?

Main topics in the literature on teaching RM

We surveyed articles published between 1997 and 2007 (the only books we identified devoted to teaching RM in the social sciences are: Garner, Wagner and Kawulich 2009 and Murtonen, Rautopuro and Väisänen 2007). The search was concluded when no new significant references were found in any of the sources.

Two methods of data collection were employed. The first was a database search of: Social Sciences Citation Index, ScienceDirect, Academic Search Premier, EBSCOhost, PsycINFO, Swetswise and Google Scholar. The keywords Research, Teaching, Training, Methodology, Methods, Pedagogy, Social Sciences, Higher Education, and Curriculum were used in various combinations to search the databases. The second method entailed examining the reference lists of the accumulated material for additional sources, until a point of saturation had been reached.

The database comprised 195 articles from 61 journals, distributed as shown in Table 1. Of the journals, *Teaching Psychology* has the highest number of articles, followed by *Teaching Sociology* and *Journal of Geography in Higher Education*.

Table 1. Journals and frequencies of articles published on teaching RM 1997-2007.

Journal	Frequency
<i>Australian Psychologist</i>	1
<i>Behaviour, Research Methods, Instruments and Computers</i>	1
<i>British Educational Research Journal</i>	1
<i>British Journal of Social Work</i>	1
<i>Canadian Journal of Counselling</i>	1
<i>Educational Gerontology</i>	1
<i>Educational Psychology</i>	1
<i>Educational Researcher</i>	7
<i>Evaluation and Research Education</i>	1
<i>Family Relations</i>	1
<i>Forum: Qualitative Social Research</i>	5
<i>Higher Education Research & Development</i>	4
<i>Innovations in Education and Training International</i>	1
<i>International Journal of Qualitative Studies in Education</i>	1
<i>International Journal of Social Research Methodology</i>	6
<i>International Journal of Teaching and Learning in Higher Education</i>	1
<i>Journal of Clinical Nursing</i>	1
<i>Journal of Community Practice</i>	1
<i>Journal of Criminal Justice Education</i>	4
<i>Journal of English for Academic Purposes</i>	1
<i>Journal of Further and Higher Education</i>	2
<i>Journal of Geography in Higher Education</i>	9
<i>Journal of Gerontological Social Work</i>	1
<i>Journal of Higher Education</i>	1
<i>Journal of Hispanic Higher Education</i>	1
<i>Journal of Hospitality, Leisure, Sport & Tourism Education</i>	1
<i>Journal of Librarianship and Information Science</i>	1
<i>Journal of Management Education</i>	1
<i>Journal of Research on Computing in Education</i>	1
<i>Journal of Social Work Education</i>	6
<i>Journal of Systemic Therapies</i>	1
<i>Journal of Teaching in Social Work</i>	10
<i>Journal of University and Teaching and Learning Practice</i>	1
<i>Library Trends</i>	1
<i>Methodology European Journal of Research Methods for the Behavioral and Social Sciences</i>	1
<i>Peer Review</i>	2
<i>Political Scientist Online</i>	7
<i>Qualitative Health Research</i>	2

<i>Qualitative Inquiry</i>	1
<i>Qualitative Research Journal</i>	7
<i>Qualitative Social Work</i>	1
<i>Qualitative Studies in Education</i>	1
<i>Quality & Quantity</i>	1
<i>Research on Social Work Practice</i>	1
<i>Research Strategies</i>	1
<i>Review of Educational Research</i>	1
<i>South African Journal of Industrial Psychology</i>	1
<i>Scandinavian Journal of Educational Research</i>	3
<i>Social Work Education</i>	3
<i>South African Journal of Psychology</i>	1
<i>Studies in Higher Education</i>	7
<i>Teacher Development</i>	1
<i>Teaching in Higher Education</i>	6
<i>Teaching Music</i>	1
<i>Teaching Psychology</i>	36
<i>Teaching Sociology</i>	18
<i>Teaching Statistics</i>	1
<i>The Counselling Psychologist</i>	3
<i>The Journal of Academic Librarianship</i>	1
<i>The Journal of Higher Education</i>	1
<i>The Qualitative Report</i>	8
Total	195

The frequency of relevant articles by year (Table 2) suggests a sporadic and fluctuating, rather than a steadily increasing, interest in the pedagogy of RM.

The review proceeded according to Thody's (2006) five steps: recording, summarising, integrating, analysing and criticising sources. Each article was read to determine the topics and methods of investigation and the findings. The results were compared across all articles. Seven themes (detailed below) relating to teaching RM were identified. After the survey was completed, any gaps in the literature discussed within the articles were supplemented by those we identified across the entire corpus.

The seven themes

In the section that follows we provide the various themes that are discussed in the current publications and the main debates that arise in these sources. The first theme,

Table 2. Frequencies of articles on teaching RM by year.

Year	Total per year
1997	9
1998	14
1999	14
2000	17
2001	23
2002	17
2003	34
2004	16
2005	22
2006	20
2007	9
Total per category	195

RM teaching in general, refers to material about general issues or aspects of teaching RM. It does not focus on any one element of RM teaching and is more theoretical in approach. The second theme is developed in articles about teaching qualitative topics or pedagogical approaches to teaching qualitative RM which tended to be about data analysis and data analysis software. Theme three focuses on teaching quantitative RM and statistics, although the two are not necessarily equated or connected in a course. Theme four includes material that describes teaching mixed quantitative and qualitative methodologies. Specific techniques for teaching RM, theme five, describe the implementation of a particular method of teaching RM to students. Theme six reflects the way in which RM pedagogy is conducted within a specific discipline and includes the way in which specific disciplines use an approach to teach RM. It is

distinct from theme five in that it does not describe a particular technique to teaching RM, but rather surveys the pedagogical approach that is (or should be) taken within a particular discipline. Finally, theme seven comprises articles on teaching ethics in research.

1 *RM teaching in general*

This theme is surprisingly infrequent in the literature. Three articles discuss students', supervisors' and institutional conceptions of research, and the incompatibility between them (Kiley and Mullins 2005; McCormack 2004; Meyer, Shanahan & Laugksch 2005). Two articles (Montcalm 1999; Vittengl et al. 2004) discuss strategies to address students' negative attitudes towards research. Other foci in the articles are methodological pluralism (Braumoeller 2003), students' views of lecturers' research activity (Lindsay, Breen and Jenkins 2002), research methods and students' reasoning skills (VanderStoep and Shaughnessy 1997) and the influence of the knowledge era on RM curricula (Wagner and Maree 2005).

There was little evidence for a common pedagogical culture: the literature is devoted largely to specific topics, disciplines, methodologies and instructional approaches.

2 *Teaching qualitative RM*

Along with more general discussions, two specific issues are examined. Page (1997) focusses on validity as a topic in the qualitative RM curriculum. Sells, Smith and Newfield (1997) argue that teaching ethnographic methods in a social work curriculum increases students' interest and broadens their skill set. Eleven articles addressed data analysis and software in qualitative RM. The development of data analysis software is a trend that will have to be observed closely to determine whether it is a sustainable way of using and analysing qualitative data and to what extent the

funding and energy invested in these programs will subsequently impact on the way in which data is analysed (Flick 2005).

3 Teaching quantitative RM and statistics

The earliest RM courses dealt almost exclusively with quantitative data and statistics (Peden and Carroll 2009). The same remains true in many institutions today, which makes the low proportion (7 of 22) of articles on teaching and learning quantitative RM surprising (Murtonen and Lehtinen 2003). The remainder of the publications focus primarily on learning (rather than teaching) statistics and the accompanying anxiety. Exceptions are Calderwood (2002) who examines incorporating multiple epistemologies into teaching statistics and Davis (2004) who considers the effect of gender and culture in mediating statistics anxiety. Harrington (1999) and Royle (2000) compare the effectiveness of teaching statistics in web-based distance mode and in a traditional classroom; they find no appreciable difference.

4 Teaching mixed methods

This theme is represented by five articles in our survey. As might be expected in an emerging field, the two main foci are the rationale for teaching mixed methods and guidelines for constructing a mixed-methods course.

5 Techniques for teaching RM

This theme is treated largely in relation to a particular discipline, but, as Healey (2005, 190) notes, '[a]pproaches to teaching and learning vary between individuals and departments as much as between disciplines'. One model treats teaching as transmission: knowledge is passed to students from the teacher (Brew 1999). Another model, based on research as a process of knowledge construction, emphasizes learning (Simons and Elen 2007). Authors advocate a range of approaches: exercises, problem-based learning, experiential learning, collaborative and group work,

computer-based learning, tutorials, workshops, simulations and projects (e.g., Healey 2005). The aim is to engage students directly in research activity (Zamorski 2002). An example is the 'research-teaching nexus' (although the term is contested: Healey 2005), in which students participate in a lecturer's research project or conduct their own project (Larkin and Pines 2004). The teaching and assessment mirror the research process itself (Jenkins 2000).

6 *Teaching RM for specific disciplines*

This theme examines the pedagogical approach, rather than specific teaching techniques, appropriate to RM in a particular discipline. Nine disciplines are represented in the literature.

Education

Education, with 10 articles, is the most prolific discipline in this theme. All of the authors argue for multiple paradigms in postgraduate and in-service research training: students should be prepared for multi-disciplinary, multi-theoretical and multiple methods research. (See also the section on mixed methods research, below.) Deem and Lucas (2006) posit that this preparation will encourage students to continue to engage in research in their professional activities as teachers.

Social work

Eight articles concern teaching RM in social work. Two discuss the research-teaching nexus. Lorenz (2003) draws from teaching experiences across several European countries and concludes that something can be learned from other disciplines, but the social and cultural contexts of social work should be the guiding criteria for RM pedagogy. Taylor and Rafferty (2003) explore web-based social work resources for enhancing the research-teaching nexus. Two articles (Juliá and Kondrat 2000; McNicoll 1999) explore participatory action research in social work. A 2003 article

(Hardcastle and Bisman) discussed the following innovations in relation to RM teaching: evidence-based practice; ideology in social research; integrating multiple curriculum areas; and information technology. One article (Longres and Scanlon 2001) examines questions of social justice in the research curriculum, and another (Montcalm 1999) the measurement of self-efficacy amongst social work students.

Psychology

Of the six articles on RM instruction in psychology, two (Morrow 2007; Ponterotto 2005) examine the conceptual foundations of qualitative research for counselling psychology. Barak (1998) explains how learning RM develops applied cognitive skills of student counsellors; Michell (2001) focuses on teaching measurement in psychology. Perlman and McCann (2005) investigate research experiences of psychology undergraduates. Zablotsky (2001) discusses the challenges of teaching RM in a course in the social psychology of ageing.

Political science

Five articles (all from one journal) relate to teaching RM in political science. Three (Bennett, Barth and Rutherford 2003; Schwartz-Shea 2003; Thies & Hogan 2005) highlight the dearth of qualitative research courses offered to students, particularly at non-research institutions, and argue for methodological pluralism, particularly in doctoral RM training programmes. Hill (2002) calls the state of science education in political science 'lamentable' and underlines the need for robust RM courses that teach students about the science (methods of knowing) of the discipline. Segal (2002) provides examples of teaching practice, such as homework assignments that apply statistical techniques to political science phenomena, computer practicum to test the hypotheses given in the homework, and a term paper in which the student makes and tests a hypothesis.

Geography

Three articles discuss the teaching of RM within geography. Healey (2005) explores the research-teaching nexus, arguing for enquiry-based learning, which he suggests is pivotal to twenty-first century pedagogies. Welch and Panelli (2003) reflect on the pedagogical principles that should inform RM courses in geography and outline pedagogic and pragmatic reasons for, and the challenges of, teaching a specific human geography course. Vujakovic and Bullard (2001) consider research ethics for geography students.

Criminology

Three articles reflect concern about the topics covered in textbooks and curricula. McSkimming, Sever and King (2000) contend that the treatment of the indispensable topic of ethics is inadequate; Sever (2001) argues that textbooks do not adequately reflect taught curricula and do not meet the needs of graduate students. A content analysis of US doctoral programmes (Sullivan and Maxfield 2003) found little uniformity in RM teaching and concluded that the discipline does not have an established RM paradigm.

Library sciences

The two articles in the corpus (Goulding and Usherwood 2003; Liebscher 1998) discuss research methods in the curriculum and the teaching of quantitative and qualitative methodologies a single semester course.

Music

The single article (Woody 2004) outlines five misconceptions held by students about music research and provides practical suggestions on how newcomers to research can become more comfortable with the subject.

Sociology

Articles about teaching RM in sociology published in the journal *Teaching Sociology* focus mainly on various teaching techniques implemented in RM courses. Leahey (2006) examines how sociology graduates learn research practices and the student-adviser relationship.

7 Teaching ethics in research

Surprisingly, given the increasing institutional emphasis on ethics, only two articles deal with teaching research ethics. This may also indicate that much research and writing on this topic is reactive in nature. Brinthaupt (2002) shows how real examples of the effects of feedback from ethics committees (Institutional Review Boards) on research projects can be used to raise students' awareness of ethical issues in research. McGinn and Bosacki (2004) explore students' perceptions of ethical complexities in their research.

Gaps in the research on teaching RM: new agendas for research

This brief summary shows that the literature addresses a reasonably wide range of topics within a number of disciplines. Equally evident, however, is the lack of interdisciplinary and inter-institutional connectedness in relation to RM pedagogy. There is little evidence of a systematic discussion of the central issues—or even an attempt to define what the central issues are. A thorough discussion, though much needed, is beyond the scope of the present paper, but on the basis of our survey draws attention to three themes that need substantial theoretical and empirical treatment:

- (1) The role and desirable characteristics of an RM teacher
- (2) The challenges of teaching and learning specific aspects of RM
- (3) Commonalities and differences in RM between disciplines

These themes are discussed below, primarily on the basis of the corpus of articles assembled for our review.

The role and desirable characteristics of an RM teacher

The choice of teachers of an RM course tends to reflect the perception of methodology within a department or even the institution as a whole. If methodology is regarded as requiring little more than basic information and skills, junior staff members or post-graduate students may be asked to teach the course. Where it is viewed as an esoteric interest, it may be left to faculty members with a ‘methodological cast of mind’. Of course, individuals in either group can be excellent teachers of research. Early-career researchers may display enthusiasm and inventiveness in their teaching, although Sever (2001) suggests their approach is often limited to what they were taught in their own postgraduate programmes. Senior academics can offer depth of experience and a breadth of perspective, but may also be inflexible in their conception of methodology.

The apparently common assumption that a good research record is evidence of the aptitude to teach RM is examined by Breuer and Schreier (2007) in relation to qualitative methods. Their conclusions are open, but Terenzini and Pascarella (1994) consider it a ‘myth’. Elton (2001, 53) contends that pedagogical skills, rather than research experience, are the critical requirement:

[t]eachers ... have to be well versed in the scholarship of their discipline. They also need to be well versed in the pedagogy of their discipline and in its scholarship ...

Simons and Elen (2007) emphasise the difference between the skills required for doing research and those for teaching students to do it. Rather than training researchers to teach, they advocate evaluating the teaching abilities of researchers. Nonetheless, the importance of a teacher’s research experience should not be overlooked: Deem and Lucas (2006) report that post-graduate students value instructors with extensive research and practical experience.

The relationship between research and teaching is still inadequately understood, and its importance is contested. Qualitative studies suggest that academics perceive a symbiotic connection between the two (Robertson and Bond 2001), which, however, is not supported by quantitative studies. Lindsay et al. (2002) and Zamorski (2002) explore students' perceptions of research-led teaching and draw implications for practice and policy. Kiley and Mullins (2005), Robertson and Bond (2001) and Zamorski (2002) investigate academics' conceptions of research and their relationship to teaching. Jenkins (2000) discussed studies from the late 1980s and 1990s that examine the relationship from the perspective of students, staff and administrators. With the exception of Robertson and Blackler (2006), however, these studies do not explore the methodological learning that occurs during the research process.

Unless methodology is accepted as central to education in a discipline, teachers will too often be allocated to classes for reasons other than an aptitude for teaching methodology, and students are unlikely to learn how to do research well. There is a pressing need for widespread debate, informed by pedagogical research, around what makes successful RM teachers.

The challenges of teaching and learning specific aspects of RM

Do different types of research require distinct approaches to teaching and learning?

Breuer and Schreier (2007) argue that qualitative and quantitative RM require different approaches to teaching and learning: the former necessitates a closer relationship between instructor and learner than the latter. Murtonen and Lehtinen (2003) examine what motivates or hinders students' understanding of research statistics; how learning difficulties transcend students' studies in other areas; and the extent to which their RM knowledge develops over the course of a programme.

Onwuegbuzie and Wilson (2003) stress the importance of statistics anxiety, which can prevent students from completing their dissertations. In her discussion of statistics courses and statistics anxiety, particularly amongst women and minorities, Davis (2003) argues for a focus on student-centred approaches. Harrington (1999) calls for research into students' use of statistical software in distance mode courses.

Pratt and Dolbin-MacNab (2003) identify three learning frameworks and query whether a student's framework leads to a preference for qualitative methods. They propose research into factors that lead students' frameworks to change and also into teaching and learning mixed methods.

A well-informed approach to teaching, in whatever field, relies on a sound understanding of the processes of, and obstacles to, learning. An understanding of students' conceptions of research itself can result in a more carefully targeted pedagogy (Kawulich, Garner and Wagner 2008). An important contribution was made in a special issue of the *Scandinavian Journal of Education Research*, comprising five conception studies (Vermunt 2005), but more conception research is needed.

We noted above a surprising lack of research into teaching and learning research ethics. This is a topic that is under increasing institutional (and wider public) scrutiny, and one that requires awareness and sensitivity in students. It is to be hoped that the burgeoning discussion in the scholarly literature of ethical matters will soon be matched by research and debate into the pedagogy of research ethics.

Commonalities and differences in RM between disciplines

The personal experience of the authors of this article, in both discipline-based and cross-disciplinary RM courses, suggests two conflicting learning outcomes. Students who take more than one discipline-based RM course are often frustrated by overlapping curricula, but students in cross-disciplinary courses may struggle to relate

their training to any substantive discipline. Our survey revealed some discussion of teaching RM within and/or across disciplines, but the evidence base for the positions adopted remains meagre. In the only relevant study in the corpus, Giesbrecht et al. (1997) attempted to determine whether there would be agreement across the natural and social sciences and education in one university for a common course in introductory statistics and RM. They found agreement of 97% on the statistics topics and 48% on the methodology topics, leading them to conclude that the latter are more specific to individual disciplines. For example, psychology favours randomised experiments, while quasi-experiments, surveys and the like are preferred by other social sciences.

Jenkins (2000, 337) advocates 'discipline-based pedagogic research' into how the teaching-research nexus unfolds in different disciplines, which allows each discipline to uncover both commonalities and specific differences between disciplines in the teaching-research relationship. Zamorski (2002) and Robertson and Blackler (2006) find some research evidence for broad differences between the natural sciences and social sciences-humanities. More fine-grained research within the social sciences themselves is still needed. Kiley and Mullins (2005) propose research into possible disciplinary differences in students' and supervisors' conceptions and how these might influence RM pedagogy.

Given the paucity of pedagogical research in both intra- and inter- disciplinary contexts, it is not yet possible to say whether the 'pedagogical culture' the authors advocate can be developed across, or only within, each subject area.

Can there be a general pedagogical culture for RM?

Eisenhart and DeHaan (2005, 8) argue that disciplinary boundaries are blurring; Brew (2003) questions their pedagogical relevance and argues for academic communities of

practice that place students and conceptual change at the heart of teaching, where knowledge is seen as constructed, not transmitted.

Mittelstrass (paraphrased in Simons and Elen 2007) argues for 'transdisciplinary research' that allows scholars to approach general societal problems. A number of beneficial learning outcomes of interdisciplinary RM courses are proposed in the literature (see, e.g., Eisenhart and DeHaan 2005; Giesbrecht et al. 1997; Preissle and Roulston 2009; Simons and Elen 2007). They include the following.

- Interdisciplinary co-operation develops if, for example, statistical techniques are not taught in isolation
- Students of qualitative research are exposed to a range of disciplines that contribute to the methodology
- Students receive standard RM training, which facilitates gaining entrance to their major department and the transfer of credits to other institutions
- Increased market demand reduces the prices of textual software
- Students are better prepared for the increasingly required cross-disciplinary teamwork
- Students are encouraged to explore research questions they would ordinarily not have addressed
- Employers place greater emphasis on independent knowledge construction, often at the expense of specific disciplinary expertise
- The transfer of generic skills is important in today's world, in which career changes are becoming more common

Not all educationists agree: many are convinced that RM teaching needs to remain a disciplinary undertaking. Bridges, Gillmore, Pershing and Bates (1998, 24) argue that

[p]rograms might more effectively situate basic training in quantitative reasoning skills within substantive courses in which students have personal interests and in which faculty members are already heavily invested in teaching'.

More recently, Preissle and Roulston (2009) debated the value of teaching RM across disciplines with colleagues who argue against detaching statistics courses from disciplinary content. Welch and Panelli (2003) argue that RM is more effective if

taught in the disciplinary context in which it will be applied, thus reflecting current disciplinary practice. From a social work perspective, Lorenz (2003, 17) agrees:

[E]xperience and practice wisdom play a very central role in the construction of a type of knowledge that refuses to reduce the complexities of situations encountered by social workers and their clients to scientific abstractions and ... requires a method all of its own, different from that of other disciplines'.

Even within disciplines there can be disagreements about RM teaching. In geography, for example, similar courses may emphasise different RM topics, reflecting the politics of research and divergent world-views within the discipline (Healey 2005; Welch and Panelli 2003). Welch and Panelli call for a unified approach based on pedagogical principles that transcends intra-disciplinary and intra-departmental differences.

Until there is an agreed academic rationale for teaching RM across or within disciplines (Welch and Panelli 2003), decisions to introduce cross-disciplinary courses will continue to be motivated more by administrative than by educational objectives.

Conclusion

We have attempted to contribute to the debate about a pedagogical culture in RM by drawing attention to some major gaps in the recent literature about teaching RM. The survey was limited to those databases that were accessible and restricted largely to articles published academically, but we believe it gives a representative picture of the current state of discussion and research. We hope that this study will stimulate research that will expand the currently sparse knowledge base, and will encourage RM teachers to develop networks, share ideas, and engage in debate. We believe it is essential for those of us who have the responsibility for teaching RM to work to ensure that our pedagogy becomes an academic undertaking of the highest standard.

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