

# Chapter XI

## Using Technology in Research-Methods Teaching

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### **ABSTRACT**

*The focus of this chapter is on the use of technology in the teaching and learning of research methods in masters' and doctoral programmes in higher education, with particular reference to the field of educational research. The current challenges in research-methods teaching are taken up with the aim of, first, reflecting on questions about developing innovative and engaging flexible learning practices that are appropriate to the ways in which researchers (in particular, new researchers) can develop their skills, knowledge, and practice in diverse academic and professional settings. Second, the chapter explores how technology can be effectively used in the teaching and learning of research methods and how technology and pedagogy can be integrated to achieve a successful e-learning design. We explore these issues through a case study of the V-ResORT project (Virtual Resources for Online Research Training). Third, we describe an action research approach we have developed in the project to build an effective theoretical framework that underpins the production of video narratives and other online learning and teaching resources. Fourth, we present our approach to learning design and reusability as requirements to enable online materials to be embedded within course settings and across institutions using an "invented everywhere" approach. We present some practical examples of how our ideas have been translated into practice. Finally, we draw some conclusions from our action research study and present some ideas about trends for future developments of online research-methods learning and teaching.*

## INTRODUCTION

Recent trends in postgraduate education with the emergence of professional doctorates involving those new to research and the widespread provision of institutionally organized research training programmes have led to new debates about how researchers develop research expertise. Graduate provision in higher education in the United Kingdom now accounts for almost 25% of total student numbers, and the dominant model for the organization of research-methods teaching and support is the institutional graduate school (Woodward & Denicolo, 2004). There is greater diversity in the provision of research degrees, ranging across all subject disciplines, from professional and work-related doctorates to traditional PhDs, as well as greater diversity of research students. Much current provision is more appropriate for the full-time young career researcher than for the professionally employed off-campus researcher studying part time. Criticism of current practice has consequently addressed issues about the emphasis on skills training, the complexity of teaching research methods, epistemological concerns, and the role of technology. Powell and Green (2007), for example, in their critical analysis of doctorate programmes worldwide, state that the current emphasis on skills training for research students is “in danger of shifting the focus of doctoral education to a functionalist skills-led perspective” (pp. 258-259). There have been a number of calls for a review of research-methods learning and teaching, including from Birbili (2002), who states that there is a “pressing need for all those involved in (research methods training) to reflect on their current practice and introduce greater flexibility into its organization and provision.” The UK GRAD Programme (2007) is the United Kingdom’s main provider of personal and career management skills development for postgraduate researchers, and its Roberts Policy Forum calls for the coordination of examples of good practice in research-methods skills training.

Deem and Lucas (2006) examine questions around the relationship between teaching and research in higher education with reference to social science methods and particularly educational research. Their empirical data reveal confusion, particularly among master’s students, about the nature of research and the need for support in “bringing together the abstract and more practical aspects of research” (p. 3). Both Birbili (2002) and Deem and Lucas identify the potential of technology to bring more flexibility into the learning and teaching of research methods.

## BACKGROUND

In this chapter, we highlight the problematic nature of how research methods are taught and how postgraduate students learn about research by presenting and reflecting on the outcomes of the three-year V-ResORT project (Virtual Resources for Online Research Training). We believe there is a need to change pedagogic approaches to the teaching of research methods to acknowledge educational research as complex, dynamic, and diverse, and our experience has given us some insight into how this can be achieved. V-ResORT has developed innovative, flexible learning materials that provide video narratives of researchers exploring key questions connected with their work. These online resources employ cutting-edge technologies to make the content accessible to both research students and their lecturers.

In the course of implementing the project, we have carried out action research into the design of a reusable Web site that incorporates an invented-everywhere principle. The process has involved a user needs analysis, expert panels, a literature review of transferability issues related to the reuse of resources, rapid prototyping, and the use of local mentors as part of ongoing dissemination and evaluation.

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