Chapter 13
Mixing Methodologies:
A Sliding Continuum or an Iterative Cycle?

Jo Denton
University of Warwick, UK

ABSTRACT

Should research in a particular field follow the traditional or favoured methodologies associated with that field, or, if it is desirable for the empirical methods of research to be mixed, can the same not be said for the theoretical standpoint of the research design? Does mixing methodologies imply that methodologies can be placed on a sliding scale to create a new methodology from combining elements of the old; or does it imply an iterative or cyclical process, using a suitable methodology for the stage in the research? This chapter explores what combining qualitative and quantitative methods actually means in terms of social and educational research and how this can assist in developing a mixed methodological approach suitable for addressing wicked problems faced in education in the rapidly evolving Anthropocene epoch. To address these issues, the chapter proposes a new term for combining methodologies: 'omniduction,' which encompasses induction, deduction and abduction and utilises each as the research, rather than the researcher, dictates.

INTRODUCTION

Mixed methods' time came over decade ago according to Johnson and Onwuegbuzie (2004); however, thirteen years on, in this rapidly evolving Anthropocene epoch, although mixed methods are still popular in educational research, mixed methodologies seems to be a far less discussed approach. Should research in a particular field follow the traditional or favoured methodologies associated with that field? Or, if it is desirable for the empirical methods of research to be mixed, can the same not be said for the theoretical standpoint of the research design? Most educational research fundamentally seeks to improve outcomes, and how to improve outcomes in education is undoubtedly a wicked problem: there is no one solution; half the problem is in defining the problem; there is no room for trial and error, as any attempt to solve the problem will have an impact on the participants; and any success is, at best, subjective (Rittel &

Webber, 1973). Therefore, in the age of Anthropocene, where humanity is impacting on our environment at an unprecedented accelerated pace, does educational research need more than ever to bridge research traditions and disciplines in order to bring together research, policy and practice to have the desired impact on education?

This chapter explores what combining qualitative and quantitative methods actually means in terms of social and educational research and how this can assist in developing a mixed methodological approach which could bridge fields of study and address wicked problems. It considers whether mixing methodologies implies that methodologies can be placed on a sliding scale to create a new methodology from combining elements of the old; or whether it implies an iterative or cyclical process using a suitable methodology for the stage in the research. The chapter first presents a brief history of qualitative and quantitative approaches in educational research and reviews the literature pertaining to why a combination of qualitative and quantitative methods is believed to enhance research, particularly with regard to the triangulation of findings and providing a fuller picture of the situation. It draws on relevant literature to distinguish between methods and methodology and outlines the complexities in defining methodology in educational research, including the misuse of the term by researchers and authors. It considers the role of paradigms on researchers' methodological choices and their link to the qualitative and quantitative nature of inductive and deductive reasoning to generating and verifying theory. It argues that, for the very reason that combining methods gives a more holistic view of the situation being researched, so does mixing methodological approaches in terms of inductive and deductive reasoning. It presents a possible methodological continuum, placing abduction between the extremes of induction and deduction and, finally, it proposes a new term for combining methodologies: omniduction, which encompasses inductive, deductive and abductive reasoning in a cyclical methodological approach, which it concludes is a favourable approach in educational research in the age of Anthropocene.

History of Qualitative and Quantitative Approaches in Educational Research

Formal educational research began in the late nineteenth century and focused predominantly on quantitative methods and experimental research (Jarvis, 2005). Educational research was very much psychological in the early days, focusing on the development of human emotional learning, which continued into the early twentieth century (Jarvis, 2005). One researcher who used these quantitative approaches, Thorndike, was thought to be very influential on educational research, however much of his research was not conducted anywhere near a classroom (Wellington, 2015). This has naturally been a criticism of early educational research (Wellington, 2015). How can a researcher really understand the field if they are not in direct contact with issues they are researching?

By the middle of the twentieth century, sociology became the main influence on research in education. Since then, ideas about the nature of educational research and how it should be conducted has evolved. From the 1970s onwards there has been a rise in research which favours qualitative approaches (Jarvis, 2005). According to Denzin and Lincoln (2005), qualitative research is "a situated activity that locates the observer in the world" (p. 3) which tackles the criticism of the more distant early educational research. However, the 1980s saw what was termed the paradigm wars in the United States where quantitative researchers became highly critical of the findings of qualitative researchers.

Experimental research is still prevalent in the United States in social and educational research, which is perhaps the influence of policy makers who look for answers which are generalisable as opposed to researchers themselves who seek to investigate wider issues in education. For results to be generalisable,

Related Content

Sustainable Supply Chain Management in Iranian Manufacturing Companies

Maryam Azizsafaeiand Deneise Dadd (2020). *International Journal of Strategic Engineering (pp. 37-58).*

www.irma-international.org/article/sustainable-supply-chain-management-in-iranian-manufacturing-companies/255141

Education Research and Scholarship in an Intercultural Context: An Instance of Interpretation, Induction, and Deduction

Beena Giridharan (2020). *Emerging Methods and Paradigms in Scholarship and Education Research (pp. 118-133).*

www.irma-international.org/chapter/education-research-and-scholarship-in-an-intercultural-context/236523

Just Write: A Smooth Process for a Rough Draft

LaDessa Mitchell (2021). *Strategies and Tactics for Multidisciplinary Writing (pp. 8-19).*

www.irma-international.org/chapter/just-write/275618

Doctoral Practitioner Researcher Agency and the Practice-Based Research Agenda

Karen Sweat, Vahick A. Yedgarian, Kenneth L. Rigler Jr., Stephanie Maddoxand Robin Throne (2021). *Practice-Based and Practice-Led Research for Dissertation Development (pp. 188-206).*

www.irma-international.org/chapter/doctoral-practitioner-researcher-agency-and-the-practice-based-research-agenda/260934

Academic Integrity: Exploring Issues of Plagiarism Facing Chinese Students in New Zealand Universities

Mingsheng Li (2019). *Scholarly Ethics and Publishing: Breakthroughs in Research and Practice (pp. 582-601).*

www.irma-international.org/chapter/academic-integrity/222328