

EDUCATIONAL RESEARCH **PERSPECTIVES AND PRACTICES**

Editor

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Foreword

Education in the twenty-first century operates within a rapidly transforming landscape shaped by technological innovation, interdisciplinary expansion, socio-political shifts, and increasing ethical scrutiny. In such a context, educational research must move beyond routine methodology toward deeper conceptual clarity, methodological sophistication, and social responsibility. This volume emerges as a timely and significant contribution to that evolving discourse.

The work reaffirms the foundational understanding of educational research as a systematic and transformative enterprise. Research in education is not an abstract academic exercise; it directly informs teaching practices, curriculum development, institutional governance, assessment systems, and policy decisions. By revisiting the nature and scope of educational inquiry, the volume establishes a strong conceptual grounding that anchors the discussions that follow.

A major strength of this book lies in its methodological breadth. The thoughtful engagement with qualitative inquiry, mixed-methods research, and interdisciplinary perspectives reflects an awareness that educational realities are complex and multifaceted. The volume is particularly responsive to contemporary shifts in research design and technological integration. Discussions on gamification, simulation, artificial intelligence, and machine learning highlight the expanding horizons of educational research. These innovations offer powerful tools for data generation and analysis, yet the text carefully balances enthusiasm with critical reflection. Issues of bias, transparency, data ethics, and validity are addressed with seriousness, reinforcing the principle that technological advancement must remain grounded in human values and academic integrity.

Ethical reflection forms a consistent thread throughout the volume. In an era of digital data proliferation and algorithmic influence, maintaining public trust in research has become increasingly vital. The book underscores the need for reflexivity, accountability, and responsible knowledge production. It reminds readers that educational research carries societal implications and must therefore be conducted with heightened ethical awareness.

Another notable contribution of this volume is its engagement with broader questions of knowledge, sustainability, and global responsibility. By situating educational research within discussions of governance, policy, and the Sustainable Development Goals, the book extends its relevance beyond academia. It presents scholarship not as an isolated pursuit but as a meaningful contributor to equitable and sustainable societal development.

Despite addressing diverse themes, the chapters are organised with clarity and intellectual progression. In a time when education faces unprecedented complexity, research must remain rigorous, reflective, and socially responsive. This book exemplifies that commitment. I commend the editors and contributors for their scholarly dedication and trust that this work will stimulate continued dialogue, innovation, and responsible inquiry within the field of education.

A handwritten signature in blue ink, reading "AMITA BAJPAI", is written above a long, sweeping horizontal line that underlines the signature.

Prof. (Dr.) Amita Bajpai
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Preface

Educational research continues to evolve in response to profound transformations in knowledge systems, technological infrastructures, socio-political dynamics, and ethical expectations. As education increasingly intersects with issues of sustainability, governance, digitalisation, and global responsibility, research in this field must move beyond methodological routine toward greater conceptual clarity, interdisciplinary engagement, and ethical reflexivity. This edited volume is conceived within this global scholarly context and brings together a set of carefully curated chapters that collectively examine the foundations, methodologies, innovations, and responsibilities shaping contemporary educational research.

The volume opens with *Nature and Scope of Educational Research*, which establishes a conceptual grounding by examining education as a systematic and scientific endeavour aimed at informed change. By clarifying the meaning, characteristics, and applications of educational research, the chapter positions research as a vital instrument for improving teaching practices, curriculum design, evaluation systems, and policy formulation.

Building on this foundation, *Qualitative Research in Education: A Method* explores the philosophical orientations and methodological contours of qualitative inquiry. It highlights the value of qualitative approaches in understanding educational contexts, experiences, and processes, while demonstrating their relevance for both theory development and educational practice. Complementing this discussion, *Qualitative Research Tools in Education: From Data Generation to Interpretive Analysis* focuses on the practical and epistemological dimensions of qualitative tools. It examines data generation techniques, analytic strategies, and criteria for rigour, emphasising reflexivity, ethical sensitivity, and contextual understanding in the construction of meaning.

The methodological dialogue is further extended in *Challenges and Opportunities in Conducting Mixed-Methods Research in Education*, which critically examines the integration of quantitative and qualitative

approaches. This chapter highlights mixed-methods research as a powerful framework for addressing complex educational phenomena, enhancing validity through triangulation, and producing more comprehensive and nuanced interpretations.

Moving beyond methodological boundaries, *Harnessing the Power of Interdisciplinary Research in Education: Insights from Namo Studies* presents an interdisciplinary model that integrates education with governance, public policy, cultural studies, and leadership research. The chapter illustrates how interdisciplinary inquiry can enrich curriculum design, foster civic engagement, and expand the horizons of educational research, while also reflecting on challenges related to academic neutrality and methodological coherence.

Innovation in research design forms the focus of *Gamification and Simulation in Research Design: Innovations from Foundations to Future Frontiers in Educational Research*. Grounded in established learning theories, this chapter examines how gamified and simulated environments can enhance engagement, data richness, and experiential understanding. It critically evaluates digital tools and platforms while addressing ethical, methodological, and validity-related concerns associated with immersive research designs.

The growing influence of computational intelligence is examined in *Artificial Intelligence and Machine Learning in Educational Research: Applications, Challenges, and Ethical Considerations*. This chapter analyses how AI and ML are reshaping educational research through personalised learning systems, predictive analytics, and intelligent tutoring, while foregrounding issues of bias, transparency, data governance, and human-centred design.

Ethical inquiry occupies a central place in the volume through *Research Ethics in the Digital Age: Foundations and Emerging Dilemmas*. This chapter traces the evolution of research ethics and examines both enduring and emerging challenges intensified by digitalisation and artificial intelligence. It underscores the necessity of continuous ethical reflexivity to sustain academic integrity and public trust.

Theoretical engagement with educational experience is advanced in *The Prismatic Classroom: A Theoretical Inquiry into Qualitative Experiences*

in Education. Drawing on phenomenological and constructivist perspectives, the chapter conceptualises educational spaces as sites of refracted meaning, shaped by physical, social, and digital environments. It critically interrogates hidden curricula, power relations, and digital mediation, advocating for dialogic, inclusive, and agency-oriented educational designs.

In *The Function of Knowledge Production Today: Current Issues in Politics*, the volume broadens its analytical lens to examine the relationship between knowledge, power, and politics in the contemporary world. The chapter interrogates misinformation, algorithmic bias, and the commodification of knowledge, calling for renewed commitments to critical reasoning, academic rigour, and democratic information systems.

Curricular concerns are addressed in *Sustainable Curriculum Design: Balancing Knowledge, Skills, and Values*, which argues for a transformative approach to curriculum development grounded in sustainability principles. The chapter emphasises interdisciplinary learning, value education, and action competence as essential for preparing learners to engage with global challenges.

The social purpose of educational research is foregrounded in *Socially Responsible Educational Research in Pursuit of the Sustainable Development Goals: Bridging Scholarship, Society, and Global Commitments*. This chapter situates educational research within global sustainability agendas, highlighting the roles of institutions, leadership, and methodological innovation in fostering equity, participation, and societal relevance.

The volume concludes with *Integrating Technology to Strengthen Educational Research: Opportunities and Challenges*, which critically examines the role of digital tools in enhancing research planning, data analysis, collaboration, and dissemination. While recognising the transformative potential of emerging technologies, the chapter also addresses concerns related to access, ethics, and researcher preparedness.

Taken together, this volume presents a multidimensional and internationally relevant perspective on educational research. It bridges foundational theory with methodological innovation, ethical responsibility, and global engagement. Intended for researchers, teacher

educators, doctoral scholars, and policy-oriented academics, the book seeks to contribute meaningfully to international debates on the evolving purposes, practices, and possibilities of educational research in the twenty-first century.

Dr. Dhriti Tiwari

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Qualitative Research Tools in Education: From Data Generation to Interpretive Analysis

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Abstract

This chapter examines the use of qualitative research tools in educational settings, focusing on their capacity to capture lived experiences, contextual influences, and meaning-making processes that shape teaching and learning. It highlights how interviews, focus groups, classroom observations, and narrative or visual sources enable researchers to study educational realities that cannot be quantified. The chapter further discusses transcription, translation, data organisation, memo writing, and reflexive journaling as essential components of data preparation. Strategies such as coding, thematic analysis, and narrative and discourse analysis are explained to demonstrate how raw data are transformed into meaningful interpretations. Ensuring rigour through credibility, transferability, dependability, and confirmability, alongside attention to ethical and power dynamics, is emphasized. Overall, the chapter underscores that qualitative tools are not mere techniques but epistemic choices that require reflexivity, contextual sensitivity, and ethical responsibility to produce trustworthy and context-rich knowledge in education.

Keywords: Qualitative tools; Data generation; Interpretive analysis; Rigour and trustworthiness; Educational research

1. Introduction

Qualitative research tools have become essential in educational inquiry, enabling scholars to capture the complexities of human experiences, meaning-making, and social interactions that shape learning and teaching. Unlike quantitative approaches that focus on measurement and prediction, qualitative tools allow for rich, in-depth understanding of educational contexts, processes, and participants' perspectives. This orientation is particularly valuable in exploring the lived realities of learners and educators, where meanings are socially and culturally constructed (Pandey, 2025).

The rationale for qualitative research tools in education lies in their capacity to access the subjective dimensions of learning environments, attitudes, beliefs, and motivations, that cannot be adequately captured through numerical data. For instance, interpretivist and constructivist paradigms emphasize understanding phenomena from the participants' perspectives, acknowledging that knowledge is co-constructed through interaction (Arega & Hunde, 2025). Tools such as interviews, focus groups, and observations enable researchers to explore these multiple realities, fostering nuanced insights into teaching and learning practices (John Taylor, 2024).

A crucial distinction must be made between *methods* and *tools*. Methods refer to the overarching strategies or designs guiding inquiry (e.g., ethnography, case study, narrative inquiry), while tools are the specific techniques used within these methods to collect and analyze data, such as interviews, field notes, or coding software (Pandey, 2025). Understanding this distinction ensures coherence between philosophical assumptions, methodological choices, and the instruments employed.