



## Editorial v.3 n.2 – 2025 - The transformative power of good questions in scientific research

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In the vast symphony of human knowledge, research questions serve as the opening notes that set the tempo for discovery. They are not mere inquiries whispered into the void, but powerful instruments that sculpt reality itself, carving new pathways through the landscape of understanding. Like a master sculptor who sees the statue hidden within the marble, a well-crafted research question reveals the knowledge waiting to be discovered within the chaos of the unknown.

Research questions stand as the cornerstone of scientific inquiry, yet their role transcends the mechanical process of investigation. They are the architects of possibility, the catalysts that transform curiosity into discovery, and assumptions into revelations. Each question carries within it the seed of transformation—the potential to not merely describe reality, but to actively reshape it.

### **The Alchemy of Inquiry: How Questions Shape Worlds**

The profound truth that "questions are fateful" resonates through the corridors of scientific history, reminding us that the questions we dare to ask determine the realities we come to inhabit (Adams *et al.*, 2004). Questions possess an almost mystical power to shape how we think, behave, and relate to the world around us, functioning as invisible forces that guide our collective journey toward understanding.

Consider the elegant simplicity that gave birth to Einstein's theories of relativity—questions so fundamental yet so profound that they radically altered our perceptions of physical reality, self, and our place in the universe (Pruett, 2005). These were not questions born from complicated formulas or sophisticated instruments, but from the pure wonder of a mind that dared to ask: "What if?" In that moment of questioning, the fabric of space and time itself was rewoven.

The landscape of scientific discovery is littered with such transformative moments—instances where a single, well-crafted question has served as the fulcrum upon which entire fields of knowledge have pivoted. These questions demonstrate how inquiry itself becomes a creative force, capable of generating realities that previously existed only in the realm of imagination.

## **The Art of Challenging the Unchangeable**

The methodology of problematization offers researchers a systematic approach to the art of revolutionary thinking. As Alvesson and Sandberg (2011) illuminate, this powerful framework for identifying and challenging assumptions underlying existing literature provides a pathway for formulating research questions that can lead to more influential theories. It is the science of productive doubt, the systematic cultivation of intellectual courage.

Problematization invites researchers to become archaeologists of assumption, carefully excavating the buried premises that support our current understanding. By questioning established knowledge with surgical precision, researchers can uncover new perspectives and create new realities—transforming what was once considered immutable truth into a stepping stone toward deeper understanding.

The craft of formulating research questions demands both systematic rigor and creative vision. Researchers must navigate the delicate balance between feasibility and ambition, ensuring their questions are interesting, novel, and relevant while remaining grounded in methodological possibility (Ratan *et al.*, 2019; Shah, 2023). The FINER framework—feasible, interesting, novel, ethical, relevant—serves as a compass for this journey, while the PICO framework provides structural clarity through its focus on population, intervention, comparison, and outcome (Dhir & Gupta, 2021; Hosseini *et al.*, 2023).

## **Catalysts for Social Metamorphosis**

The influence of well-crafted research questions extends far beyond the boundaries of academic discourse, flowing into the rivers of social change and transformation. Transformative research, with its normative aim to contribute to sustainability by actively fostering external transformations, exemplifies how questions can become vehicles for societal metamorphosis (Di Giulio & Defila, 2024; Singer-Brodowski, 2023). These are questions that refuse to remain safely contained within laboratory walls, instead demanding to be lived and breathed in the real world.

The Constructivist Grounded Theory Method offers a particularly compelling framework for amplifying societal impact through three distinct angles: identifying meaningful research challenges, creating substantial theories, and bridging the gap between academic research and practice (Juuti, 2023). The quality of such grounded theory is evaluated through its credibility, originality, resonance, and usefulness—criteria that ensure research questions generate not just knowledge, but wisdom that can be applied to improve human experience.

## **The Symphony of Interdisciplinary Innovation**

In our increasingly interconnected world, the most profound questions often emerge at the intersection of disciplines, where different ways of knowing converge and create something entirely new. Interdisciplinary research incorporates full intellectual participation from each contributing field, forming multiway partnerships that can frame novel research questions and develop innovative approaches that transcend traditional boundaries (Morss *et al.*, 2021).

This collaborative approach to questioning creates a symphony of perspectives, where the interweaving of viewpoints, regular interaction, and interconnection of knowledge throughout the research process builds integration across fields. Such integration addresses complex questions at the intersections of established disciplines, giving birth to new realities that no single field could have imagined alone.

## **Navigating the Digital Metamorphosis**

As we stand at the threshold of an increasingly digital world, research questions serve as mediators between physical and digital realities. The shift from representation to mediation in conceptual modeling highlights the urgent need for new grammars, methods, and scripts capable of navigating the intertwined physical and digital worlds (Recker *et al.*, 2021). Research questions in this domain are situated in the dynamic interplay between the tangible and the virtual, leading to new frameworks and methods that fundamentally reshape our understanding of reality itself.

## **The Artisan's Path: Crafting Questions with Purpose**

The process of crafting research questions is both an art and a science, requiring the researcher to become an artisan of inquiry. It involves identifying a topic or problem, reviewing existing knowledge, and framing a question that can be answered through systematic investigation (Shah, 2023). This process is inherently iterative, with questions often requiring multiple refinements before they achieve their final, elegant form.

The SMART approach—specific, measurable, achievable, realistic, and time-defined—provides essential structure to ensure that objectives align harmoniously with research questions (Dhir & Gupta, 2021). These frameworks serve not as constraints, but as sculptural tools that help researchers shape their raw curiosity into precise instruments of discovery.

## **Beyond Academia: Questions that Echo Through Society**

The true measure of a research question's power lies not in its academic elegance, but in its capacity to resonate beyond university walls and transform the world it seeks to understand. Well-

crafted research questions have the potential to shape policies, inform practice, and drive societal change (Ratan *et al.*, 2019). They serve as bridges between the realm of ideas and the world of action, translating abstract understanding into concrete improvements in human experience.

Research questions guide not only the design of studies and the collection of data, but also the analysis of results and the interpretation of meaning (Barroga & Matanguihan, 2022). The clarity and relevance of these questions determine the trustworthiness of findings and their potential to inform decisions that enhance practice and improve outcomes for individuals and communities.

### The Eternal Dance of Question and Discovery

As we consider the profound influence of well-crafted research questions, we must remember that the art and science of asking questions are indeed the source of all knowledge (Ali, 2022). Each question we pose is both an ending and a beginning—the culmination of our current understanding and the genesis of new possibilities.

Well-crafted research questions stand as powerful tools for creating new realities, challenging assumptions, fostering innovation, and driving transformative change across all fields of human endeavor. By guiding the research process, shaping theories, and informing practice, research questions possess the remarkable potential to reshape our understanding of the world and address the complex challenges that define our shared human experience.

In this light, every researcher becomes a co-creator of reality, wielding questions like brushes on the canvas of knowledge. The questions we choose to ask today will determine the world we come to understand tomorrow—and in that understanding lies the power to transform not just what we know, but who we become as a species capable of conscious evolution through inquiry.

The future belongs to those who dare to ask the questions that have never been asked, who challenge the assumptions that have never been challenged, and who imagine the possibilities that have never been imagined. In our questions, we discover not just answers, but ourselves.

**Table: Key Aspects of Research Questions and Their Influence**

Aspect of Research Questions	Description	Citation
Power to Shape Realities	Questions have the power to shape how we think, behave, and relate to the world.	(Adams <i>et al.</i> , 2004) (Pruett, 2006)
Challenging Assumptions	Questions challenge existing assumptions and lead to new theories and perspectives.	(Alvesson & Sandberg, 2011) (Ratan <i>et al.</i> , 2019)
Societal Impact	Research questions drive societal impact and transformative change.	(Juuti, 2023) (Giulio & Defila, 2024)

Aspect of Research Questions	Description	Citation
Interdisciplinary Innovation	Questions foster interdisciplinary collaboration and innovative insights.	(Morss <i>et al.</i> , 2021) (Recker <i>et al.</i> , 2021)
Crafting Questions	The process involves systematic and iterative refinement of questions.	(Shah, 2023) (Dhir & Gupta, 2021)
Broader Implications	Questions shape policies, inform practice, and drive societal change.	(Ratan <i>et al.</i> , 2019) (Barroga & Matanguihan, 2022)

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