From Prediction to Wisdom: A Systematic Review of the Epistemology of Futures Studies

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Abstract

Objective: Due to its engagement with the inherently non-existent nature of "the future," Futures Studies has consistently faced a challenge of epistemological legitimacy. This research, through a systematic review of the field's epistemological debates, aims to map its main paradigms and trace its intellectual evolution, thereby clarifying the pluralistic foundations of its legitimacy.

Method: This qualitative study employed a systematic literature review and the PRISMA framework to analyze 83 key articles from reputable international databases (1985–2024). The data extracted from these articles were analyzed using qualitative content analysis and thematic analysis to identify the main patterns and paradigms.

Findings: The findings indicate that the epistemological landscape of the field is pluralistic, comprising four main paradigms: the predictive (in search of objective truth), the interpretive (focused on the social construction of the future), the critical (with an emancipatory approach and deconstruction of power), and the integrative (emphasizing synthesis and complexity). A genealogical analysis of these paradigms reveals the field's evolution from a mere attempt at "prediction" toward a deeper understanding of "wisdom" in confronting the future. Consequently, the concept of "future knowledge" has been redefined from an objective, verifiable proposition to a social, contextual, value-laden, and performative process.

Conclusion: This study concludes that the legitimacy of Futures Studies lies not in a single framework but in the recognition of this paradigmatic pluralism. Accordingly, the validity of "future knowledge" and its evaluation criteria (ranging from correspondence truth to narrative coherence and inspirational capacity) are relative and contingent upon the adopted paradigm and its normative goals (such as enhancing resilience or achieving social justice).

Key Words: Futures Studies, Epistemology, Epistemic Paradigms, Future Knowledge, Systematic Review

Research Article

Introduction

In an era defined by uncertainty and complexity, Futures Studies has emerged as a strategic necessity. However, since its inception, the field has grappled with a fundamental crisis: epistemological legitimacy. If the future does not inherently exist, how can we claim to produce valid knowledge about it? This question has turned the history of the discipline into a constant effort to respond; from the predictive approaches after WWII (Aligica & Herritt, 2009: 254) to the interpretive and critical turns in later decades (Michael, 1989: 37; Bell, 1996: 50; Inayatullah, 1990: 115; Masini, 1989: 153). Despite this evolution, Futures Studies still suffers from the lack of a clear underlying theory (Fergnani & Chermack, 2021: 3) and the explosive growth of literature has fueled paradigmatic pluralism and conceptual confusion (Urueña, 2019: 16).

This research aims to provide a systematic review of the epistemological debates in Futures Studies. Theoretically, mapping pluralistic paradigms and key debates helps increase the discipline's self-awareness, reduce conceptual confusion, and facilitate future theorizing (Holdaway, 2023: 32). Practically, it helps actors choose the right tool for the right problem by understanding the philosophical foundations of methods (Swart & Fourie, 2015: 179). While several articles have addressed this topic sporadically, few have integrated these discussions into a unified analysis. The core question is: what fundamental paradigms, debates, and tensions constitute the epistemology of Futures Studies, and in what direction is the maturity of this field moving? This research, while being a comprehensive review itself, builds upon earlier taxonomic efforts (Inayatullah, 1990; Bell, 1996; Hideg, 2015) to fill the gap of an up-to-date, systematic map of contemporary debates.

Methodology

This study is a qualitative systematic review following the PRISMA framework (Moher et al., 2009). The research is fundamental in nature, exploring the philosophical foundations of the field. The following steps were executed:

1. **Identification:** English articles published between 1980 and 2024 were searched in Scopus, Web of Science, and Google Scholar using keywords such as "epistemology of futures studies," "philosophy of foresight," and "validity in futures studies." Specialized journals (*Futures, Foresight, TFSC, JFS*) were manually screened. Initially, 450 articles were identified.

2. **Screening:** After removing duplicates and screening titles/abstracts, 120 articles were retained. Criteria for exclusion included conference papers, book chapters without original research, and articles focusing solely on method application without theoretical discussion.

3. **Eligibility:** The full text of the 120 articles was reviewed. Inclusion criteria required an explicit and central discussion on the nature of knowledge, validation, or paradigms in Futures Studies.

4. **Inclusion:** A final set of 83 key articles was selected for qualitative analysis.

Data were analyzed using qualitative content analysis and thematic analysis. Each article was coded for ontological foundations, validation criteria, role of the subject, and normative goals. Through an inductive-deductive process, these codes were organized into four overarching paradigms.

Results and Discussion

The bibliometric analysis shows that *Futures* is the core journal for epistemological debates (30 articles), followed by *Foresight* (10 articles). Chronologically, the literature shows exponential growth: the 1980s and 90s established the "foundational era" (Michael, 1989; Masini, 1989; Bell, 1996), while the 2010s and early 2020s represent an "explosion era" (33 and 31 articles, respectively), reflecting a shift toward conceptual depth and "internal critique."

The thematic analysis identified four primary epistemological paradigms:

1. **Predictive-Empirical:** Rooted in positivism, it assumes the future is calculable and objective. Knowledge aims for uncertainty reduction and control (Grunwald, 2014: 2). Methods like Delphi aim to convert expert opinion into quasi-objective data (Aligica & Herritt, 2009: 258).

2. **Interpretive-Constructivist:** It views the future as a social construction shaped by narratives (Fuller & Loogma, 2009). Knowledge aims for insight and mental model transformation (Faubion, 2019: 226; Postma, 2015: 51), focusing on "plausibility" rather than probability (Urueña, 2019).

3. **Critical-Poststructuralist:** It views future claims as political/performative acts (Muiderman et al., 2020: 9). Knowledge is a tool for deconstruction and emancipation, often using Causal Layered Analysis (CLA) to reveal power structures (Inayatullah, 1990: 129).

4. **Integrative-Systemic:** This paradigm attempts to synthesize objective and subjective views. It includes Critical Realism (Bell, 1996: 45) and Complexity Theory, viewing anticipation as an emergent property of living systems (Nadin, 2010: 20; Hornischer et al., 2020: 36).

Table 1. Epistemological and Ontological Dimensions of the Paradigms

Paradigm	Ontology of the Future	Nature of Knowledge	Validation Criteria	Role of the Futurist
Predictive	Objective, calculable reality	Evidence-based prediction	Empirical evidence, consensus	Neutral technician
Interpretive	Social construct, space of possibility	Narrative, insight, mental models	Plausibility, narrative coherence	Facilitator, storyteller
Critical	Political/discursive battlefield	Deconstruction, emancipation	Power analysis, epistemic openness	Critical activist
Integrative	Emergent, multi-layered system	Synthesis, practical wisdom	Social process quality, resilience	Systemic mediator

The research highlights a transition in validation criteria. Instead of "truth as correspondence," the field uses "procedural validity," focusing on transparency, participation, and inclusivity (Chaparak, 2023: 4; Galvin, 2025: 5). Furthermore, the role of the futurist has evolved from a technical observer into a "wise gardener" or "systemic mediator" (Fleener & Barcinas, 2020: 640).

Conclusion

This systematic review concludes that the legitimacy of Futures Studies lies not in a single framework but in recognizing its paradigmatic pluralism. The discipline has matured from "taming time" to "dancing with uncertainty." If the first generation sought prediction and control, contemporary generations accept that uncertainty and complexity are sources of creativity and critique.

The core finding is that "future knowledge" has been redefined from a static product into a performative and social process. Validation criteria have shifted toward "plausibility," "transformative function," and "epistemic openness." This study concludes that "epistemic literacy" is essential for practitioners; choosing a method is not merely a technical decision but a philosophical and political stance. Future research should prioritize "middle-range theories" (Piirainen & Gonzalez, 2015), explore non-Western epistemologies (Simandan, 2018), and critically examine the impact of Artificial Intelligence on future framing (Díaz Alva, 2023).

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