

Introduction to Research Methods

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MGM333

Introduction to research methods

Lecture 1



Introduction to Research Paradigms

Purpose

- Provide an overview of the research process.
- Guide researchers through available options.

Importance of Paradigms

- Understanding paradigms is crucial for informed research decisions.
- Awareness of paradigms enhances situational responsiveness and creativity (Patton, 1988).



Defining Research Paradigms

- **Three Major Paradigms**

- Positivism
- Postpositivism
- Interpretivism

- **Philosophical Underpinnings**

- **Ontology**: The nature of reality.
- **Epistemology**: The philosophy of how we can know reality.
- **Methodology**: The practice of how we come to know reality.

Key Questions and Paradigm Boundaries

- **Three Key Questions (Lincoln and Guba, 1985)**

1. Ontological Question: What is the nature of reality?
2. Epistemological Question: What is the nature of the relationship between the knower and the known?
3. Methodological Question: How can we come to know it?

- **Establishing Paradigm Boundaries**

- Understanding the answers to these questions helps define the paradigm.
- Paradigms guide the research approach and methodology.

Positivist Research - Brief History

- **Three generations of positivist thinkers**

1. Original formulation by Auguste Comte.
2. Logical positivism associated with the Vienna Circle.
3. Standard positivism developed in the mid-20th century.



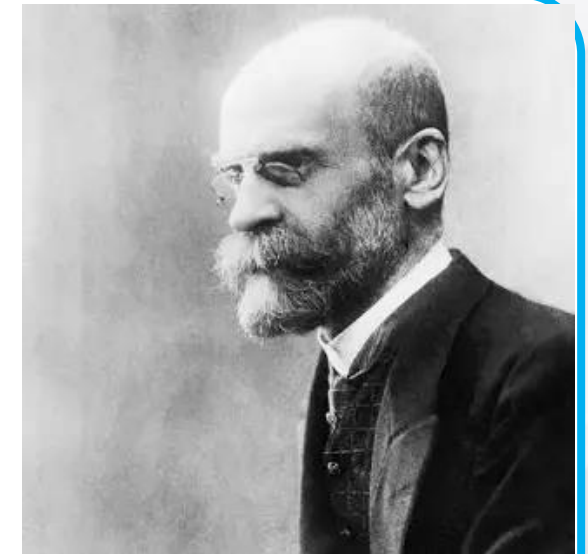
- Auguste Comte's social positivism: Examining social phenomena as an empirical science.
- Emile Durkheim: First 'sociologist' to pioneer empirical investigation of society.

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Positivist Research - Brief History

- Early 19th century Comte devised social positivism.
- Aimed to apply natural science techniques to social theory and human behavior.
- Belief in reconstructing human knowledge to build a better society (Smith, 1998).
- Emphasis on empirical science over theological and metaphysical philosophies.
- Comte's work was mostly rhetorical; Durkheim pioneered empirical methods.



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Logical Positivism and Vienna Circle

- 1920s: Philosophers in Vienna (Vienna Circle) developed logical positivism.
- Notable members: Moritz Schlick, Rudolf Carnap, Philip Frank, Bertrand Russell.
- Rejected Comte's positivism, favoring 'logical empiricism'.
- Focused on verifiable and falsifiable statements as meaningful scientific knowledge.
- Emphasized statistical analysis and physical evidence over metaphysical speculation.
- Influenced behaviourist traditions like Pavlov's classical conditioning and Skinner's operant conditioning.

Ontology – Realism

- Positivism assumes an objective, independent, and stable reality available for discovery and analysis.
- Only observable phenomena are recognized; metaphysics is strongly rejected.
- Social facts exist independently of human interaction, functioning according to their own laws.
- Newtonian mechanics are seen as transferable from the natural world to the social world.

Epistemology – Objectivist/Dualist

- The relationship between the knower and the known is one of 'objective observer'.
- The researcher stands apart from the observed and reports on discovered reality.
- Dualism: Researcher and subject exist independently of each other.
- Objectivity is demonstrated through replication, presuming observation without influence.

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Methodology – Experimental/Manipulative

- Reality is dissected into variables representing theoretical constructs.
- Variables are manipulated through experimentation to determine 'laws'.
- Research begins with a hypothesis, tested empirically through structured experimentation.
- Uses complex statistical mechanisms for determining relationships and broad generalizations.

Purpose – Prediction/Control/Explanation/Verification

- Positivist approaches explain how things happen to predict and control future occurrences.
- Social reconstruction driven by Comte's ideas remains constant in positivist traditions.
- Generalizations are derived from specific examinations and applied universally.
- Strives to demonstrate universal validity.

Postpositivism and Mixed Methods Research (MMR) - Brief History

- Positivism emulated natural sciences, particularly physics.
- Shift from rigid Newtonian physics to 'uncertainty' and 'relativity' (Einstein, Heisenberg).
- Determinism inhibits discovery; social research required refinement (Popper, 1963).
- Standard positivism (1930s-1960s) evolved into postpositivism.

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Emergence of Postpositivism

- New theories of uncertainty and probability (Popper, 1959-1963).
- Introduction of 'falsification' and 'critical realism'.
- Objective social facts subject to interpretation.
- Reality is perceived through empirical observation and existing theory.

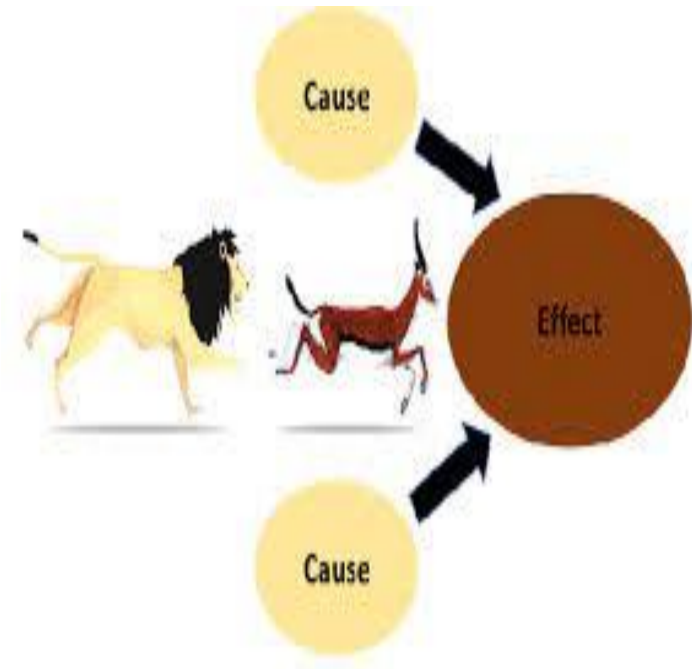


Mixed Methods Research (MMR) in Postpositivism

- MMR as a form of postpositive research.
- Pragmatic approach combining qualitative and quantitative methodologies.
- Requires multiple investigators with competencies in various methods (Denzin, 2010).
- Emphasis on rigour and trustworthiness in combining methods.

Ontology – Critical Realism

- Objective social facts exist independently but are subject to uncertainty and probability.
- Cause and effect relationships exist but are not fully knowable.
- Human fallibility creates imperfections, yet reality is out there to be discovered.



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Epistemology – Modified Dualist/Objectivist

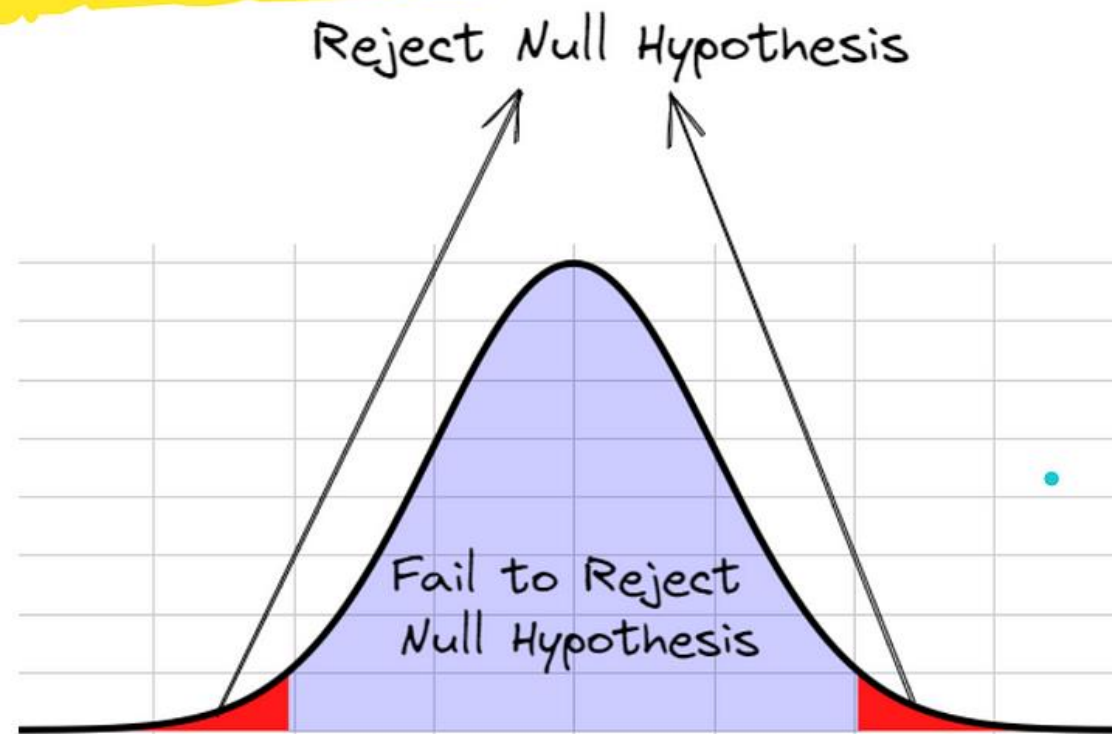
- Postpositivists accept that all discovery is subject to interpretation.
- Responsibility of the researcher to demonstrate objectivity through external validity.
- Objectivity is demonstrated by the ability to validate findings externally.



Methodology – Modified Experimental/Manipulative

- Experimentation and hypothesis testing with identified variables.
- Statistical techniques measure relationships between variables.
- Includes qualitative interpretation allowing prior knowledge to impact perceptions.
- Mixed methods research uses an 'a priori' design with varying weights on qualitative and quantitative aspects.

Hypothesis Testing



Hypothesis Testing

Purpose – Prediction/Control/Explanation/Falsification

- Similar to positivism but includes the notion of falsification.
- Disproving the existence of a phenomenon is a valid outcome.
- Generalizations about phenomena remain an output.
- Methodological dualism (qualitative and quantitative) is accepted in postpositivist research.



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Interpretivist Research - Brief History

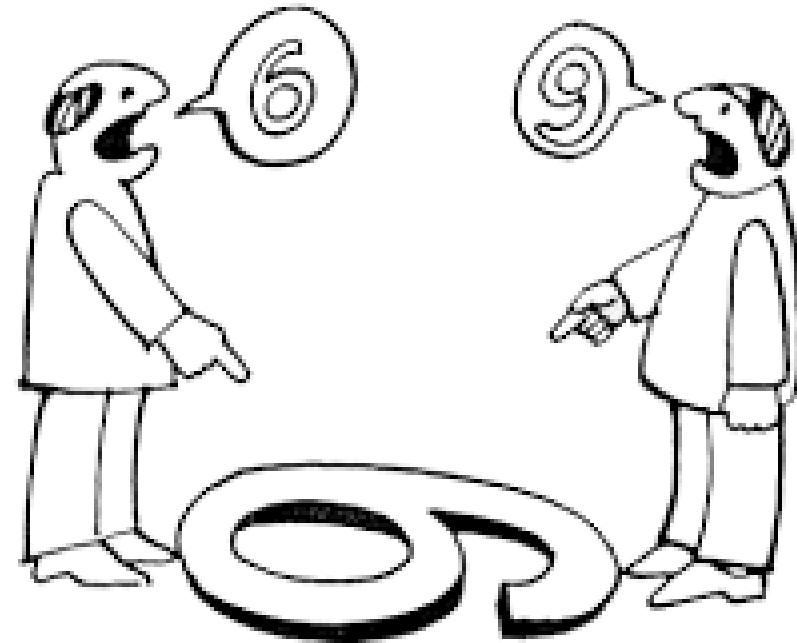
- Interpretivism covers multiple approaches: 'empirical interpretivism' and 'critical theory'.
- Wilhelm Dilthey's critique of positivism is that there is a difference between understanding human thought and explaining nature.
- Max Weber is among the proponent of empirical interpretivism, focusing on ethnographic studies.
- Barney Glaser and Anselm Strauss formalized empirical interpretivist research procedures (1967).
- Expansion into various approaches from 1970 to mid-1980s.

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Ontology – Relativism

- Realities are multiple, constructed, and holistic.
- No single, tangible reality; only complex, multiple realities of individuals.
- Reality is 'individual' and context-dependent, not 'universal' (Flick, 2002).

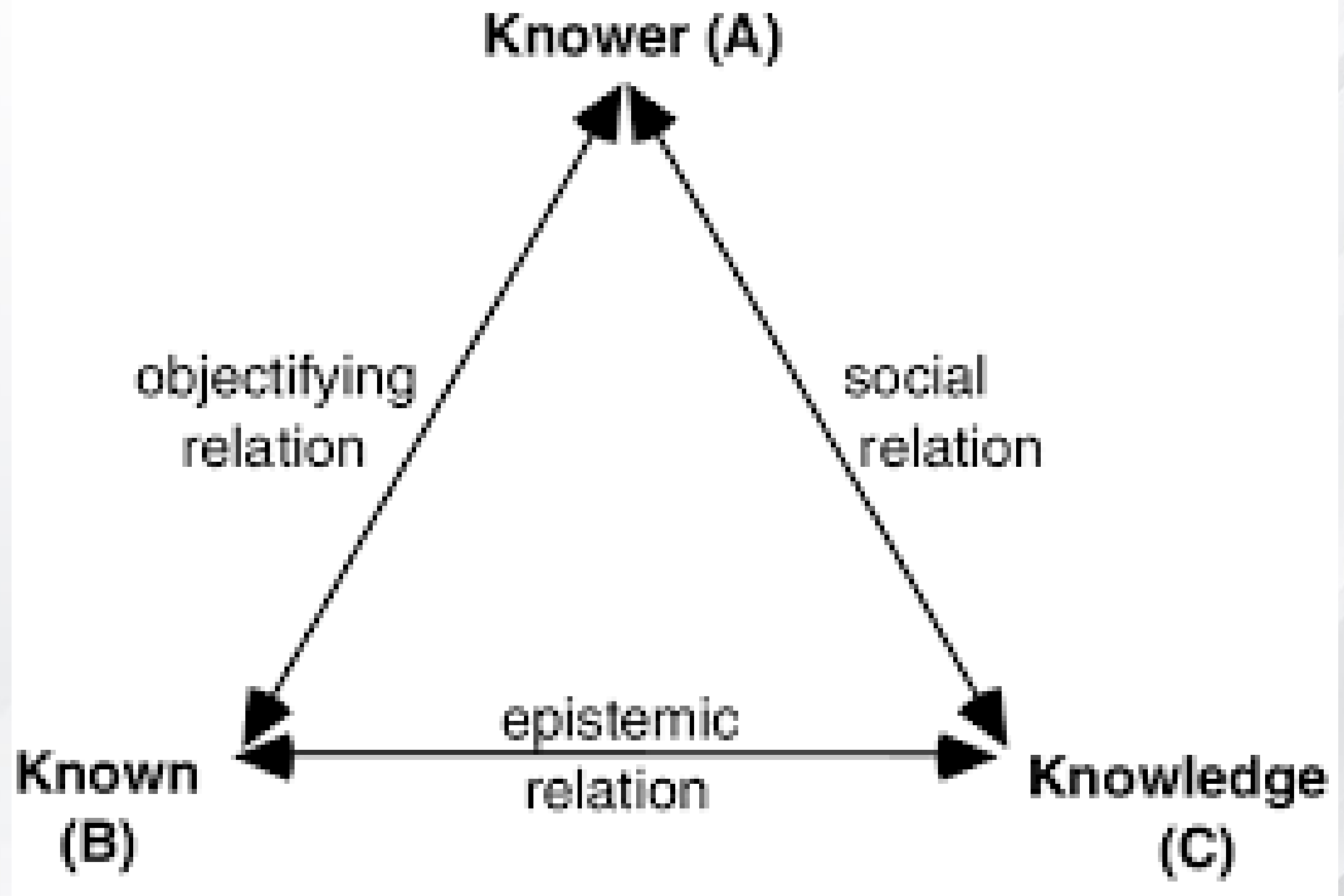


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Epistemology – Transactional/Subjectivist

- The known and the knower influence each other; all descriptions are time- and context-bound.
- Impossible to separate cause from effect; entities are in a state of simultaneous shaping (Lincoln and Guba, 1985).
- Knowledge is a product of the interaction between the known and the knower.



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Methodology – Empathetic Interaction

- Research activity alters the subject being studied (Heisenberg, 1958).
- Data gathered is influenced by the research process, time, and context.
- Understanding meanings behind actions of individuals is key.
- Qualitative methodology:
 - Dialect interchange, hermeneutics, and contextual analysis.



Purpose – Transfer of Findings Based on Contextual Applicability

- Transferability depends on similarities between 'sending' and 'receiving' contexts.
- Detailed descriptions of data in context are required for transferability judgments (Erlandson et al., 1993).
- Research is particularized and generalization in the traditional sense is impossible (Dervin, 1997).

Interpretivist Approaches and Practical Implications

- Interpretivist approaches include Human inquiry, Critical theory, Anthropology, Constructivism, Ethnomethodology, etc.
- Interpretivists seek to understand the entire context at macro- and micro-environmental levels.
- Researchers and subjects are 'changed' by the research experience; knowledge is time- and context-bound.
- Positivists/postpositivists as social engineers, interpretivists as storytellers, critical theorists as catalysts of social change.

Qualitative vs. Quantitative Methodology

- Impossible to examine multiple, individual realities in depth using quantitative methods.
- Quantitative methodology is about objective reality of social facts.
- Qualitative methodology is about social constructions of reality (Gorman and Clayton, 2005).

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Paradigmatic Purity vs. Methodological Dualism

- No consensus on the need for paradigmatic purity in research.
- Methodological dualism is combining qualitative and quantitative methods.
- Both methodologies have limitations; "anything goes" approach.
- Therefore, Mixed Methods Research (MMR) is combining methodologies to address research questions (Denzin, 2010).



Qualitative Research Design

- The term "**emergent design**," as referenced by Lincoln and Guba (1985), refers to a flexible, adaptive approach to research design that develops organically as the study progresses. This concept contrasts with rigid, predetermined designs.
- **Unfolds**: The design reveals itself gradually over time, rather than being fully planned out from the beginning.
- **Cascades**: The process flows and expands like a waterfall, suggesting that once a piece of the design is understood, it can lead to further developments.

Qualitative Research Design

- **Rolls:** The design progresses in a rolling motion, implying continuous movement and adaptation.
- **Emerges:** The design becomes apparent or comes into being through the research process.
- **Key components:** Literature review, theoretical framework, fieldwork, human instrument, purposive sampling, inductive analysis, emergent design, grounded theory, negotiated outcomes.
- **Iterative process:** Selection of participants, data collection, analysis, building grounded theory, transference of findings.

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Qualitative Research Design

- Studying behavior in context requires the human as instrument.
- Human complexities and interpersonal relationships need to be understood.
- Researcher as instrument allows for understanding and depicting complexities (Maykut and Morehouse, 1994).



Example of Emergent Design in Practice

- Focus group discussions led to alternative methods: handwritten diaries, databases, word files.
- Participant involvement in design improved data quality and engagement. They became stakeholders in the research, enhancing diligence.

Quantitative Research Design

- Linear design, providing a concrete framework for new researchers.
- Begins with a theoretical framework established from the literature review.
- Hypothesis emerges from the framework; variables identified.
- Appropriate research method selected, sample calculated, data collection instruments designed.
- Data collection, processing, and analysis to support or falsify the hypothesis.
- Generalizations or general laws formulated based on findings.

Mixed Methods Research (MMR)

- Combines methodologies to address the same research question.
- Common approach is Large-scale survey followed by detailed case study.
- Defined as collecting, analyzing data, integrating findings using both qualitative and quantitative methods (Tashakkori and Cresswell, 2007).
- No single design; many combinations possible (Tashakkori and Teddlie, 2003).
- Journal of Mixed Methods Research by Sage (2007).

Criteria for Judging Research

- Establishing the value of research findings is essential.
- Different methodologies require different criteria for establishing 'truth'.
- Avoid applying criteria from one research paradigm to another (Wolcott, 1990).
- Four concepts for judging research value: 'truth value', 'applicability', 'consistency', 'neutrality' (Lincoln and Guba, 1985).

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Establishing Trustworthiness in Qualitative Research

- Credibility
- Transferability
- Dependability
- Confirmability



Credibility in Qualitative Research

- Demonstrated by prolonged engagement, persistent observation, triangulation of techniques, peer debriefing, and member checks.
- **Triangulation:** Multiple data collection techniques compensate for limitations of individual techniques (Denzin, 1978).
- **'Objective subjectivity':** Recognizing and compensating for subjectivity in qualitative studies (Mellon, 1990).

Transferability in Qualitative Research

- The goal is to allow for transferability of findings rather than wholesale generalization.
- Providing detailed descriptions of data in context for judgment on transferability (Erlandson et al., 1993).
- Research can only be particularized; generalization in the traditional scientific sense is impossible (Dervin, 1997).

Dependability in Qualitative Research

- Established by an 'inquiry audit' with an external auditor.
- Audit trail and research journal maintained by the researcher.
- Ensures constructions emerge directly from the data, confirming research findings (Halpern, 1983).

Confirmability in Qualitative Research

- Vital to limit investigator bias.
- Ensures results can be traced back to raw data, not influenced by the observer's worldview (Charmaz, 1995).
- 'Objectivity' increasingly difficult to defend in postpositivist, qualitative research (Lazar, 1998).

Confirmability in Qualitative Research

- Relies on 'validity, reliability, and generalisability' (Janesick, 1994).
- **Internal validity:** Demonstrates causal relationship between variables.
- **External validity:** Findings generalized to the wider context.
- **Reliability:** Stability of research findings over time and across locations.
- **Sample** representativeness and statistical examination of probability.



Thank You