

RESEARCH DESIGN SKILLS



GENTEX[®]

TRAINING CENTER



Introduction

A study is only as good as the decisions made before data collection begins. Weak question framing, an unsuitable design, or a biased sample produces findings that look rigorous and prove nothing. This Research Design Skills Training Course builds the discipline behind credible research. Learners study problem formulation, design selection, sampling strategy, validity threats, and instrument development. Furthermore, the course covers ethics, pilot testing, and how to align methods with the question being asked. As a result, participants plan studies that withstand peer review and produce evidence decision makers can rely on.

Research Design Skills Course Objectives

- Formulate research problems, questions, and hypotheses precisely.
- Select between quantitative, qualitative, and mixed methods designs.
- Apply experimental, quasi-experimental, and correlational design logic.
- Choose sampling techniques appropriate to the research question and population.
- Determine sample size using power analysis and margin of error principles.
- Identify and control threats to internal and external validity.
- Develop valid, reliable instruments with clear operational definitions.
- Design data collection procedures that protect data quality.
- Apply ethical standards: informed consent, confidentiality, and data protection.
- Write a complete research proposal with methodology justification.



Course Methodology

This course combines short lectures with applied design work. Participants develop a full research proposal for a question from their own field, defend design choices against peer challenge, and build instruments ready for pilot testing. Trainers use case studies of flawed and strong studies, structured critique sessions, and methodological review. Group discussion examines why particular designs succeed or fail. In addition, participants produce a research protocol template they can reuse.

Who Should Take This Course

- Researchers and research officers in any sector
- Postgraduate students preparing dissertations
- Monitoring, evaluation, and learning specialists
- Policy analysts commissioning or conducting studies
- Public health, education, and social researchers
- Market and social research professionals
- Consultants designing studies for clients

Research Design Skills Course Outlines

Day 1: Formulating the Research Problem

- From broad topic to researchable question
- Problem statement and justification
- Writing research questions and hypotheses
- Literature review and evidence gap analysis
- Conceptual and theoretical frameworks

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- Defining scope, boundaries, and limitations
- Problem formulation workshop

Day 2: Research Design Selection

- Quantitative, qualitative, and mixed methods compared
- Experimental and quasi-experimental designs
- Correlational, cross-sectional, and longitudinal designs
- Case study, grounded theory, and phenomenological approaches
- Sequential and concurrent mixed methods designs
- Aligning design with research question and resources
- Design selection clinic

Day 3: Sampling and Measurement

- Probability sampling: simple, stratified, cluster, systematic
- Non-probability sampling: purposive, quota, snowball, convenience
- Sample size determination and power analysis
- Sampling error, bias, and representativeness
- Operational definitions and variable measurement
- Validity and reliability of instruments
- Sampling plan design exercise

Day 4: Validity, Bias, and Ethics

- Threats to internal validity: history, maturation, selection
- Threats to external validity and generalisability
- Common biases: response, recall, social desirability, interviewer



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- Controlling bias through design and procedure
- Ethical approval, informed consent, and confidentiality
- Data protection and secure data management
- Ethics and validity review workshop

Day 5: Instrument Design and Proposal Writing

- Questionnaire construction and scale selection
- Interview guides and focus group protocols
- Pilot testing and instrument refinement
- Writing the methodology chapter
- Justifying design decisions to reviewers
- Final proposal presentation with peer review
- Personal research design toolkit and action plan

Conclusion

By successfully completing Research Design Skills, participants will gain a practical understanding of how to turn a broad interest into a study that produces credible, defensible evidence. They will be able to select appropriate designs, plan sampling strategically, control validity threats and bias, develop reliable instruments, and meet ethical requirements throughout. In addition, they will know how to justify their methodological choices to reviewers and stakeholders. Gentex Training Center designed this course so that learners return to their work able to design research that stands up to scrutiny.

FAQs





Q1 What is the "Research Design Skills" course about?

It teaches how to plan research that produces credible evidence. Participants cover problem formulation, design selection, sampling, measurement, validity and bias control, ethics, and proposal writing, and build a complete research proposal on a question from their own field.

Q2 What are the key benefits of the "Research Design Skills" course?

Participants design studies that withstand review, avoid the methodological flaws that invalidate findings, and collect data worth analysing. They also plan sampling and instruments more efficiently, meet ethical requirements confidently, and save time by fixing design problems before fieldwork begins.

Q3 What skills will I gain from the "Research Design Skills" course?

You will gain research problem formulation, research design selection and justification, sampling and measurement planning, and validity, bias and ethics control. These four skills combine to make your research credible from the outset.

Q4 What tools, methods, or standards are covered in the "Research Design Skills" course?

The course covers experimental, quasi-experimental, correlational, and longitudinal designs, case study, grounded theory and phenomenological approaches, sequential and concurrent mixed methods, probability and non-probability sampling, power analysis and margin of error calculation, operational definitions, validity and reliability testing, informed consent and data protection standards, and pilot testing procedures.



Q5 How is the "Research Design Skills" course applied in real-world practice?

Professionals apply it when planning evaluations, commissioning surveys, preparing dissertations, designing impact studies, and responding to research tenders. The methods transfer to any setting where the quality of a study depends on decisions made before data collection.