Training Course on Quantitative Research Methods in Education

Professional Development Training Course Outline

Category	Educational Leadership and Management	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Quantitative research in education is a foundational tool for understanding trends, evaluating educational outcomes, and implementing evidence-based strategies for school improvement. Training Course on Quantitative Research Methods in Education equips participants with essential statistical analysis skills, data interpretation techniques, and the ability to apply quantitative methodologies to real-world educational settings. Using robust research design principles, learners will gain practical insights into conducting high-impact studies using descriptive and inferential statistics, surveys, assessments, and experimental methods.

With a focus on data-driven decision making, this course empowers educators, researchers, and policy-makers to collect, analyze, and interpret numerical data to inform educational practices. Participants will engage with real-world case studies, interactive simulations, and hands-on projects to reinforce their understanding of educational measurement, quantitative tools, and SPSS or R software applications. By the end of the program, attendees will be proficient in designing, conducting, and reporting quantitative research in education settings.

Programme Curriculum

Training Course on Quantitative Research Methods in Education

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Course Objectives

1. Understand the fundamentals of quantitative research design in educational contexts.
2. Differentiate between descriptive and inferential statistics.
3. Apply data collection techniques using surveys, tests, and questionnaires.
4. Master statistical software (SPSS/R) for education-focused research.
5. Conduct correlation and regression analysis in education research.
6. Interpret quantitative data to improve learning outcomes.
7. Develop valid and reliable research instruments.
8. Formulate research hypotheses and null hypotheses correctly.
9. Use sampling methods and probability techniques effectively.
10. Create evidence-based education policy recommendations.
11. Understand ethical standards in quantitative research.
12. Design and analyze quasi-experimental and experimental research.
13. Produce a comprehensive quantitative research report.

Target Audience

1. Educational researchers
2. School administrators
3. Curriculum developers
4. Graduate education students
5. Policy makers in education
6. Assessment and evaluation officers
7. Data analysts in education
8. Teachers pursuing advanced research skills

Course Duration: 10 days

Course Modules

Module 1: Introduction to Quantitative Research

- Definition and purpose of quantitative research
- Comparison with qualitative methods
- Types of quantitative research designs
- Key terms: variables, hypotheses, data
- Common misconceptions in quantitative studies
- **Case Study**: Survey-based evaluation of student performance

Module 2: Formulating Research Questions and Hypotheses

- Identifying researchable questions
- Independent and dependent variables
- Null and alternative hypotheses
- Operational definitions in research
- Framing hypothesis for statistical testing
- **Case Study**: Hypothesis testing in teacher training outcomes

Module 3: Sampling Techniques

- Probability vs. non-probability sampling
- Sample size determination
- Random, stratified, cluster sampling
- Sampling bias and mitigation
- Role of population in education research
- **Case Study**: Sampling methods in school district studies

Module 4: Data Collection Tools

- Designing questionnaires and surveys
- Types of questions (open vs. closed)
- Scaling techniques (Likert, semantic)
- Piloting research tools
- Ensuring validity and reliability
- **Case Study**: Instrument development for student engagement

Module 5: Descriptive Statistics

- Measures of central tendency
- Measures of dispersion
- Data visualization (charts, histograms)
- Use of SPSS for descriptive statistics
- Interpreting summary statistics
- **Case Study**: Descriptive analysis of test scores

Module 6: Inferential Statistics

- Understanding confidence intervals
- t-tests and ANOVA
- Statistical significance and p-values
- Choosing the right test for your data
- Effect size and interpretation
- **Case Study**: T-test on pre/post intervention results

Module 7: Correlation and Regression Analysis

- Types of correlation (Pearson, Spearman)
- Understanding r and r^2 values
- Introduction to simple regression
- Multiple regression and predictors
- Assumptions and limitations
- **Case Study**: Regression analysis of school resources vs. achievement

Module 8: Experimental Research in Education

- True experimental vs. quasi-experimental design
- Control groups and random assignment
- Internal and external validity
- Common threats to validity
- Blinding and ethical considerations
- **Case Study**: Randomized control trial on tech-based learning

Module 9: Analyzing Survey Data

- Cleaning and coding survey data

- Using SPSS/R for survey analysis
- Cross-tabulations and chi-square tests
- Visualizing categorical data
- Making meaning from frequencies
- **Case Study**: National teacher satisfaction survey

Module 10: Using SPSS in Educational Research

- Introduction to SPSS interface
- Data entry and labeling
- Running basic and advanced analyses
- Exporting tables and charts
- Interpretation of SPSS output
- **Case Study**: SPSS analysis of high school dropout rates

Module 11: Data Visualization and Presentation

- Creating graphs and charts effectively
- Storytelling with data in education
- Using Excel/Tableau for presentation
- Customizing visuals for audiences
- Avoiding misleading visuals
- **Case Study**: Visualization of reading scores by grade

Module 12: Validity, Reliability, and Ethics

- Types of validity (construct, content)
- Reliability testing (Cronbach's alpha)
- Ethical research principles (IRB, consent)
- Data protection and anonymity
- Ethical dilemmas in education research
- **Case Study**: Ethical challenges in longitudinal student tracking

Module 13: Writing Quantitative Research Reports

- Structure of a research report
- APA formatting essentials
- Reporting statistical results
- Creating visuals and tables
- Writing a compelling discussion
- **Case Study**: Peer-reviewed education journal article analysis

Module 14: Applying Quantitative Research to Policy

- Linking research to policy decisions
- Data-informed curriculum development
- Translating findings for stakeholders
- Research advocacy and communication
- Impact assessment tools
- **Case Study**: District-level policy change based on assessment data

Module 15: Capstone Project & Peer Review

- Designing an original research project
- Collecting and analyzing your own data
- Presenting results to peers

- Receiving and integrating feedback
- Reflecting on lessons learned
- **Case Study**: Participant-led study with panel critique

Training Methodology

- Instructor-led lectures and video walkthroughs
- Hands-on SPSS/R practice labs
- Peer-reviewed assignments and critiques
- Case-based collaborative problem solving
- Quizzes and knowledge checks for reinforcement
- Capstone project presentation and feedback

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training CenterANCY LD account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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