Training Course on Statistical Analysis for Educational Research

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

In today’s data-driven educational landscape, statistical analysis has emerged as a core tool for informed decision-making and impactful research. Training Course on Statistical Analysis for Educational Research equips educators, researchers, and administrators with the skills to analyze, interpret, and present data that influences policy, curriculum, and instruction. The course integrates real-world case studies, hands-on training, and interactive software applications (SPSS, R, Excel) to support both qualitative and quantitative research methodologies.

Whether you're analyzing student performance, evaluating educational programs, or conducting academic studies, this course provides essential skills to harness data for transformative change. With trending tools and practical exercises, learners will master techniques such as hypothesis testing, regression analysis, ANOVA, chi-square tests, and data visualization, ensuring they stay competitive and confident in the evolving field of educational research.

Programme Curriculum

Training Course on Statistical Analysis for Educational Research

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Course Objectives

1. Understand the fundamentals of statistical analysis in educational research.
2. Apply descriptive and inferential statistics to real-world educational data.
3. Use SPSS, R, and Excel for statistical computations and interpretation.
4. Conduct correlation and regression analysis to identify relationships.
5. Design and evaluate hypothesis testing using appropriate methods.
6. Interpret and apply ANOVA and MANOVA for multi-group comparisons.
7. Implement Chi-square tests for categorical data analysis.
8. Create effective data visualizations and reports for educational stakeholders.
9. Differentiate between quantitative and qualitative analysis techniques.
10. Integrate mixed methods research design for comprehensive insights.
11. Ensure validity and reliability in research instruments and results.
12. Apply sampling techniques to gather representative educational data.
13. Conduct ethical and transparent research adhering to academic standards.

Target Audiences

1. Educational researchers
2. School administrators
3. Curriculum developers
4. Policy makers in education
5. University and college lecturers
6. Graduate and doctoral students
7. Educational consultants
8. Data analysts in academic institutions

Course Duration: 10 days

Course Modules

Module 1: Introduction to Statistical Analysis in Education

- Definition and purpose of educational statistics
- Types of educational research
- Importance of data in policy and practice
- Key terminology and concepts
- Common challenges in educational data
- **Case Study: Analyzing dropout rates in secondary schools**

Module 2: Descriptive Statistics

- Measures of central tendency (mean, median, mode)
- Measures of dispersion (range, variance, standard deviation)
- Frequency distributions
- Graphical representations (bar charts, histograms)
- Use of SPSS and Excel for summary statistics
- **Case Study: Evaluating student test performance trends**

Module 3: Inferential Statistics and Sampling

- Sampling techniques in educational research

- Confidence intervals
- Central limit theorem
- Sampling errors and bias
- Stratified vs random sampling
- **Case Study: Sampling techniques for school survey research**

Module 4: Data Collection and Cleaning

- Survey design and administration
- Instrument reliability and validity
- Handling missing data
- Data coding and entry in SPSS
- Common data quality issues
- **Case Study: Cleaning datasets from school satisfaction surveys**

Module 5: Hypothesis Testing

- Null vs alternative hypothesis
- Type I and Type II errors
- t-tests and their applications
- Interpreting p-values
- Choosing appropriate tests
- **Case Study: Comparing math scores between genders**

Module 6: Correlation Analysis

- Pearson and Spearman correlation
- Interpreting correlation coefficients
- Correlation vs causation
- Scatterplots and linearity
- Limitations of correlation
- **Case Study: Student attendance vs academic performance**

Module 7: Linear and Multiple Regression

- Simple linear regression
- Multiple regression models
- Assumptions of regression
- Coefficient interpretation
- Model fit and R-squared
- **Case Study: Predicting GPA from study hours and attendance**

Module 8: Analysis of Variance (ANOVA)

- One-way and two-way ANOVA
- Post-hoc tests
- F-statistic interpretation
- Assumptions of ANOVA
- SPSS output analysis
- **Case Study: Comparing academic achievement across school districts**

Module 9: Chi-Square Tests

- Goodness-of-fit vs test of independence
- Categorical data analysis
- Assumptions and conditions

- SPSS chi-square test
- Cross-tabulation interpretation
- **Case Study: Relationship between teaching style and student engagement**

Module 10: Nonparametric Tests

- Mann-Whitney U and Wilcoxon tests
- When to use nonparametric methods
- Kruskal-Wallis test
- Data distribution analysis
- Limitations and strengths
- **Case Study: Analyzing survey data from small school populations**

Module 11: Mixed Methods Research

- Definition and rationale
- Designing a mixed methods study
- Integrating qualitative and quantitative data
- Triangulation and convergence
- Reporting and interpretation
- **Case Study: Evaluating teacher training programs using mixed methods**

Module 12: Data Visualization and Reporting

- Best practices for charts and graphs
- Using Excel and Tableau
- Dashboard creation for school administrators
- Storytelling with data
- Audience-focused presentations
- **Case Study: Visualizing national education assessment data**

Module 13: Educational Data Ethics

- Ethical considerations in data collection
- Informed consent and confidentiality
- Data security practices
- Avoiding data manipulation
- Institutional review board (IRB) processes
- **Case Study: Ethical concerns in online learning analytics**

Module 14: Advanced Statistical Techniques

- Factor analysis
- Cluster analysis
- Structural equation modeling (SEM)
- Path analysis basics
- SPSS Advanced Features
- **Case Study: Identifying student motivation clusters in higher education**

Module 15: Capstone Project

- Designing your own research question
- Selecting data sources
- Applying suitable analysis techniques
- Presenting findings
- Peer review and critique

- **Case Study: Participant-led mini-research project presentation**

Training Methodology

- Interactive lectures and real-time Q&A
- Hands-on practical exercises using SPSS, R, and Excel
- Group discussions and breakout activities
- Case study analysis for contextual application
- Capstone project and presentations
- Continuous assessment and personalized 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
23 Nov 2026	04 Dec 2026	Physical	$6,000

Start Date	End Date	Location	Price
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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