Professional Certificate in Leadership in Health and Social Care: Research Methods

Introduction to Research Methods

Introduction to Research Methods Glossary

1. Action Research
Action research is a type of research that involves active participation in a real-world situation with the goal of solving a problem or improving a situation. It is often used in social sciences and education to bring about change in practice. Action research typically involves a cyclical process of planning, acting, observing, and reflecting.

Related Terms: Participatory research, practitioner research, collaborative inquiry.

Example: A group of teachers conducting action research to improve student engagement in the classroom by implementing new teaching strategies and assessing their effectiveness.

2. Bias
Bias refers to systematic errors or deviations from the true value in research results that are caused by flaws in the design or conduct of a study. Bias can occur at any stage of the research process, including sampling, data collection, analysis, and interpretation.

Related Terms: Selection bias, measurement bias, confirmation bias.

Example: A researcher inadvertently influences study participants' responses by phrasing questions in a way that leads to biased answers.

3. Case Study
A case study is a research method that involves an in-depth investigation of a single individual, group, or event. Case studies are often used in qualitative research to provide detailed descriptions and insights into specific phenomena.

Related Terms: Qualitative research, ethnography, narrative inquiry.

Example: A psychologist conducting a case study to explore the impact of trauma on an individual's mental health and coping mechanisms.

4. Data Analysis
Data analysis is the process of inspecting, cleansing, transforming, and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision-making. Data analysis can involve both quantitative and qualitative techniques.

Related Terms: Statistical analysis, content analysis, thematic analysis.

Example: A researcher using statistical software to analyze survey data and identify patterns or relationships

between variables.

5. Ethics
Ethics in research refers to the principles, values, and guidelines that govern the conduct of research involving human subjects and animals. Ethical considerations include respect for participants' rights, informed consent, confidentiality, and minimizing harm.

Related Terms: Informed consent, confidentiality, beneficence, nonmaleficence.

Example: A researcher obtaining approval from an institutional review board (IRB) before conducting a study involving human participants to ensure ethical standards are met.

6. Focus Group
A focus group is a qualitative research technique that involves gathering a small group of participants to engage in a facilitated discussion about a specific topic. Focus groups are used to explore attitudes, beliefs, opinions, and experiences.

Related Terms: Qualitative research, group interview, data saturation.

Example: A market researcher conducting focus groups to gather feedback on a new product design and identify consumer preferences.

7. Grounded Theory
Grounded theory is a qualitative research method that aims to develop theories or explanations based on data collected from observations and interviews. Grounded theory involves a systematic process of data collection, coding, and theory development.

Related Terms: Qualitative research, inductive reasoning, constant comparison.

Example: A sociologist using grounded theory to study the social interactions and behaviors of a specific group and develop a theory to explain their actions.

8. Hypothesis
A hypothesis is a testable statement or prediction that explains the relationship between variables in a research study. Hypotheses are used to guide the research process and determine the outcomes of the study.

Related Terms: Null hypothesis, alternative hypothesis, research question.

Example: A scientist formulating a hypothesis that predicts a causal relationship between exposure to sunlight and vitamin D levels in the body.

9. Informed Consent
Informed consent is the process of obtaining permission from research participants after informing them about the study's purpose, procedures, risks, benefits, and their rights. Informed consent is essential to ensure participants' autonomy and protection.

Related Terms: Ethical considerations, voluntary participation, consent form.

Example: A researcher providing potential participants with a detailed explanation of the study and obtaining their written consent before including them in the research.

10. Justification
Justification in research refers to providing reasons or explanations for the choices made in the research design, methodology, data collection, analysis, and interpretation. Justification helps establish the validity and reliability of the research process.

Related Terms: Rationale, rationale, research design.

Example: A researcher explaining the selection of a specific sampling method in the study based on the population characteristics and research objectives.

11. Key Informant
A key informant is an individual who has specialized knowledge, expertise, or experience related to the research topic and can provide valuable insights or information to the researcher. Key informants are often used in qualitative research to enhance understanding.

Related Terms: Expert informant, participant observation, qualitative interviews.

Example: A public health researcher consulting with a key informant from the local community to gather information on health behaviors and practices.

12. Literature Review
A literature review is a critical examination and synthesis of existing research studies, theories, and concepts related to a specific topic or research question. Literature reviews help researchers identify gaps, trends, and debates in the field.

Related Terms: Systematic review, meta-analysis, secondary data analysis.

Example: A student conducting a literature review to explore the impact of social media on mental health and summarize findings from previous studies.

13. Mixed Methods
Mixed methods research is a research design that combines qualitative and quantitative data collection and analysis techniques to provide a comprehensive understanding of a research problem. Mixed methods research often involves integrating different data sources.

Related Terms: Triangulation, methodological pluralism, convergent design.

Example: A sociologist using mixed methods research to study the effectiveness of a community health intervention by collecting survey data and conducting qualitative interviews with participants.

14. Null Hypothesis

The null hypothesis is a statement that suggests there is no significant relationship or effect between variables in a research study. The null hypothesis is typically tested against an alternative hypothesis to determine the statistical significance of the results.

Related Terms: Hypothesis testing, statistical significance, Type I error.

Example: A researcher formulating a null hypothesis that there is no difference in blood pressure levels between two groups receiving different treatments.

15. Observation
Observation is a research method that involves systematically watching and recording behaviors, events, or phenomena as they occur in natural settings. Observational research can be either participant observation, where the researcher is involved in the activities, or non-participant observation.

Related Terms: Fieldwork, ethnography, behavioral coding.

Example: An anthropologist conducting observations of a tribal community's cultural practices and social interactions to document their traditions.

16. Paradigm
A paradigm in research refers to a set of beliefs, assumptions, values, and practices that guide the research process and shape the researcher's perspective on the world. Different research paradigms influence the choice of research methods and approaches.

Related Terms: Positivism, interpretivism, critical theory.

Example: A researcher adopting a feminist paradigm to study gender inequality and social justice issues in organizations.

17. Qualitative Research
Qualitative research is a research method that focuses on understanding and interpreting social phenomena through non-numerical data such as words, images, and observations. Qualitative research is used to explore complex issues, meanings, and experiences.

Related Terms: Ethnography, grounded theory, phenomenology.

Example: A psychologist conducting qualitative research to explore the lived experiences of individuals with post-traumatic stress disorder.

18. Reliability
Reliability in research refers to the consistency, stability, or repeatability of research findings or measurements. A study is considered reliable if it produces consistent results when repeated under similar conditions.

Related Terms: Test-retest reliability, inter-rater reliability, internal consistency.

Example: A researcher testing the reliability of a survey instrument by administering it to the same group of participants on two separate occasions and comparing the results.

19. Sampling
Sampling in research refers to the process of selecting a subset of individuals, groups, or events from a larger population to study and draw conclusions. Different sampling techniques such as random sampling, stratified sampling, and convenience sampling can be used.

Related Terms: Population, sample size, sampling bias.

Example: A researcher using cluster sampling to select schools as clusters and then randomly selecting students within those schools for a study on academic performance.

20. Theory
A theory in research is a well-developed explanation or framework that integrates and organizes existing knowledge, concepts, and empirical evidence to explain a phenomenon or predict outcomes. Theories help researchers understand relationships and make predictions.

Related Terms: Conceptual framework, theoretical framework, empirical evidence.

Example: A sociologist using social learning theory to explain how individuals acquire behaviors through observation and imitation of others.

21. Validity
Validity in research refers to the accuracy, truthfulness, or credibility of research findings, interpretations, and conclusions. Validity assesses whether the study measures what it claims to measure and whether the results are generalizable or applicable.

Related Terms: Internal validity, external validity, construct validity.

Example: A researcher using multiple methods to establish the validity of a study on stress management interventions in the workplace.

22. Variable
A variable in research is a characteristic, attribute, or phenomenon that can vary, change, or be measured in a study. Variables can be independent variables (causes) or dependent variables (outcomes) and can be categorical or continuous.

Related Terms: Control variable, moderating variable, mediating variable.

Example: In a study on the effects of exercise on heart health, the independent variable is the type of exercise, and the dependent variable is the participants' heart rate.

23. X-axis
The x-axis is the horizontal line on a graph or chart that represents the independent variable in a research study. The x-axis is used to plot and display the values of the independent variable, typically from low to

high.

Related Terms: Dependent variable, y-axis, data visualization.

Example: In a bar graph comparing the average test scores of students in different classes, the x-axis would represent the class names (e.g., Class A, Class B, Class C).

24. Yield
Yield in research refers to the amount of usable data or information obtained from a research study or data collection process. A high yield indicates that the study was successful in generating relevant and valuable findings.

Related Terms: Data collection, research output, information retrieval.

Example: A researcher assessing the yield of a survey study by examining the response rate, completeness of responses, and quality of data collected.

25. Z-score
A z-score is a statistical measure that quantifies the number of standard deviations a data point is from the mean of a dataset. Z-scores are used to standardize and compare data points across different distributions.

Related Terms: Standard deviation, normal distribution, statistical analysis.

Example: A researcher calculating the z-score of a participant's test score to determine how it compares to the average performance of all participants.