

**CHAPTER 1: Introduction to Research in Education**

**SELF-ASSESSMENT ITEMS**

- 1) A researcher stated that children should be taught basic math computations using drill and practice because he read a book by a person who is a well-respected mathematics teacher. Which source of knowledge did he use to arrive at that conclusion?
  - a) Observational research
  - b) Personal experience
  - c) Authoritative expertise
  - d) Traditional norms
  
- 2) Which of the following is a valuable source of information characterized by the systematic collection, analysis, and interpretation of data?
  - a) Observational research
  - b) Personal intuition
  - c) Authoritative expertise
  - d) Logical argument
  
- 3) Which of the following characteristics distinguishes research from other sources of knowledge?
  - a) Verification of knowledge claims
  - b) Control for error and bias
  - c) Openness to scrutiny
  - d) All of the above
  
- 4) Which of the following terms describes a study that is based on observation and/or measurement that can be replicated by others?
  - a) Theoretical
  - b) Conjectural
  - c) Hypothetical
  - d) Empirical

- 5) Linking research to relevant theory allows practitioners to do which of the following?
- a) Generalize the results to other contexts
  - b) Help establish principles that advance knowledge
  - c) Use a set of propositions to explain relationships among observed phenomenon
  - d) All of the above
- 6) Beyond a description of the process by which research can be conducted, which of the following is true about the steps in the research process?
- a) A review of the previous studies is not necessary if the steps in the research process are carefully followed.
  - b) The credibility of the overall result is dependent on the credibility of each individual step.
  - c) Each step in the process must be independent of the other steps.
  - d) Following the steps too carefully can inhibit the generalizability of the findings.
- 7) Which of the following is **NOT** a characteristic of quantitative research?
- a) Use of observations
  - b) Attempt to reach objective conclusions
  - c) Description of multiple realities
  - d) Predetermination of method
- 8) Which of the following is **NOT** a characteristic of qualitative research?
- a) Emergent design
  - b) Use of purposeful sampling techniques
  - c) Use of observations and interviews
  - d) Inductive analysis of data
- 9) Which of the following is a unique characteristic of experimental research designs?
- a) The investigation of cause and effect relationships
  - b) The manipulation of a factor
  - c) The control of extraneous factors that might influence the results
  - d) The collection of descriptive information
- 10) If a researcher is studying the relationship between computer-assisted instruction and student

achievement, what type of research design is he using?

- a) Correlational
- b) Descriptive
- c) Comparative
- d) Experimental

11) Which of the following qualitative designs has as its purpose the in-depth study of a single program, event, activity, or group?

- a) Phenomenology
- b) Ethnography
- c) Grounded theory
- d) Case study

12) In which type of research is the focus on the study of marginalized people with investigations of justice and equality?

- a) Phenomenology
- b) Critical Study
- c) Grounded theory
- d) Analytical

13) Which of the following is a term that could be used to characterize applied research?

- a) Contextual
- b) Generalizable
- c) Explanatory
- d) Fundamental

14) Which type of research is being used when a researcher uses questionnaires, tests, observations, and focus groups in her study?

- a) Mixed methods
- b) Qualitative
- c) Quantitative
- d) Ethnographic

15) A teacher was concerned about the attention level of some of the students in her class. She devised a plan in which she systematically tried different seating arrangements over the period of a month and kept a daily record of student attention level. At the end of the month, she analyzed the data to determine if there was an improvement in the students' attention level. What type of research was the

teacher using?

- a) Action research
- b) Basic research
- c) Descriptive research
- d) Evaluation research

16) Which of the following is a unique aspect of evaluation research?

- a) Teachers act as researchers to evaluate a method of instruction.
- b) The results can be generalized to many different educational settings.
- c) The goal is to make judgments about alternatives for decision-making.
- d) Broad generalizations are made about how phenomena are related.

17) In which of the following components of a research report might you find an interpretation of the results?

- a) Results or findings
- b) Method and design
- c) Statement of hypothesis
- d) Discussion and conclusions

## CHAPTER 1: Introduction to Research in Education

### INSTRUCTOR'S EXAM ITEMS

- 1) Standardized social studies test scores have been very low for several years in a local school district. Ms. Bolden, the superintendent, identified the outdated curriculum as a major cause for the low scores. She must recommend to the Board of Education a new curriculum (e.g., textbook series, instructional approach, supplemental materials, etc.) for district-wide adoption. Which of the following is the knowledge base which would provide information that is not influenced by subjective interpretations?
  - a) Experimental or quasi-experimental research studies
  - b) Interviews with teachers in nearby districts
  - c) Logical, reasoned arguments
  - d) Traditional norms of similar communities
  
- 2) Which of the following is a source of information characterized by the verification of findings through replication?
  - a) Traditional practices
  - b) Expert authority
  - c) Disciplined inquiry
  - d) Logical, reasoned arguments
  
- 3) Scientific research, experience, and intuition are all important sources of knowledge. What is the characteristic of scientific research that distinguishes it from experience and intuition?
  - a) Direct
  - b) Effective
  - c) Systematic
  - d) Respected
  
- 4) Why is the predictive power of scientific inquiry important in education?
  - a) Its purpose is to produce accurate descriptions.
  - b) It provides fundamental knowledge about a phenomenon.
  - c) It allows researchers to control one factor to study its effect on another factor.
  - d) Its purpose is to provide information for decision-making.
  
- 5) What is *empirical* educational research?

- a) Research in which data are collected and analyzed that can be replicated
- b) Research that allows for the influence of the researcher's subjectivity
- c) Research that is based on scholarship in the humanities
- d) Research that examines educational theories and speculation.

6) Which of the following is a critically important characteristic of the research process?

- a) The credibility of the overall result builds on the trustworthiness of each preceding step.
- b) Previous research can be disregarded based on reliable and valid research.
- c) Mistakes in one step of the process can be compensated by actions taken in other steps.
- d) Each of the steps in the process is independent of the other steps.

7) Which of the following is **NOT** a characteristic of quantitative educational research?

- a) The researcher must often study the participants in intact groups.
- b) The purpose may be to explain natural phenomenon to understand underlying relationships.
- c) The research methods focus on social interactions, narratives, and interviews.
- d) The purpose may be to investigate a naturally occurring phenomenon.

8) Which of the following is **NOT** a characteristic of qualitative research?

- a) Multiple methods of data collection may be used.
- b) The focus may be on manipulation of a factor with a single subject.
- c) The research design emerges over time.
- d) The researcher conducts the study in naturally occurring situations.

9) Which of the following characteristics most clearly differentiates experimental research designs from other types of quantitative design?

- a) Findings are applied from basic research to a practical problem in the classroom.
- b) Relationships are assessed between two or more phenomena.
- c) Causal relationships are investigated between variables by controlling an intervention.
- d) Inferences are made between two or more alternatives.

10) Which of the following types of research design are directed specifically toward making a decision about the effectiveness of a program?

- a) Experimental
- b) Evaluation
- c) Analytical
- d) Mixed-methods

11) Which type of research best describes the following study?

*A researcher used a mid-term social studies exam to identify three students who performed exceptionally well and three students who performed exceptionally poorly. Once identified, the students were interviewed individually to understand the nature of their preparation for the exam.*

- a) Quantitative
- b) Qualitative
- c) Analytical
- d) Mixed methods

12) In a mixed methods design, how does explanatory sequential design differ from exploratory sequential design?

- a) The quantitative methods are followed by qualitative methods in an explanatory sequential design.
- b) The qualitative methods are followed by quantitative methods in an explanatory sequential design.
- c) Both quantitative and qualitative approaches are used about equally in explanatory sequential design.
- d) There is no difference between the two designs; they are just different names for the same thing.

13) Which of the following questions could be answered using experimental research?

- a) How do teacher aides apportion their time in the classroom?
- b) Was the new reading program used in our school last year effective at increasing the reading scores of the fourth-grade students?
- c) What is the relationship between socioeconomic status and student attitudes?
- d) Will the use of manipulatives enhance the retention of math concepts in fifth-grade students?

14) A researcher used achievement tests, questionnaires, and lengthy, narrative interviews in his study. Which of the following types of research design would best describe his research?

- a) Mixed methods
- b) Qualitative methods
- c) Quantitative methods
- d) Ethnographic methods

15) A principal was concerned about the high absence rate of students in her high school. She decided to implement an intervention for a full year to improve attendance. Which of the following types of research designs would best describe her research?

- a) Basic research
- b) Descriptive research
- c) Action research
- d) Evaluation research

**Short Answer Questions:**

Give two reasons it is essential that consumers and researchers make informed judgments about the credibility and usefulness of research studies.

Why is it important to read about research studies in peer-reviewed journals rather than the popular press?

**Essay Question:**

Describe a study you would be interested in conducting using either a quantitative, qualitative, or mixed-methods approach. Briefly describe:

- The problem,
- Research design, and
- Methods you would use to collect and analyze data.

Justify the appropriateness of your selection of methods in terms of how they will provide a credible answer to the problem.