

Test Bank

Chapter 1: What Is Educational Research?

Multiple Choice

1. The basic goal of educational research is to _____.

- A. ask questions about students
- B. ask questions about teachers
- C. ask questions about education
- D. find answers to questions

Ans: D

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Knowledge

Answer Location: Finding Answers to Questions

Difficulty Level: Medium

2. As social beings, we tend to prefer _____ to statistics.

- A. research
- B. stories
- C. media
- D. advice from friends.

Ans: B

Learning Objective: 1-1: Name and describe four methods that can be used to seek out answers to important questions.

Cognitive Domain: Knowledge

Answer Location: Finding Answers to Questions

Difficulty Level: Medium

3. Strengths of the scientific method include _____.

- A. systematic, objective, and reliable data
- B. systematic, objective, reliable, and accurate data
- C. systematic, objective, reliable, accurate, and unbiased data
- D. systematic, objective, reliable, accurate, unbiased, and yielding perfect data

Ans: C

Learning Objective: 1-2: Describe the scientific method and how it can be applied to educational research topics.

Cognitive Domain: Comprehension

Answer Location: Finding Answers to Questions

Difficulty Level: Medium

4. The scientific method is utilized by educational researchers to _____.

- A. obtain perfect data
- B. illustrate obedience to the field of education
- C. obtain answers to questions
- D. answer questions and resolve problems

Ans: D

Learning Objective: 1-2: Describe the scientific method and how it can be applied to educational research topics.

Cognitive Domain: Comprehension

Answer Location: The Scientific Method

Difficulty Level: Medium

5. In 1938, the American philosopher John Dewey described which of the following?
- A. the basics of the scientific method for educators
 - B. his personal feelings/opinions of the scientific method
 - C. the scientific method as a process for thinking objectively
 - D. the ways in which the scientific method should be improved

Ans: C

Learning Objective: 1-2: Describe the scientific method and how it can be applied to educational research topics.

Cognitive Domain: Knowledge

Answer Location: The Scientific Method

Difficulty Level: Medium

6. The generic nature of the scientific method is acceptable because _____.
- A. it allows researchers to investigate phenomenon objectively
 - B. it allows researchers to generate hypotheses
 - C. it encourages researchers to think outside of the box
 - D. it ensures flawless results

Ans: A

Learning Objective: 1-2: Describe the scientific method and how it can be applied to educational research topics.

Cognitive Domain: Analysis

Answer Location: The Scientific Method

Difficulty Level: Hard

7. Which of the following is true of educational research?
- A. It is not scientific.
 - B. It is a process that begins with a question/problem.
 - C. It is a process that serves as the purpose/goal of the study.
 - D. It is a flawless process.

Ans: B

Learning Objective: 1-2: Describe the scientific method and how it can be applied to educational research topics.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

8. Which of the following is true of educational research?

- A. It begins with answers.
- B. It is inquisitive.
- C. It has predetermined outcomes.
- D. It is trivial.

Ans: B

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

9. To say that educational research is scientific is to say that _____.

- A. it is characterized by principles and methods of science
- B. it is systematic but not methodical
- C. it is methodical but not systematic
- D. It involves the physical sciences

Ans: A

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Hard

10. The logical starting point for any research study in education is _____.

- A. to think of what your interests are
- B. to clarify the topics that are most complex
- C. to outline how you would like to proceed
- D. to clearly articulate the question you ultimately want answered or the problem you want addressed

Ans: D

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Knowledge

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

11. The decisions and plans that must be made in advance include _____.

- A. participant names
- B. expected results
- C. data collection tools
- D. possible journals for publication

Ans: C

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Application

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Hard

12. The purpose of data collection, analysis, and interpretation in educational research is to _____.

- A. enhance researchers' skills in research
- B. enhance research by improving the competences of the educational researchers
- C. aid researchers' quest for knowledge
- D. answer the inherent question or problem under investigation

Ans: D

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

13. Educational research tends to be cyclical or helical because _____.

- A. there is a definitive stopping point
- B. new questions are generated as a result of conducting research studies
- C. the results signify the end of the study
- D. the same steps are continually employed

Ans: B

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

14. The goal of any research study includes _____.

- A. practicing the scientific method
- B. generating existing knowledge
- C. gaining a better understanding of the issue/phenomenon under investigation
- D. making money

Ans: C

Learning Objective: 1-2: Describe the scientific method and how it can be applied to educational research topics.

Cognitive Domain: Application

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

15. The types of bias researchers harbor include _____.

- A. a worldview
- B. a predetermined idea of what analyses to run
- C. how to define the scientific method
- D. how to report on the data analysis

Ans: A

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Knowledge

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Easy

16. Quantitative research methods employ which type of reasoning?

- A. formal reasoning such as an “outside-in” approach
- B. informal reasoning such as an “inside-out” approach
- C. deductive reasoning such as a “top-down” approach
- D. inductive reasoning such as a “bottom-up” approach

Ans: C

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

17. Qualitative research methods employ which type of reasoning?

- A. formal reasoning such as an “outside-in” approach
- B. informal reasoning such as an “inside-out” approach
- C. deductive reasoning such as a “top-down” approach.
- D. inductive reasoning such as a “bottom-up” approach.

Ans: D

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

18. Match the process of deductive reasoning with the appropriate selection given below.

- A. begin with a wide variety of observations/other data, specify conclusions, and analyze data.
- B. begin with analyzed data, obtain a variety of observations/other data, and specify conclusions.
- C. begin with specific conclusions, analyze data, and obtain a wide variety of observations/other data.
- D. begin with a wide variety of observations/other data, analyze those data, and specify conclusions.

Ans: D

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Hard

19. Match the process of inductive reasoning with the appropriate selection(s) given below.

- A. begin with specific observations/other data, analyze those data, and make conclusions/generalizations.
- B. begin with specific observations/other data, make conclusions/generalizations, and analyze those data.
- C. begin with conclusions/generalizations, analyze those data, and classify specific observations/other data.
- D. begin with conclusions/generalizations, classify specific observations/other data, and analyze those data.

Ans: A

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Hard

20. When variables cannot be controlled in a study, such a study is likely to be _____.

- A. nonexperimental
- B. experimental
- C. pseudo-nonexperimental
- D. pseudo-experimental

Ans: A

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

21. Which of the following is an example of nonexperimental research designs?

- A. quasi-experimental
- B. correlational
- C. variable
- D. preexperimental

Ans: B

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

22. Studies in which the researcher has control over one or more variables in the study that may influence the behavior of the participants are _____.

- A. nonexperimental
- B. correlational
- C. experimental
- D. pseudo-experimental

Ans: C

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

23. _____ studies build on descriptive studies by comparing two or more groups on one or more measured variables.

- A. Correlational
- B. Comparative
- C. Causal
- D. Causal-comparative

Ans: B

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Analysis

Answer Location: Educational Research as a Process

Difficulty Level: Medium

24. Which of the following accurately describe educational research?

- A. Educational research should be beneficial, meaningful, and significant.
- B. Educational research has outcomes that are predetermined.
- C. Educational research is not scientific.
- D. Educational research is conclusive.

Ans: A

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Easy

25. What is the first formal step for conducting educational research?

- A. discuss the research with colleagues.
- B. clearly state the questions and/or problem.
- C. formulate a specific plan for conducting the research.
- D. secure funding for the research.

Ans: B

Learning Objective: 1-6: List and describe the major steps of the educational research process.

Cognitive Domain: Knowledge

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Easy

26. Which part of the research process is often the most daunting?

- A. the review of existing literature related to the topic or problem.
- B. the formulation of a specific plan for conducting the research
- C. the collection, analysis, and interpretation of data
- D. the explanation of findings

Ans: C

Learning Objective: 1-6: List and describe the major steps of the educational research process.

Cognitive Domain: Knowledge

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Hard

27. _____ uses beliefs to determine perceived reality. That is, one begins with a strong belief and seeks out data that can be used to support that belief.

A. Belief-based science

B. Reality science

C. Pseudoscience

D. Pseudoreality

Ans: C

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Knowledge

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

28. Qualitative research methods require the collection and analysis of _____ data.

A. numerical

B. narrative

C. secondary

D. reasonable

Ans: B

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Easy

29. _____ statistics allow researcher to test the statistical significance of the difference between two or more groups, or the degree of relationship between two variables.

A. descriptive

B. inferential

C. narrative

D. numerical

Ans: B

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

30. A type of variable that is “presumed to cause changes in another variable” is known as which of the following?

A. outcome variable

- B. dependent variable
- C. independent variable
- D. response variable

Ans: C

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Knowledge

Answer Location: Educational Research as a Process

Difficulty Level: Easy

31. Why is it vitally important for educators, at all levels, to have a sound understanding of research methods?

- A. They can better discriminately consume published research studies.
- B. They can make more money as an educator.
- C. They can better convince students of your perspective.
- D. They can pass certifications and tests.

Ans: B

Learning Objective: 1-8: Evaluate the perceived importance of educators' conducting their own research.

Cognitive Domain: Application

Answer Location: Educators as Researchers

Difficulty Level: Medium

32. A _____ research report is one that has been subjected to a review by colleagues and experts in a particular field.

- A. biased
- B. reviewed
- C. presented
- D. refereed

Ans: D

Learning Objective: 1-7: Articulate the importance of exploring research in your specific discipline.

Cognitive Domain: Comprehension

Answer Location: Knowing Your Specific Discipline

Difficulty Level: Medium

33. Height, time, age, and temperature are considered to be _____.

- A. factors
- B. correlational
- C. causal
- D. variables

Ans: D

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Application

Answer Location: Educational Research as a Process

Difficulty Level: Medium

34. Which of the following is true of researcher biases?

- A. It is okay if our biases influence our research.
- B. Only bad researchers have biases.
- C. We all have biases.
- D. Biases do not impact our results.

Ans: D

Learning Objective: 1-8: Evaluate the perceived importance of educators' conducting their own research.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Easy

35. A researcher is interested in understanding the relationship between years of teaching service and the use of performance-based assessments. Which type of nonexperimental study would measure this relationship that involves two or more variables?

- A. causal-comparative
- B. experimental
- C. correlational
- D. quasi-experimental

Ans: C

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Analysis

Answer Location: Educational Research as a Process

Difficulty Level: Hard

36. A researcher is designing a study in which he will have control over one or more of the variables that may somehow influence (or cause) the participants' behavior. This type of study is considered to be a(n) _____ design.

- A. nonexperimental
- B. experimental
- C. flawed
- D. biased

Ans: B

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

37. A researcher is designing a study in which his goal is to describe variables or the relationship between variables. In this particular study, he cannot control or manipulate the variables involved in the study. This type of study is considered to be a(n) _____ design.

- A. nonexperimental

- B. experimental
- C. flawed
- D. biased

Ans: A

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Easy

38. A study produces the following data: mean, median, mode, and range. These data are considered to be _____.

- A. independent variables
- B. dependent variables
- C. inferential statistics
- D. descriptive statistics

Ans: D

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

39. A researcher predicts the outcomes he expects from a particular study he plans to conduct. This is to say he stated his _____.

- A. hypotheses
- B. conclusions
- C. expectations
- D. reasoning

Ans: A

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

40. In a classroom study, a teacher randomly assigns half of her class periods to a group that will receive a special treatment and the other half of her class periods to a group that will receive a traditional treatment. The aspect that makes this study experimental in nature is that _____.

- A. the teacher is NOT controlling the independent variable
- B. the teacher is NOT affecting the value of the dependent variable
- C. the teacher determines which group will receive which version of the treatment
- D. the teacher is a practicing researcher

Ans: C

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Application

Answer Location: Educational Research as a Process

Difficulty Level: Hard

41. The main goal of _____ research is to address local-level problems with the anticipation of finding immediate solutions.

- A. quantitative
- B. qualitative
- C. action
- D. orientation

Ans: C

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Knowledge

Answer Location: Educational Research as a Process

Difficulty Level: Medium

42. _____ research describes social interactions between people in group settings.

- A. Phenomenological
- B. Personal
- C. Grounded theory
- D. Ethnographic

Ans: D

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Knowledge

Answer Location: Educational Research as a Process

Difficulty Level: Easy

43. Which of the following research questions involves case study research?

- A. What types of personal and school characteristics serve to motivate teachers?
- B. What characteristics do teachers need to be viewed as compassionate by their students?
- C. What is the nature of school's culture?
- D. What meaning does the teachers' lounge have for the staff at Main Street Elementary School?

Ans: D

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Application

Answer Location: Educational Research as a Process

Difficulty Level: Medium

44. _____ research engages the researcher in a process of individual interviews in an attempt to fully understand a particular phenomenon.

- A. Phenomenological
- B. Personal
- C. Grounded theory

D. Ethnographic

Ans: A

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

45. _____ research attempts to discover a theory that relates to a particular environment.

A. Phenomenological

B. Personal

C. Grounded theory

D. Ethnographic

Ans: C

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Application

Answer Location: Educational Research as a Process

Difficulty Level: Medium

True/False

1. The data necessary for answering the research question or addressing the research problem do not emerge out of thin air.

Ans: T

Learning Objective: 1-6: List and describe the major steps of the educational research process.

Cognitive Domain: Knowledge

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Easy

2. Research decisions made “on the fly” should include how and when to collect data.

Ans: F

Learning Objective: 1-6: List and describe the major steps of the educational research process.

Cognitive Domain: Application

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Easy

3. Because educational research is scientific, it must be approached from the perspective of subjectivity.

Ans: F

Learning Objective: 1-2: Describe the scientific method and how it can be applied to educational research topics.

Cognitive Domain: Knowledge

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

4. Educational research is a process of objective steps researchers follow to examine questions or problems as a means to discovering new information or insight about key phenomenon.

Ans: T

Learning Objective: 1-6: List and describe the major steps of the educational research process.

Cognitive Domain: Analysis

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

5. Qualitative and quantitative research methods produce different views of reality because of the differing approaches they take to examining it.

Ans: T

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

6. Qualitative research utilizes deductive reasoning.

Ans: F

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Easy

7. Quantitative research utilizes inductive reasoning.

Ans: F

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Easy

8. Qualitative research designs may be experimental or nonexperimental.

Ans: F

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

9. Authority's effectiveness, in terms of answering our research questions, is always a certainty.

Ans: F

Learning Objective: 1-1: Name and describe four methods that can be used to seek out answers to important questions.

Cognitive Domain: Knowledge

Answer Location: Finding Answers to Questions

Difficulty Level: Easy

10. All research studies may not follow the steps of the scientific method exactly or necessarily in a specific order.

Ans: T

Learning Objective: 1-2: Describe the scientific method and how it can be applied to educational research topics.

Cognitive Domain: Knowledge

Answer Location: The Scientific Method

Difficulty Level: Medium

11. Research studies will clearly specify a research question that will serve to guide the conduct of the study.

Ans: T

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: The Scientific Method

Difficulty Level: Easy

12. In most cases, educational research tends to be linear, as opposed to cyclical or helical.

Ans: F

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Easy

13. The answers to the questions that guided our research should *never* be interpreted as right or wrong. Rather, they are answers appropriate for the given time and set of circumstances.

Ans: T

Learning Objective: 1-6: List and describe the major steps of the educational research process.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Easy

14. Triangulation means that the researcher is using three sources of data.

Ans: F

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Knowledge

Answer Location: Educational Research as a Process

Difficulty Level: Easy

15. Qualitative research employs numerical data.

Ans: F

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Medium

16. Correlational studies measure the degree and nature of the relationship between two or more variables.

Ans: T

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Knowledge

Answer Location: Educational Research as a Process

Difficulty Level: Easy

17. The independent variable's value depends on the value, or group membership, of the independent variable.

Ans: F

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Easy

18. Statistical significance refers to a decision made from the results of statistical procedures that enable researchers to conclude that the findings of a given study.

Ans: T

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Knowledge

Answer Location: Educational Research as a Process

Difficulty Level: Medium

19. The population is drawn from the sample.

Ans: F

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Analysis

Answer Location: Educational Research as a Process

Difficulty Level: Hard

20. Grounded theory research describes social interactions between people in group settings.

Ans: F

Learning Objective: 1-4: Identify and define key terms associated with educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Easy

Short Answer

1. Explain why it is important to distinguish between what educational research is and what it is not.

Ans: Answer would ideally include: As educational professionals, we must know what constitutes educational research because it is practical knowledge for educators at any level. Additionally, we may participate in educational research at some point and should be familiar with the process. Educational practitioners often have preconceptions/misconceptions of what educational research is and yet are responsible for promoting best practices in the field even as only consumers of research. Therefore, it is our professional duty to distinguish between what educational research is and what it is not.

Learning Objective: 1-1: Name and describe four methods that can be used to seek out answers to important questions.

Cognitive Domain: Analysis

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

2. Describe one of Tom Kida's (2006) common mistakes we tend to make in our thinking.

Ans: Answer will include one of the following: We tend to prefer stories to statistics (and research). We seek to confirm our ideas, not to question them. We sometimes misperceive the world. We tend to oversimplify our thinking. Our memories are often inaccurate or distorted.

Learning Objective: 1-1: Name and describe four methods that can be used to seek out answers to important questions.

Cognitive Domain: Analysis

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Easy

3. Interpret the meaning of the statement: "Research is not simply gathering information."

Ans: Answer would ideally include: Gathering information is very different from conducting research. Gathering information includes a variety of steps with no real order, whereas conducting research is much more systematic and objective with the use of the scientific method. Conducting research is a more specific process with

calculated steps, while gathering information may be as simple as copying text from a periodical.

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Easy

4. Discuss the reasons why educational research is not conclusive.

Ans: Answer would ideally include: Educational research is not conclusive because the results are answers appropriate only for the given time and set of circumstances, including the particular data that were collected and analyzed.

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: Educational research as a Process

Difficulty Level: Easy

5. The text discusses four sources human beings often pursue when searching for possible answers. *Common sense* is one of those sources. Under which circumstances is common sense effective?

Ans: Answer would ideally include: Common sense can be effective only if the information on which solutions are developed and decisions are based is reliable and accurate.

Learning Objective: 1-1: Name and describe four methods that can be used to seek out answers to important questions.

Cognitive Domain: Knowledge

Answer Location: Finding Answers to Questions

Difficulty Level: Medium

6. How is the scientific method related to research in the broad field of education?

Ans: Answer would ideally include: Educational research involves the application of the scientific method to educational topics, phenomena, and/or questions.

Learning Objective: 1-2: Describe the scientific method and how it can be applied to educational research topics.

Cognitive Domain: Comprehension

Answer Location: The Scientific Method

Difficulty Level: Easy

7. Educational research requires the formulation of a specific plan for conducting the research. The study must be well planned and thought out. Provide three decisions or plans that must be made in advance.

Ans: Answer would ideally include three of the following: (1) Who will be studied, (2) How many individuals will be needed--or do you want--to study, (3) What information will be collected from the individuals studied, (4) How the data will be collected, (5)

When the data will be collected, (6) What will be done with the data once collected/How the data will be analyzed, and (7) How you plan to interpret the results of the analyses.

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Knowledge

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

Essay

1. List and describe the steps of the process of educational research.

Ans: Answer would ideally include: Step 1: Identification of an Existing Problem; Step 2: Clarification of the Specific Problem; Step 3: Formulation of the Research Question(s); Step 4: Review Existing Research Literature Related to the Topic; Step 5: Development of Procedures by Which Data Are Collected; Step 6: Specification of Procedures by Which Data Are Analyzed; Step 7: Statement of the Findings Resulting From the Analyses; and Step 8: Development of Conclusions/Recommendations Related to Question(s).

Learning Objective: 1-6: List and describe the major steps of the educational research process.

Cognitive Domain: Analysis

Answer Location: Educational Research as a Process

Difficulty Level: Medium

2. Explain why educational research should be “beneficial, meaningful, and significant . . . to someone, somewhere, somehow, someday.”

Ans: Answer would ideally include: Educational research should help people in some way or there is no purpose in conducting it. We need educational research to help us learn about topics of interest and answer specific questions we have about phenomenon. If we already know the answer to a question, it would be meaningless to study it and, therefore, would assist no one. The purpose of educational research is to help us understand more about the problems or questions that we face in the field of education; because it is a social science, it inevitably affects people. Therefore, undertaking educational research studies means conducting research on problems/questions that have no established answers or solutions so that people may benefit in some way from the new knowledge/insight.

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

3. Describe the purpose of the scientific method, specifically noting each step in the process.

Ans: Answer would ideally include: The purpose of the scientific method is to enable researchers to conduct studies in systematic and objective ways, which lead to new knowledge, new conclusions, and new questions as justified by the methods of inquiry. This includes six steps that allow researchers of all types to examine the phenomenon of interest with equitable approaches. The purpose of specifying the topic of concern and clarifying the specific problem on which the research will focus is to establish the central issue and exactly what aspects of it are of primary interest for the study. The purpose of formulating research questions/hypotheses is to guide the research efforts toward a precise goal. The purpose of collecting, analyzing, and interpreting data is to obtain and determine the meaning of the information chosen to represent the phenomenon of interest. The purpose of stating the findings and drawing conclusions is to communicate the value and implications of the study's results. Together, the steps of the scientific method form a cyclical/helical process by which we can discover new perspectives and understanding of phenomenon.

Learning Objective: 1-2: Describe the scientific method and how it can be applied to educational research topics.

Cognitive Domain: Application

Answer Location: The Scientific Method

Difficulty Level: Hard

4. Explain what “educational research tends to be cyclical or helical, as opposed to linear” means.

Ans: Answers would ideally include: More often than not, conducting educational research in an effort to answer one or two pressing questions will result in the generation of new, additional research questions--and typically a greater number than you started with. Therefore, it is probably best to view educational research as cyclical (i.e., with cycles of research studies that explore the same basic topic in subsequent years or classrooms) or even helical (i.e., with a spiraling effect, where the original research study spawns additional, follow-up, or extended studies addressing different aspects of the same broad topic).

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Analysis

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Hard

5. Describe how and why educational research does not have outcomes that are predetermined.

Ans: Answers would ideally include: Educational research does not pursue questions that either (1) have already been answered or (2) have a predetermined, desirable answer. Science--and inquiry that results from the application of the scientific method--relies on perceived reality (typically in the form of collected data) to determine beliefs. In other words, and as we have seen, data are collected and analyzed to determine what is believed.

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

6. Describe in detail how research is more than simply gathering information.

Ans: Answers would ideally include: Research should be inquisitive or have some sort of clear and focused guiding question the researcher is attempting to answer. Further, research should be original, not simply the collection and organization of previously published stories and accounts. Finally, research, as opposed to simply gathering information, should be objective, meaning that the researcher should attempt to objectively study the topic, not in a way that supports the results they would like to find.

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Comprehension

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

7. Describe how educational research is scientific.

Ans: Answers would ideally include: As a process, educational research is a scientific endeavor. Educational research closely parallels the scientific method; however, labeling it a “scientific process” goes even further. To say that educational research is scientific is to say that it is characterized by the principles and methods of science and that it is systematic and methodical. Educational research is objective and open-minded about that which is being studied. The overall process involves a step-by-step methodology that, when followed appropriately, ensures this high level of systemization and objectivity.

Learning Objective: 1-3: Summarize characteristics that define what educational research is and is not.

Cognitive Domain: Analysis

Answer Location: Educational Research--What It Is and What It Is Not

Difficulty Level: Medium

8. Describe at least one major difference between qualitative and quantitative data, and also provide an example of a study that involves deductive reasoning as well as an example of a study that involves inductive reasoning.

Ans: Answer would ideally include: Quantitative research methods require the collection and analysis of numerical data, and qualitative research methods require the collection and analysis of narrative data. Also, quantitative research methods use a deductive approach to reasoning when attempting to find answers to a research question.

Qualitative research methods use an inductive approach to resolving problems and answering research questions.

The following example involves deductive reasoning: Researchers conduct a survey of 1,500 educators regarding their opinions on the Common Core State Standards (CCSS), providing a variety of data. Those responses are aggregated, examined, and evaluated. Specific percentages are determined to represent how many

respondents think that the CCSS will be beneficial for students and how many believe they won't.

The following example involves inductive reasoning: A team of researchers observe a small group of three to four teachers over the course of 2 months to see how implementing the CCSS has (or has not) changed their instructional practices by compiling their observation notes. The final result allows them to develop broad conclusions, hypotheses, or theories about the instructional practices of the teachers and influences of CCSS.

Essentially, deductive reasoning produces specific conclusions, and inductive reasoning produces broad conclusions.

Learning Objective: 1-5: Identify various methods for conducting educational research.

Cognitive Domain: Comprehension

Answer Location: Educational Research as a Process

Difficulty Level: Hard