Chapter 1: Learning, Teaching, and Educational Psychology

Multiple-Choice Questions

1) According to the Woolfolk text, which of the following is true of expert teachers?

A) They are more likely than novices to ignore students' wrong answers.
B) They take more time to solve problems.
C) They judge their success based on their students' achievements.
D) They have a limited and focused knowledge base.

Answer: C

Explanation: C) It is NOT true that experts deal with new events as new problems. In fact, the opposite is true in the sense that experts employ their prior knowledge to come up with efficient solutions to new problems. They also make good use of students' wrong answers, are reflective about decisions, and have different ways of understanding the subject matter.

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Skill: Understanding
2) According to James Popham, the law No Child Left Behind
A) will not affect teachers in secondary education schools.
B) will shorted the length of the school year.
C) will affect the lives of teachers every day.
D) relates to only teachers who teach in rural areas.
E) will go into effect after January 2009.

Answer: C

Explanation: C) By the end of the 2005-2006 school year, all teachers must have core academic subjects and be "highly qualified." The NCLBA will affect the lives of teachers everyday.

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Skill: Understanding

3) The concerns of educational psychology are distinctive in that they
A) are limited to the classroom.
B) do not overlap those of other fields of study. C) have no place in the laboratory.
D) relate to improving learning and instruction.

Answer: D

Explanation: D) The concerns of educational psychology relate to improving learning and instruction. To achieve this objective, educational psychologists draw from other disciplines (e.g., psychology and sociology) and conduct research
in both the classroom and the laboratory.

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Skill: Understanding

4) Use of the "common sense" approach to teaching is viewed by educational psychologists as
A) appropriate in most circumstances.
B) inappropriate unless supported by research.
C) more reliable than scientific judgments.
D) the main factor that differentiates experts from novices.

Answer: B

Explanation: B) Educational psychologists view the "common sense" approach to teaching as inappropriate or potentially misleading unless supported by research. As illustrated by the examples in the textbook, common sense ideas often do not work in the expected manner when applied in classrooms.

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Skill: Understanding

5) Research by Ogden, Brophy, and Evertson (1977) on selecting primary-grade students to read aloud suggests that the best method is to
A) ask for volunteers to read.
B) call on students in a prescribed order.
C) call on students at random.
D) have students read as a group (choral response).

Answer: B

Explanation: B) Research by Ogden, Brophy, and Evertson (1977) indicated that first graders achieved better when they were called upon to read in a prescribed order. Their interpretation was that the children would spend more time rehearsing when they were aware of the sections that they would be asked to read and would get more practice reading because they were not over-looked.

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Skill: Knowledge

6) Wong's research indicated that when individuals read a research result, they tended to

A) become resistant toward using the strategy involved.
B) find the results more obvious than originally thought.
C) put the results into practice immediately.
D) seek more information on the subject.

Answer: B

Explanation: B) Wong (1987) demonstrated that when subjects in her study were shown research results (whether or not correct) in writing, they had a greater tendency to believe that the results were obviously true.
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Skill: Knowledge

7) Research on acceleration for bright children suggests that acceleration is generally
A) beneficial for these children both academically and socially
B) beneficial for younger children but detrimental for older children.
C) detrimental for younger children but beneficial for older children.
D) harmful for children at all age/grade levels.

Answer: A
Explanation: A) Research summarized by Colangelo, Assouline, and Gross (2004) suggests that acceleration (skipping grades) is generally beneficial (and, at least, not harmful) for bright children. Page Ref: 13

Skill: Knowledge

8) When studies are based only on observations, the results should be expressed as
A) cause-and-effect relationships.
B) descriptions.
C) principles.
D) theories.

Answer: B
Explanation: B) When studies are based only on observations, the results must be
expressed as descriptions of events. Descriptive studies rely on observational and subjective data. Correlational studies identify the relationship(s) among two or more variables for a specific group of people. Experimental studies require controlled, objective data in order to establish causal relationships.

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Skill: Understanding

9) A case study is an investigation of
   A) a small group of people with similar backgrounds.
   B) different groups of people over a period of time.
   C) one person or group over a specific period of time. D) people from one geographic area.

Answer: C
Explanation: C) Case studies involve an intensive examination of real-life contexts (such as schools or classrooms) through direct observations, biographical data, school records, test results, peer ratings, and a wide variety of other observational tools. The researcher would investigate one person or a group of people intensively over a relatively long period of time.

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Skill: Knowledge

10) A correlation is a statistical description indicating the
A) direction but not the strength of a relationship.
B) direction and strength of a relationship.
C) strength and direction of a treatment effect.
D) strength but not the direction of a relationship.

Answer: B

Explanation: B) Correlation coefficients indicate both the strength and direction of relationships (e.g., strong positive or weak negative). Treatment effects are not involved in correlational research.

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Skill: Knowledge

11) A researcher participates in a class over a two-month period and analyzes the strategies the teacher employs to maintain discipline. This research is an example of what specific type of research study?
A) Cross-sectional
B) Ethnography
C) Experimental
D) Longitudinal

Answer: B

Explanation: B) Ethnographic studies involve an intensive examination of real-
life contexts (such as schools or classrooms) through observations. In this example, the researcher spent two months observing the teacher and recording descriptions of the discipline techniques employed. There is no indication that the researcher is a participant observer in the research.

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Skill: Understanding

12) A researcher concludes from his study that, on a typical school day, students spend only 50 percent of their time engaged in learning. What specific type of research must have been conducted in order for this conclusion to be valid?

A) Single-subject design
B) Participant-observer
C) Descriptive
D) Experimental

Answer: C

Explanation: C) Descriptive methods would be used by a researcher to study how much time is spent on learning activities during a typical day. This would require observations for a number of days and might include students' self-reports and/or teacher ratings in order to identify a pattern for the amount of time actually spent in learning activities.

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Skill: Understanding

13) A positive correlation between two factors indicates that the factors
A) are NOT necessarily related.
B) are strongly related.
C) decrease proportionately.
D) tend to increase or decrease together.

Answer: D
Explanation: D) A positive correlation indicates that two factors increase or
decrease together. As one increases so does the other; as one decreases so does the
other. Therefore, the two factors for a positive correlation vary in the same
direction. If the correlation is negative, one factor increases while the other factor
decreases. [Note that, unless it is perfect, the correlation only suggests a tendency
or pattern.]

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Skill: Knowledge

14) What size or direction of correlation coefficient is likely to be obtained
between
children's ages (from five to 13 years) and the distance that they can long jump?
A) Close to zero
B) Either +1.00 or -1.00
C) Negative  
D) Positive  

Answer:  D  
Explanation:  D) A positive relationship is likely to exist between children's ages and the distance they can long jump. Due to their greater physical size, strength, and agility, older children will generally be able to jump farther than younger children. As age increases, jumping distance tends to increase, at least through adolescence.  
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Skill:  Understanding

15) Which one of the following correlation coefficients indicates the strongest relationship?  
A) -0.03  
B) -0.78  
C) +0.56  
D) +0.70  

Answer:  B  
Explanation:  B) The strongest correlation of the four choices is represented by -0.78. It is NOT the sign (direction) that determines strength; it is the closeness of the correlation to either +1.00 or -1.00. A correlation of -0.78 represents a fairly
strong negative relationship between the factors being correlated.

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Skill: Understanding

16) What type of correlation coefficient is likely to be obtained between reading ability and running ability of high-school students?
A) Close to zero
B) Either +1.00 or -1.00
C) Strong positive
D) Weak negative

Answer: A

Explanation: A) A correlation close to zero is likely to exist between reading ability and running ability. The two factors are relatively independent. Better readers are not likely to be faster or slower runners than others and slower readers are not any better at running than their fast-reading peers.

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Skill: Understanding

17) When a correlation coefficient of -0.80 is found between factor A and factor B, the most accurate interpretation is that
A) a decrease in factor A is strongly related to a decrease in factor B.
B) a decrease in factor A is strongly related to an increase in factor B.
C) there is NO significant relationship between the two factors.
D) there is a very weak relationship between the two factors.

Answer:  B

Explanation:  B) A correlation of -0.80 indicates a strong negative relationship. Decreases in factor A will be associated with increases in factor B. Decreases in both factors will result in a positive relationship.

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Skill: Understanding

18) A correlation study indicates that teachers' interest in teaching and the amount of the day their students are engaged in learning correlate at +0.46. This coefficient would indicate that

A) as teacher interest decreases, engaged time increases.
B) as teacher interest increases, engaged time tends to increase.
C) interest in teaching leads to a large increase in engaged time.
D) there is virtually NO relationship between the two variables.

Answer:  B

Explanation:  B) The +0.46 correlation coefficient suggests a moderately strong positive relationship between teaching interest and engaged time. Teachers who
have more interest in teaching tend to have students who are more engaged in learning, and vice versa.

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Skill: Understanding

19) A correlation coefficient of 0.90 indicates that
A) one event has been caused by another event.
B) one event is strongly related to another event.
C) the two events are related 10 percent of the time.
D) the two events are related 90 percent of the time.

Answer: B
Explanation: B) A correlation of 0.90 indicates a strong positive relationship. Correlations do not imply cause and effect, only that the two variables or factors are related.

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Skill: Understanding

20) A researcher reports that students who have the highest test scores in school tend to be more involved in extracurricular activities than are other students. What specific type of research study must have been conducted?
A) Correlational
B) Descriptive
C) Ethnographic
D) Experimental

Answer: A

Explanation: A) The researcher conducted a correlational study. The purpose is to determine the relationship between test scores and extracurricular activities. Ethnographic studies are another specific type of descriptive research. NO treatment is being manipulated; thus, the research is NOT experimental.

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Skill: Understanding

21) Random assignments would be most critical in what type of research?
A) Case study
B) Correlational
C) Descriptive
D) Experimental

Answer: D

Explanation: D) By randomly assigning subjects to treatments and evaluating the treatments, experiments are designed to study cause and effect. Unlike descriptive studies, changes made in an experimental study can be attributed to the treatments introduced, because all other relevant factors are intended to be controlled. In
correlational studies, usually only one group of subjects is studied on a variety of
factors. A cross-sectional study typically involves several groups of subjects who
are then compared on a variety of factors. Such studies are not experimental.

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Skill: Knowledge

22) Which one of the following instances is MOST like a random sample for a
class of thirty students?
A) A coin is tossed in order to select students alternately one by one into the
experimental
and control groups.
B) The first ten students who enter the classroom are placed into the experimental
group
and the next ten into the control group.
C) The first twenty volunteers are selected from the physics class and alternately placed
into experimental and control groups.
D) The twenty students with the highest GPAs are selected and alternately placed into
experimental and control groups.

Answer: A

Explanation: A) A random sample is one in which each subject has an equal
opportunity to be selected for any group. The three situations described in the alternative answers to this question all concern special, rather than randomly composed, groups of students. Thus, identifying the experimental groups by coin tossing is the method that most closely approximates a random selection.

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Skill: Understanding

23) When a result from a research project involving an experimental design is reported in the literature as significant, this result

A) contradicts the prevailing theoretical views.

B) is unrelated to theory development.

C) is unlikely to have occurred by chance.

D) will indicate its practical importance.

Answer: C

Explanation: C) Statistical significance means that the result is unlikely to have occurred by chance. It does NOT necessarily imply that the result has either practical or theoretical importance.

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Skill: Understanding

24) What type of research participants should researchers use for studies of cause-and-
effect relationships?
A) Controlled samples
B) Random samples
C) Related samples
D) Skilled samples

Answer: B

Explanation: B) Random assignments are critical for establishing cause-effect relationships. If such assignments are NOT employed, the researcher will be unable to determine whether treatment differences are caused by the treatments themselves or by the treatment groups being different in some important way that is related to the outcome being studied.

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Skill: Knowledge

25) Dr. Patterson concludes from her research that using a systematic study strategy CAUSED good grades for students assigned to a particular group. For this conclusion to be valid, the type of research that was performed must have been what type of study?
A) Correlational
B) Descriptive
C) Experimental
D) Observational

Answer: C

Explanation: C) Dr. Patterson can infer cause and effect only from experimentation. Correlational research and observational research provide descriptive results that do not support causal relations. However, these latter two types of research can often lead to questions that can be studied by means of experimental research.

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Skill: Understanding

26) A researcher finds that students who were given computers to use at home demonstrated greater independent learning skills than a comparable group that was not selected to receive home computers. What type of research study was probably designed for this conclusion to be valid?

A) Correlational
B) Descriptive
C) Experimental
D) Observation

Answer: C
Explanation: C) Apparently, an experimental approach was employed. The key factor is the manipulation and then comparison of different treatments: having computers vs. not having them.
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Skill: Understanding

27) An explanation of how we remember things that we have learned is called a
A) construct.
B) correlation.
C) principle.
D) theory.

Answer: D
Explanation: D) A theory is an explanation of behavior or human functioning, such as how we remember what we have learned or why we are motivated to do something.
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Skill: Knowledge

28) According to the law No Child Left Behind
A) research is not important for improving schools.
B) states have some say in defining "proficiency" for students
C) initial hypotheses about education which have not been tested can still improve educational practices.
D) mandates all teachers must conduct a research project on an annual basis.
Answer: B
Explanation: B) According to NCLBA scientifically based research based on rigorous research can produce valid and reliable results for improving education.
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Skill: Knowledge

29) According to the Point/Counterpoint discussion in Chapter 1, the following statement is true about what kind of research should guide education
A) Some researchers challenge the idea that educational research should be similar to research in medicine because humans in school settings are much too complex and function in frequently changing social environments.
B) Researchers agree educational research should be based on experimental trials, similar to medical studies.
C) Most researchers agree children in schools are over studied and too much research in taking place in school settings.
D) Most educational researchers agree teaching is an art and cannot be based on scientific research.

Answer: A

Explanation: A) David Olson (2004), Patti Lather (2002), and David Berliner (2004) are a few Educational Researchers who challenge the idea that educational research should be similar to research in medicine.

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30) According to Woolfolk, over time theories
A) have returned to the core ideas set forth years ago by Sigmund Freud.
B) have become less important in educational research and practice.
C) have become more systematic and scientific.
D) are less scientific compared to ten years ago.

Answer: C

Explanation: C) Theories are based on systematic and scientific research; they are the beginning and ending points of the research cycle.

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Completion Questions
1) Schools are evaluated based on test schools, which indicate if their students are making ________.
Answer: Adequately Yearly Progress (AYP)
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2) Many educators believe that the mark of an expert teacher is the ability to be ________
demonstrated by frequently asking “how am I doing?”
Answer: reflective
Page Ref: 11

3) When beginning teachers confront everyday classroom life, they often experience ________.
Answer: reality shock
Page Ref: 11

4) The study of the processes of teaching and learning is the focus of the discipline of ________.
Answer: educational psychology
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5) The type of research that attempts to record what happens in classrooms without
attempting to manipulate any variables is called _______ research.

Answer: descriptive

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6) A researcher who becomes a working member of a class over a period of time in order to record and gain understanding of the class dynamics is a(n) _______.

Answer: participant observer

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7) Research that is designed to determine the relations between two variables is a(n) _______ study.

Answer: correlational

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8) The type of research that attempts to establish cause and effect relationships is a(n) _______ study.

Answer: experimental

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9) Each person is given an equal opportunity to be in a treatment or control group by means of _______ sampling.

Answer: random
10) Findings considered statistically unlikely to have occurred by chance are described as ________.  Answer: significant

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11) Broad frameworks that attempt to explain relationships between sets of variables are called ________.
   Answer: theories

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12) When findings in a given area repeatedly support the same conclusion, a(n) ________ can be derived.
   Answer: principle

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True/False Questions

1) Sanders and River's (1996) research shows that the effects of good teaching produce
additional achievement gains for lower-achieving students.

Answer: TRUE

Explanation: Researchers have found the effects of good teaching are cumulative and residual and have the most benefits for lower-achieving students.

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2) As teachers' experience grows, they tend to become more likely to judge their success by their students' successes.

Answer: TRUE

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3) Rigorous scientifically based research has been through a review by a journal or panel of experts.

Answer: TRUE

Explanation: Reliable and valid results come from studies in which an independent group of experts review and evaluate the research question, methodology, and results.

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4) The major concern of new teachers is that their knowledge of their subjects is limited.

Answer: FALSE

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5) Negative correlations are typically weaker than positive correlations.
Answer: FALSE
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6) A correlational study is a specific type of descriptive research.
Answer: TRUE
Page Ref: 14

7) Correlations provide a basis for making cause-effect interpretations.
Answer: FALSE
Page Ref: 15

8) A key element in a research experiment is random assignment of participants to groups.
Answer: TRUE
Page Ref: 15

9) A statistically significant result in experimental research indicates that the result is a true finding.
Answer: FALSE
10) Principles are the product of consistency in research findings over time.
Answer: TRUE

11) A theory is an explanation of occurrences in a given field.
Answer: TRUE

12) According to Woolfolk, there are three theories available today to explain human development, motivation, and learning.
Answer: FALSE

13) A correlational study is useful for helping to understand if one event causes another event to occur.
Answer: FALSE

14) If a statistically significant difference is found between the math scores of two
groups, we can conclude the difference was due to a chance occurrence.

Answer: FALSE

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Short Answer Questions

1) Discuss the problems or issues that most concern beginning teachers today. Which of those concerns would be the most important to you personally? Explain your choice(s).

Answer: New teachers may worry about their teaching skills, being liked by peers and students, making a good impression, and basically surviving. Specific concerns are maintaining discipline, motivating students, accommodating individual differences, evaluating students, and dealing with parents.

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2) Explain how principles and theories are derived. Discuss how knowledge of a theory (e.g., classroom management) can be helpful to a classroom teacher.

Answer: Principles come from seeing patterns in situations or research findings. For example a teacher may derive a principle after noticing the effect of a specific classroom management strategy on student achievement. A theory is a teacher's explicit explanation about a phenomenon. For example, a teacher might development a prediction about why the classroom management impacts student
achievement. Principles help in solving specific problems, whereas, theories provide a more broad framework for deriving new solutions to problems.

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3) Discuss the purposes and procedures of the discipline of educational psychology today. What are the interests of educational psychology with regard to theory vs. application and learning vs. teaching?

Answer: Educational psychology is concerned primarily with (a) understanding the processes of teaching and learning and (b) developing ways to improve these processes. Educational psychologists are interested in both learning and teaching. They recognize the distinction between learning as it is researched in the laboratory and teaching as it takes place in actual classroom settings. For this reason, they advocate testing the validity of learning theories outside the laboratory.

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4) Differentiate between descriptive and experimental research orientations with regard to purpose, methods, and the interpretation of results.

Answer: Descriptive research CANNOT show cause-and-effect relationships; it does NOT involve a change or treatment, and it uses observation to characterize
things as they exist. Relationships between variables are described by correlations. Experimental research involves randomization and use of a dependent variable (outcome) and independent variable (treatment). Experimental research may indicate cause-and-effect relationships, for example, would provide a teacher with directions or basic guidelines for how to react to different problems that occur. [The theory would not, however, dictate specific solutions, because every situation is unique.]

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5) If a teacher wanted to collaborate with a researcher to better understand why one student was having difficulty adding two fractions, would you recommend they use an experimental design or conduct a microgenetic investigation?

Answer: A microgenetic study would allow the research team to analyze what strategy the student used to try to add two fractions. The research might observe the student trying to solve the math problem, interview the student about his or her strategies, and examine in careful detail the student's notes and submitted work. As noted by Woolfolk, the student's behavior would be "put under a microscope".

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Case Studies
Jill received her Bachelor of Arts Degree in education in June and will be meeting her first class of second graders tomorrow at Briarview Elementary School. Her classroom will be adjacent to one assigned to Ms. Ferguson, a veteran first-grade teacher considered to be one of the most knowledgeable and skilled in the district. Ms. Ferguson will be starting her tenth year of teaching.

1) What are likely to be Jill's major concerns about her first months of teaching? Explain your choices.

Answer: As a novice teacher, Jill's primary concerns will most likely be related to classroom management. She may also be concerned about motivating students and teaching students with individual differences. Knowing how to evaluate student work and dealing with parents may be issues of concern for Jill.

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2) Discuss how the two teachers might differ in using achievement results as information about (a) student learning and (b) their own success in teaching.

Answer: Compared to Jill, Ms. Ferguson is more likely to use information about student achievement to evaluate the extent to which her new teaching methods or
materials allowed her to meet her instructional objectives. Whereas Jill might view her own success as a well-disciplined classroom environment, Ms. Ferguson is likely to view her own teaching success in relation to the achievements of her students.

Page Ref: 11-12

Ninth-grade teachers at Farmington Junior High School are interested in knowing whether using cooperative learning will increase student understanding of mathematics.

They would like to conduct a research study to investigate whether this is truly the case.

3) Design an experimental study (basic elements, not detailed procedures) that could be used to answer the teachers' research question.

Answer: The researcher would randomly assign students to either the cooperative learning condition or the traditional lecture condition. Thus, the teacher is changing his or her approach and will note the results from the change. In this case, the change or "treatment" is the inclusion of cooperative learning. The traditional lecture group serves as the "control" condition. The researchers' goal is to compare the mathematical achievement scores from students in the cooperative learning condition with scores from students in the traditional lecture condition. If
a difference between the two groups exists, then the researcher explores whether
or not the difference is more than one might expect by chance (i.e., significance
testing).

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4) How might descriptive research also be used in the above study? Describe an
example.

Answer: The researcher would collect many types of information regarding the
characteristics and background of the students in the cooperative learning
situation. The researcher might report students' mathematics scores by gender,
etnicity, number of previous math courses, and students' level of math anxiety.
The researcher could describe in detail the distribution of scores (how many
earned very high or low math scores).

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5) One teacher speculates that students who are more social than others are likely
to have
greater appreciation of the cooperative learning method. What research approach
should
be used to answer this question? Use an example to illustrate an application of this
type
of research.
Answer: To answer this question the researcher would want to utilize a correlational design for the research project. The researcher could report how often and how much students socialize with other students during recess. Having a measure of social interaction, the research would explore whether mathematics scores for students in a cooperative learning setting relates to students' level of social ability. The hypothesis may be that students who are highly social will also have math test scores when they are taught in a cooperative learning setting. If this were to be true, we would expect a high and positive correlation coefficient (perhaps +.70 or higher).

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6) Briefly describe a study that would support a causal interpretation of the results. Explain why your study could be a cause-effect study.

Answer: A teacher may hypothesize that students' increase in math scores is not due to the cooperative learning situation, but that it is more closely related to students' reading ability. In this example, students would be randomly assigned to a cooperative learning group or a traditional lecture setting. In addition, students would be randomly assigned to a reading condition. In one reading condition the students had no additional reading assignments, while in the other condition students were required to read at least two books per week at home. Thus, the researcher can explore whether the cause of the difference in math scores is due to
the teaching condition (cooperative learning or traditional lecture) or to the difference in reading.

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