BEFORE YOU READ . . .

The purpose of this chapter, *Educational Psychology: A Foundation for Teaching*, is to provide you with a basis for understanding effective teaching by learning about educational psychology. Think of educational psychology as the accumulated knowledge, wisdom, and seat-of-the-pants theory that every teacher should possess to solve the daily problems of teaching in an intentional and intelligent way. Below is a list of topics that you will learn about in this chapter:

*Educational Psychology* describes good teachers as those who possess subject matter knowledge and pedagogical knowledge (teaching “know how”) that they combine with common sense to make sound decisions about classroom events. Good teachers are intentional teachers, which means they do things for a reason, on purpose.

*Educational Psychology* provides teachers with a research-based understanding of learners, learning, and teaching. Research shapes educational practices, policies, and programs as well as values, attitudes, and beliefs.

*Educational Psychology* has taught us that good teachers use quantitative and qualitative research findings to guide their instruction. Experimental, correlational, descriptive, and action research designs are used in educational psychology to answer important questions about teaching and learning.

CHAPTER OUTLINE

WHAT MAKES A GOOD TEACHER?

A. Knowing the Subject Matters (but So Does Teaching Skill)
B. Mastering the Teaching Skills
C. Can Good Teaching Be Taught?
D. The Intentional Teacher

WHAT IS THE ROLE OF RESEARCH IN EDUCATIONAL PSYCHOLOGY?

A. The Goal of Research in Educational Psychology
B. The Value of Research in Educational Psychology to the Teacher
C. Teaching as Decision Making
D. Research + Common Sense = Effective Teaching
E. Research on Effective Programs
F. Impact of Research on Educational Practice

WHAT RESEARCH METHODS ARE USED IN EDUCATIONAL PSYCHOLOGY?

A. Experiments
B. Correlational Studies
C. Descriptive Research
D. Action Research
AS YOU READ . . .

WHAT MAKES A GOOD TEACHER?

1. The first section of Chapter 1 attempts to answer the question: What makes a good teacher? In the space provided below, create a list of personal and professional qualities that you believe make someone a good teacher. When you finish your list, place a check next to the characteristics that can be taught. Two examples have been provided for you.

<table>
<thead>
<tr>
<th>What Makes a Good Teacher?</th>
</tr>
</thead>
<tbody>
<tr>
<td>sense of humor</td>
</tr>
<tr>
<td>intentionality</td>
</tr>
</tbody>
</table>

WHAT IS THE ROLE OF RESEARCH IN EDUCATIONAL PSYCHOLOGY?

2. How can knowing the simple formula research + common sense = effective teaching help you to be a more intelligent consumer of educational psychology research? Make a list of recommendations to show how you can put this formula into practice.

recommendation #1:

recommendation #2:

recommendation #3:

recommendation #4:

recommendation #5:

recommendation #6:
3. The final section of Chapter 1 addresses the question: What research methods are used in educational psychology? Sometimes educational psychologists answer questions by applying treatments, then studying the effects on one or more variables. Other times they look at relationships between variables or describe something of interest. There is no one best or most useful approach to research; any method can be useful when applied to the right set of questions. Use the following chart to make comparison among the research types.

<table>
<thead>
<tr>
<th>Goals</th>
<th>Experimental</th>
<th>Correlational</th>
<th>Descriptive</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Findings</td>
<td></td>
<td></td>
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<tr>
<td>Advantages</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td></td>
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</tr>
</tbody>
</table>
4. Perhaps the most frequently used research method in educational psychology is the correlational study. It involves the study of variables to see whether they are related. In the boxes on the chart below, plot a positive correlation, no correlation, and a negative correlation.

Three Types of Correlation

- **Positive Relationship**: In a positive correlation, an increase in one variable is associated with an increase in another variable.

- **No Relationship**: No correlation exists when changes in one variable are not associated in any systematic way with changes in the another variable.

- **Negative Relationship**: In a negative correlation, an increase in one variable is associated with a decrease in another variable.

<table>
<thead>
<tr>
<th>Variable 1</th>
<th>Variable 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>Variable 1</td>
<td>Positive Relationship</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable 1</th>
<th>Variable 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>Variable 1</td>
<td>No Relationship</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable 1</th>
<th>Variable 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>Variable 1</td>
<td>Negative Relationship</td>
</tr>
</tbody>
</table>
5. Write a definition for each of the following terms:

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>educational psychology</td>
<td></td>
</tr>
<tr>
<td>pedagogy</td>
<td></td>
</tr>
<tr>
<td>intentionality</td>
<td></td>
</tr>
<tr>
<td>teacher efficacy</td>
<td></td>
</tr>
<tr>
<td>critical thinking</td>
<td></td>
</tr>
<tr>
<td>principle</td>
<td></td>
</tr>
<tr>
<td>theory</td>
<td></td>
</tr>
<tr>
<td>treatment</td>
<td></td>
</tr>
<tr>
<td>variable</td>
<td></td>
</tr>
<tr>
<td>experiment</td>
<td></td>
</tr>
<tr>
<td>random assignment</td>
<td></td>
</tr>
<tr>
<td>laboratory experiment</td>
<td></td>
</tr>
<tr>
<td>internal validity</td>
<td></td>
</tr>
<tr>
<td>randomized field experiment</td>
<td></td>
</tr>
<tr>
<td>experimental group</td>
<td></td>
</tr>
<tr>
<td>control group</td>
<td></td>
</tr>
<tr>
<td>external validity</td>
<td></td>
</tr>
<tr>
<td>single-case experiment</td>
<td></td>
</tr>
<tr>
<td>correlational study</td>
<td></td>
</tr>
<tr>
<td>positive correlation</td>
<td></td>
</tr>
<tr>
<td>negative correlation</td>
<td></td>
</tr>
<tr>
<td>uncorrelated variables</td>
<td></td>
</tr>
<tr>
<td>descriptive research</td>
<td></td>
</tr>
<tr>
<td>action research</td>
<td></td>
</tr>
</tbody>
</table>
SELF-CHECK

DIRECTIONS: Below are questions related to the main ideas presented in the chapter. Correct answers or typical responses can be found at the end of this study guide chapter.

1. Write a paragraph that begins with the following topic sentence: Intentional teachers do things on purpose.

2. Define and provide an example of a principle, a law, and a theory.

3. Match the type of research listed with the advantage it offers.

   ______ laboratory experiment
   ______ randomized field experiment
   ______ single-case experiment

   A. has high internal validity and rigorous controls
   B. involves observation of one individual’s behavior over time
   C. involves frequent assessments over time

4. Match the following types of experiments with the situations that illustrate each. (A research type may be used more than once or not at all.)

   ______ observing and noting how preschoolers play
   ______ recording the number of times a student misbehaves before, during, and after a special reinforcement program
   ______ determining the relationship between reading ability and math achievement
   ______ evaluating a new teaching technique for a short period of time under highly controlled conditions

   A. randomized field experiment
   B. descriptive research
   C. laboratory experiment
   D. correlational study

5. A teacher wants to know if a new teaching strategy is more effective than the traditional one she uses in several tenth grade composition classes. She selects two classes that are the same in ability and uses the new approach in one class while continuing with the traditional approach in the other class. She then compares compositions written by each group. What type of research is the teacher conducting?

   A. experimental
   B. correlational
   C. descriptive
6. In a hypothetical school-wide correlational study, the number of days a student was absent during a marking period on the average was shown to have a negative correlation with the student's class ranking from one marking period to the next. This negative correlation would mean that

A. absenteeism causes lower class rankings.
B. the study does not have internal validity.
C. class rankings tend to rise as absenteeism decreases.
D. class rank decreases absenteeism.

7. A type of descriptive research that involves observation in a social setting over an extended period of time is called

A. a randomized field experiment.
B. a correlational study.
C. an ethnographic study.

8. Describe the relationship between subject matter knowledge and pedagogy.

9. Explain why teachers need knowledge of research on teaching as well as common sense.

10. Why do teachers need to study educational psychology?
AFTER YOU READ . . .

PRACTICE TEST

DIRECTIONS: Each chapter heading from the text is listed below and followed by a series of related questions worth a total of ten points. Respond to each question, check your answers with those found at the end of the study guide chapter, then determine your score. Consider nine points per heading to be mastery.

WHAT MAKES A GOOD TEACHER?

True or False

1. (1 point) __________ According to the text author, personal characteristics such as leadership, humor, and enthusiasm are only part of what makes someone an effective teacher.

2. (1 point) __________ Effective teaching is a matter of one person with more knowledge transmitting that knowledge to someone with less.

3. (1 point) __________ The connection between what the teacher wants students to know and what the students actually learn is called pedagogy.

Multiple Choice

4. (1 point) __________ Teachers who continually experiment with strategies to solve problems of instruction and then observe the results of their actions to see if they were effective possess which of the following attributes?

   A. subject matter knowledge
   B. intentionality
   C. charisma
   D. momentum

5. (1 point) __________ Teachers who constantly upgrade and examine their teaching practices, read and attend conferences to learn new ideas, and use their students’ responses to guide their instruction are

   A. tenured teachers.
   B. critical thinkers.
   C. members of a teachers’ union.
   D. experienced teachers.

Short Answer/Essay

6. (2 points) Explain how good teaching can be taught.
7. (3 points) Describe an intentional teacher.

WHAT IS THE ROLE OF RESEARCH IN EDUCATIONAL PSYCHOLOGY?

True or False

8. (1 point) __________ A goal of educational psychology research is to carefully examine questions about teaching and learning using objective methods.

9. (1 point) __________ Principles and theories from educational psychology research are interpreted in similar ways by different individuals, making progress in the field steady and evenly paced.

Matching

10. (3 points) __________ set of related relationships that explain broad aspects of an area of study

__________ ideas that have been thoroughly tested and found to apply to a wide variety of situations

__________ an explanation of the relationship between factors

A. laws
B. principles
C. theories

Multiple Choice

11. (1 point) __________ Which of the following ideas about teaching can be supported by educational psychology research?

A. Schools that spend more money per pupil will produce higher achieving students than schools that spend less.

B. If students are assigned to classes according to their ability, the resulting narrow range of abilities in a class will let the teacher adapt the instruction to the students' needs, resulting in higher achievement.

C. Scolding students in order to improve behavior may work for many, but for some students it is a reward.

D. Competition among students, not cooperation, is most effective in terms of achievement.
12. (1 point) When you combine objective research with common sense, the result is

A. effective teaching.
B. a cause and effect relationship.
C. inconsistent student achievement.
D. decreased quality in decision making.

13. (1 point) Which of the following statements regarding teacher decision making is false?

A. Sound decision making depends on the situation within which a problem arises.
B. Sound decision making depends on the objectives the teacher has in mind.
C. It is necessary to combine principles and theories from educational psychology with common sense when making decisions.
D. Principles and theories from educational psychology can be considered free of context.

Short Answer/Essay
14. (2 points) Explain how educational research affects educational practice.

WHAT RESEARCH METHODS ARE USED IN EDUCATIONAL PSYCHOLOGY?

15. (3 points) Matching

<table>
<thead>
<tr>
<th>Type of Research</th>
<th>A. experimental</th>
<th>B. correlational</th>
<th>C. descriptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. type of research that includes surveys, interviews, or observations that take place in a social setting</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>B. type of research where special treatments are created and their effects analyzed</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>C. type of research where relationships between variables, as they naturally occur, are analyzed</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 1

Educational Psychology: A Foundation for Teaching

Multiple Choice

16. (1 point) One advantage of this type of experimental research is a high degree of control over all factors involved. One disadvantage is that the artificial conditions under which the experiment is conducted may yield results that have little real-life relevance. What type of research is being described in the above statements?

A. laboratory experiment  
B. randomized field experiment  
C. single-case experiment

17. (1 point) A special education teacher collects data on the number of times a student's hand-raising behavior occurs over a period of several days after a new assertiveness program has been implemented. What type of research is being described?

A. laboratory experiment  
B. randomized field experiment  
C. single-case experiment

18. (1 point) Which of the following experimental research types attempts to control all factors except those created by the treatment, while simultaneously remaining relevant to real life?

A. laboratory experiment  
B. randomized field experiment  
C. single-case experiment

19. (1 point) A researcher found that students who scored high on a test of reading achievement also scored high on a self-esteem inventory. This means that reading achievement and self-esteem are

A. negatively correlated.  
B. positively correlated.  
C. unrelated.

20. (1 point) Which of the following examples depicts a negative correlation?

A. Students who studied for the greatest length of time prior to a math test received the highest scores.  
B. The amount of time students studied for a math test was unrelated to the scores they received.  
C. Students who were absent the least prior to a math test received the highest scores.
Short Answer/Essay

21. (2 points) Explain the difference between causal and correlation relationships.

Now check your answers and total your points. Answers are found at the end of the study guide chapter.

SCORING | POINTS NEEDED FOR MASTERY | POINTS RECEIVED
--- | --- | ---
I. WHAT MAKES A GOOD TEACHER? | 9 | 
II. WHAT IS THE ROLE OF RESEARCH IN EDUCATIONAL PSYCHOLOGY? | 9 | 
III. WHAT RESEARCH METHODS ARE USED IN EDUCATIONAL PSYCHOLOGY? | 9 | 

12
SELF-CHECK ANSWERS  Chapter 1

1. Intentional teachers do things on purpose. They are critical thinkers who are able to problem solve and transform information from educational psychology into sound classroom practices.

2. Principles explain relationships between factors, such as the Premack Principle. Laws are simply principles that have been tested thoroughly and found to apply in a wide variety of situations, such as Thorndike’s Law of Effect. Theories are sets of related principles and laws that explain broad aspects of learning, behavior, and other areas of interest, such as Piaget’s theory of cognitive development.

3. A, C, B. Laboratory experiments have highly controlled conditions and internal validity. Randomized field experiments are conducted under realistic conditions and involve frequent assessments over time. Single-case studies make observations of a single individual or group over time.

4. B, A, D, C. Descriptive researchers simply seek to describe something of interest. Randomized field experiment researchers test practical treatments under realistic conditions. With correlational studies, the researcher studies variables as they are to see if they are related. Laboratory experiments exert a very high degree of control over all variables at the cost of relevance.

5. A. Experimental researchers create special treatments, then analyze the effects.

6. C. A negative correlation means that one variable increases (class rank) as a second variable decreases (absences).

7. C. Ethnography involves observation of a social setting over an extended period of time.

8. Subject matter involves what is taught (content). Pedagogy involves how subject matter is taught (teaching strategy or technique).

9. Making the right decisions depends on the context within which the problem arises, the objectives the teacher has in mind, and many other factors, all of which must be assessed in the light of common sense.

10. Educational psychology is the accumulated knowledge, wisdom, and seat-of-the-pants theory that every teacher should possess to solve in an intelligent fashion the daily problems of teaching.
CHAPTER 1

Educational Psychology: A Foundation for Teaching

PRACTICE TEST ANSWERS    Chapter 1

1. True; Leadership, humor, and enthusiasm are important personal characteristics of teachers. So are warmth, planning, hard work, self-discipline, a contagious love of learning, speaking ability, and a variety of other characteristics.

2. False; Effective teaching is not a simple matter of one person with more knowledge transmitting that knowledge to another.

3. True; Pedagogy is the link between what the teacher wants students to learn and what students actually learn.

4. B; Intentionality means doing things for a reason, on purpose. Intentional teachers are constantly thinking about the outcomes they want for their students and how each decision they make moves students toward those outcomes.

5. B; Expert teachers are critical thinkers who work to improve their teaching skills.

6. Good teaching has to be observed and practiced, but there are principles of good teaching that can be applied in the classroom, which teachers need to know.

7. Intentional teachers teach with a purpose in mind. They experiment with strategies to solve problems of instruction. They observe the results of their actions to see if they were effective. They constantly ask themselves whether each portion of their lesson was appropriate to students' background knowledge, skills, and needs; whether each activity or assignment was clearly related to a valued outcome; and whether each instructional minute was used wisely and well.

8. True; The goal of research in educational psychology is to examine obvious as well as less obvious questions, using objective methods to test ideas about the factors that contribute to learning.

9. False; The same facts and principles may be interpreted in different ways by different theorists, making progress slow and uneven.

10. C, A, B; Theories are sets of related principles and laws that explain broad aspects of learning. Laws are simply principles that have been thoroughly tested and found to apply to a wide variety of situations. Principles explain relationships between or among factors.

11. C; Many teachers believe that scolding students for misbehavior will improve student behavior. While this is true for many students, for others scolding may be a reward for misbehavior (attention from teacher and peers) and actually increase it.

12. A; Research + Common Sense = Effective Teaching.

13. D; Making the right decision depends on the situation within which the problem arises, the objectives the teacher has in mind, and a combination of research and common sense.

14. Educational research affects educational policies, professional development programs, and teaching materials.

15. C, A, B; Descriptive research includes surveys, interviews, or observations in a social setting. Experimental research creates special treatments and analyzes the effects. Correlational research looks at relationships between variables.
16. A; Laboratory experiments permit researchers to exert a high degree of control over all the factors involved in the study, but doing so makes it highly artificial.

17. C; Single-case experiments demonstrate the effects of a treatment on one person or on one group by comparing behavior before, during, and after treatment.

18. B; Randomized field experiments demonstrate the effects of a treatment under realistic conditions.

19. B; A positive correlation shows that as one set of variables increases (reading achievement scores), so does another set (self-esteem scores).

20. C; A negative correlation shows that as one set of variables increases (test scores), the other set decreases (absences).

21. Causal research demonstrates cause and effect relationships, while correlational research demonstrates relationships between variables.