# Chapter 1 Test Item File

Brett D. Jones

## Essentials of Educational Psychology

Big Ideas to Guide Effective Teaching

Sixth Edition

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### Chapter 1: Introduction to Educational Psychology

#### Chapter 1 Learning Outcome Quizzes

**Learning Outcome 1.1:** Effective teachers continually work to enhance their professional knowledge and skills.

**[Q1]**

Which one of the following examples best illustrates the use of *pedagogical content knowledge* in a classroom?

1. Whenever Ms. Miller observes one of her students bullying or in some other way disparaging a classmate, she insists that the guilty student write a heartfelt letter of apology to the victim.
2. When talking with his students on the first day of the school year, Mr. Moore explains why it is so important for them to complete their homework assignments every night.
3. To help make history “come alive” for his students, Mr. Perez sometimes has his students role-play particular events, with different students playing different historical figures. [correct]
4. When Ms. Svenson writes her lesson plans for the following week, she makes sure that she includes at least 15 minutes of student practice time in each lesson.

**[Feedback for Answer Choice 1]**

Although this strategy might potentially reduce bullying behaviors in some students, it doesn’t necessarily help students acquire new knowledge and skills related to classroom subject matter.

**[Feedback for Answer Choice 2]**

His explanation might potentially increase homework completion rates for some students, especially if the teacher identifies *reasons* why doing homework can help students learn and achieve. However, it is at best only a vague, general classroom strategy that doesn’t target any particular academic topics or skill areas.

**[Feedback for Correct Answer 3]**

Pedagogical content knowledge comprises knowledge of strategies for teaching particular academic topics and skills. Here the teacher is using a discipline-specific strategy-role-playing historical events-for helping students acquire a better understanding of certain aspects of history.

**[Feedback for Answer Choice 4]**

In some instances, well-constructed practice exercises can help students acquire new knowledge and skills. However, as described here, this strategy is too general to qualify as pedagogical content knowledge, which is specifically related to teaching particular academic topics and skills.

**[Q2]**

Which one of the following four alternatives best illustrates *inclusion* as educators use the term?

1. Ashley, who has a severe and highly contagious case of hepatitis, is home-schooled by a special tutor provided by the school district.
2. Brian, a sixth grader who has exceptionally poor reading skills, is in a class especially designed for students with learning disabilities.
3. Carter, a 10-year-old with significantly delayed cognitive development, spends most or all of each day with a special education teacher, but he occasionally joins a regular second-grade class for art or music.
4. Darla, who is blind, is in the regular classroom for most or all of each school day; she has her reading materials tape-recorded or printed in Braille. [correct]

**[Feedback for Answer Choice 1]**

Ashley is not currently a member of a general education classroom-that is, a classroom that includes nondisabled students and (if applicable) one or more students with disabilities.

**[Feedback for Answer Choice 2]**

Brian is not currently a member of a general education classroom-that is, a classroom that includes nondisabled students and (if applicable) one or more students with disabilities.

**[Feedback for Answer Choice 3]**

Although Carter occasionally joins a “specials” class, he does not regularly participate in a general education classroom.

**[Feedback for Correct Answer 4]**

Darla is a genuine member of a general education classroom, with specific adaptations to address her special educational needs.

**[Q3]**

Which one of the following examples is the best illustration of *high teacher self-efficacy*?

1. Ms. Smith feels confident that she can help struggling students master important concepts and skills. [correct]
2. Ms. Emory thinks that some of her fellow faculty members are using “old-fashioned” teaching methods that research has revealed to be ineffective in helping students learn.
3. Mr. Evans takes pride in his own active involvement in local governmental decision-making groups outside of school.
4. When reflecting back after his first year of teaching, Mr. Walton worries that his lessons and activities may not have been sufficiently challenging for his high-ability students.

**[Feedback for Correct Answer 1]**

The concept of *self-efficacy* refers to one’s self-confidence that one is capable of executing certain behaviors or reaching certain goals. Here the teacher is showing confidence that she can help her struggling students.

**[Feedback for Answer Choice 2]**

This teacher’s belief, whether accurate or not, does not specifically reflect her beliefs about her own teaching effectiveness.

**[Feedback for Answer Choice 3]**

This teacher possibly has high self-efficacy regarding his contributions to his local community, but we know nothing about his self-efficacy in the classroom.

**[Feedback for Answer Choice 4]**

This teacher’s self-reflections are to be commended, but we have no information about his level of confidence in adjusting his instructional strategies to meet high-ability students’ needs in subsequent years.

**[Q4]**

Which one of the following alternatives best illustrates a *professional learning community*?

1. Several teachers at a middle school travel together to a regional professional teachers’ conference, where they split up and each attend sessions about topics about which they are each personally interested.
2. Different teachers in any single school district typically have differing salaries, depending on both (a) how many college degrees and specialized credentials they have earned and (b) how many years of teaching experience they have accumulated.
3. A high school has a large, well-furnished teachers’ lounge where teachers can take a break during open times in their class schedule; here they can grab a snack or cup of coffee and relax before their next class or other official duties.
4. Teachers at an elementary school agree on the instructional goals that students should ideally achieve at each grade level, and teachers of any particular grade will regularly communicate and coordinate their efforts. [correct]

**[Feedback for Answer Choice 1]**

These teachers are pursuing their unique interests; there is no mention of any cross-communication about what they are learning at the conference or how they might coordinate their teaching efforts after returning to their classrooms.

**[Feedback for Answer Choice 2]**

There is no evidence to indicate that the teachers share common goals for students’ learning or collaborate in a school- or district-wide effort to enhance students’ academic development and achievement.

**[Feedback for Answer Choice 3]**

Teacher lounges are excellent places where teachers can work together as part of a professional learning community. In this situation, however, there is no evidence that teachers are communicating with one another or collaborating in any way.

**[Feedback for Correct Answer 4]**

Professional learning communities typically involve common visions for students’ learning and achievement, as well as regular cross-communication and collaboration among faculty members.

**[Q5]**

Which one of the following alternatives best illustrates the key elements of *action research*?

1. In an effort to assess how effectively she is working with individual students, Ms. Borelli asks a professional colleague to sit and observe her class for one entire school day. Every 10 minutes, the colleague makes notes on a seating chart regarding (a) which students are on task, (b) what activity each student is engaged in, and (c) where Ms. Borelli herself is located in the classroom.
2. Mr. Nguyen’s class records show that some of his students are completing fewer than half of their nightly homework assignments. After reading a few journal articles about effective versus ineffective homework tasks, he begins to shorten his homework assignments and make the tasks more inherently enjoyable. When he reviews his class records a month later, he finds that most students are now regularly doing their homework. [correct]
3. Mr. Baxter has become quite annoyed with the many announcements that are broadcast over the school’s loudspeaker system each day. He reads as much research literature as he can find about the negative impacts of interruptions on student’s classroom achievement, integrates what he has learned into a 10-page summary, and delivers it to the school principal. A week later, the principal brings the issue up at a school faculty meeting and asks for ideas about how her office might better communicate important information to students.
4. In her teacher education program, Ms. Dennehy has previously learned that class discussions can be effective only to the extent that all students actively participate in them. Now, as a first-year teacher, she sees that some students rarely have anything to say and that two or three of them seem to “zone out” of discussions altogether. To get these students more actively engaged in the topic at hand, she institutes a new system in which she asks all of her students to each make at least one substantive comment or ask a relevant question during every class discussion.

**[Feedback for Answer Choice 1]**

In this alternative, two essential steps of action research are missing: The teacher doesn’t analyze and interpret the data, nor does she implement an action plan based on the data she has obtained.

**[Feedback for Correct Answer 2]**

The teacher takes all of the prescribed steps in action research: He (a) identifies an issue (homework completion), gathers preliminary information (by reading relevant articles), and implements a strategy for addressing the issue; (b) collects data (he has already done this by keeping records of students who do and don’t do their homework); (c) determines that students’ homework completion rates are unsatisfactory; and (d) implements his new action plan (by shortening the assignments and making the tasks more enjoyable).

**[Feedback for Answer Choice 3]**

As described here, the teacher’s actions don’t reflect action research: There is no collection, analysis, or interpretation of data, nor is any action plan in place.

**[Feedback for Answer Choice 4]**

Although the teacher has identified an area of focus (participation in class discussions) and implemented a new strategy (an “action plan” of sorts), she has only vague, subjective impressions of her students’ behavior. She does not collect or analyze data that can help her determine whether her new strategy is truly effective in increasing student participation.

**Learning Outcome 1.2:** Effective teachers use research findings and research-based theories to make decisions about instructional strategies, classroom management, and assessment practices.

**[Q1]**

Which one of the following examples illustrates the use of *both* quantitative and qualitative data?

1. This week Ms. Musacchio’s four sixth-grade science classes have been studying our solar system. On Monday, she taught her two morning classes a mnemonic for remembering the eight planets: “My very educated mother just served us noodles” (“My” for Mercury, “very” for Venus, etc.). But in her afternoon classes, she neglected to include the mnemonic in her lesson. The following day, she discovered that more students in her morning classes could remember the eight planets in correct order than was true for students in her afternoon classes.
2. On the first day of the school year, Mr. Vickers makes a concerted effort to get to know a little bit about the lives of his new group of fourth graders. He asks his students a series of questions (e.g., “How many of you have brothers or sisters?” and “How many of you have a grandparent living with you at home?”) and counts the number of hands raised after each question. Later that morning, he asks his students to write a short description of the kinds of things that they (a) especially like doing at school and (b) seem to have trouble with at school. That evening he reviews the information he has gathered and hopes he can integrate some of this information into his lessons over the next few weeks. [correct]
3. Mr. Hughes’s middle school students are packed into his tiny classroom like sardines. He wants to discourage cheating in such tight quarters, so when he develops his first weekly quiz, he constructs two different forms of the quiz. On Form A, the easiest items appear first, whereas on Form B, the most difficult items appear first. Mr. Hughes distributes the two forms of the quiz to his students in a random fashion. As he is scoring the quizzes that night, he discovers that students who had the easiest items at the beginning have done better on the quiz overall than students who had the most difficult items first.
4. High school principal Ms. Verbano wants to find out whether students who participate in after-school activities (e.g., basketball team, service club, yearbook) achieve at higher or lower levels than students who leave school as soon as their final class is over. She obtains a list of all students who are members of one or more athletic teams and/or school clubs and discovers that, on average, they have higher grade-point averages (G P As) than their less-involved peers.

**[Feedback for Answer Choice 1]**

She has only looked at and compared the numbers (quantities) of successful students in her four classes.

**[Feedback for Correct Answer 2]**

The numbers of hands raised in response to each question are quantitative data. The students’ written compositions provide qualitative data that cannot necessarily be reduced to numbers.

**[Feedback for Answer Choice 3]**

Quiz scores are quantitative data. For your information, his findings are consistent with findings in published research studies: Students tend to do better on classroom assessments when easier items come before more difficult, challenging ones.

**[Feedback for Answer Choice 4]**

Students’ G P As are numbers. Also, students’ participation (or lack thereof) in extracurriculars is an either-or thing that can be easily reduced to a number (e.g., “1” for yes, “0” for no). The principal isn’t looking at the *quality* of either variable.

**[Q2]**

Which one of the following examples best illustrates what data collection might involve in a strictly *descriptive study*?

1. In a preliminary effort to understand eight-year-old Jon’s chronically poor performance during independent seatwork time, a school counselor first wants to determine the number of times that Jon seeks the teacher’s attention during independent work. One morning, the school counselor spends two hours observing Jon in his classroom during independent work and counts the number of times that he (a) raises his hand and (b) gets out of his seat to be near the teacher. [correct]
2. A school superintendent discovers that different middle schools in her district give students different amounts of time for physical education (P E) classes each week. At the end of the school year, she examines the relationship between the amount of time that the students at each school spent in P E classes each week and their end-of-year grades in literacy, math, science, and social studies.
3. In his lesson planning, a high school music teacher thinks of two distinctly different ways in which he might teach his students about major versus minor scales, and he wants to find out which way will better help his students understand and learn to recognize the two types of scales. For his first two (morning) classes he teaches the lesson one way, and for his second two (afternoon) classes he teaches it the other way. During all four classes he subjectively estimates the amount of time that students are paying attention and compares the times for the morning classes with the times for the afternoon classes.
4. A kindergarten teacher strongly believes in the importance of hands-on experimentation with concrete objects (e.g., building blocks, small plastic animals) as a means of helping her students acquire a basic understanding of numbers and basic arithmetic. At the beginning of the school year, she simply lets her students play with these objects in any way they choose. But a few weeks later, when she administers a short assessment task, the students’ scores indicate that they have made little or no progress in their comprehension of numbers. Accordingly, she begins to present simple problems for the students to solve using the objects (e.g., “If you have three red Legos and I give you two blue ones, how many Legos do you have altogether?”). When she subsequently readministers the assessment, she sees noticeable improvements in her students’ performance.

**[Feedback for Correct Answer 1]**

A descriptive study describes the situation. In this case, the counselor is documenting (i.e., describing) the frequency of Jon’s attention-seeking behavior.

**[Feedback for Answer Choice 2]**

A descriptive study simply describes the situation; it doesn’t examine relationships among variables. Here the superintendent is exploring the relationship between two variables: time in P E and end-of-year grades.

**[Feedback for Answer Choice 3]**

In his “study,” the teacher is informally trying to establish a relationship between teaching strategy and student attention, and he’s doing so only through his own subjective impressions. Descriptive studies only describe the current state of affairs-they aren’t intended to show relationships among variables. Please also note that virtually any descriptive study involving either qualitative or quantitative data would require a more in-depth, systematic collection of students’ behavior than this teacher obtains.

**[Feedback for Answer Choice 4]**

A descriptive study simply describes the situation; it doesn’t examine relationships among variables. Here, instead, we are seeing an attempt to identify a relationship between two variables: type of activity and student’s assessment scores. Please note, however, that the teacher fails to take into account other factors that might be underlying reasons for the improvement. Among other things, the teacher hasn’t taken into account the facts that (a) the children are now older and possibly more cognitively mature than they were a few weeks earlier, and (b) the children have become more familiar and comfortable with these objects than they were at the beginning of the school year.

**[Q3]**

Which one of the following examples best illustrates a *correlational study*?

1. In a preliminary effort to understand Jon’s chronically poor performance during independent seatwork time, a school counselor first wants to determine the number of times that Jon seeks the teacher’s attention during independent work. One morning, the school counselor spends two hours observing Jon in his classroom during independent work and counts the number of times that he (a) raises his hand and (b) gets out of his seat to be near the teacher.
2. A school superintendent discovers that different middle schools in her district give students different amounts of time for physical education (P E) classes each week. At the end of the school year, she examines the relationship between the amount of time that the students at each school spent in P E classes each week and their end-of-year grades in literacy, math, science, and social studies. [correct]
3. In his lesson planning, a high school music teacher thinks of two distinctly different ways in which he might teach his students about major versus minor scales, and he wants to find out which way will better help his students understand and learn to recognize the two types of scales. For his first two (morning) classes he teaches the lesson one way, and for his second two (afternoon) classes he teaches it the other way. During all four classes he subjectively estimates the amount of time that students are paying attention and compares the times for the morning classes with the times for the afternoon classes.
4. Students in a third-grade class are each using one of two versions of an online instructional program to learn how to pronounce English words with common spelling patterns (e.g., words with *-ight*, *-ough*, or *-tion*). Version A presents three examples of each spelling pattern; Version B presents six examples of each one. The students have been randomly assigned to one of two versions of the program. The students using Version B can subsequently spell and pronounce more words correctly than those in Version A. However, students in both groups have trouble with exceptions (e.g., the words *eight* and *straight* aren’t pronounced the same way that *right* and *might* are pronounced, even though all four words end in *-ight*).

**[Feedback for Answer Choice 1]**

At this point, the counselor is only trying to get a sense of how often Jon seeks attention. The counselor isn’t yet trying to identify any relationship between Jon’s attention-seeking behavior and any other factor in the classroom.

**[Feedback for Correct Answer 2]**

The superintendent finds a relationship (correlation) between time in P E classes and end-of-year grades. She does not have evidence to suggest that more P E times *causes* higher academic achievement, however, making this a correlational study rather than an experimental study.

**[Feedback for Answer Choice 3]**

Although the teacher is presumably trying to establish a relationship (correlation) between teaching strategy and students’ attention, his “data” (his own general impressions of students’ attention levels) are too vague and subjective to provide convincing evidence of an actual relationship.

**[Feedback for Answer Choice 4]**

Here we go beyond an examination of simple relationships to identity possible cause-and-effect-a fact that puts this particular study in different category of research.

**[Q4]**

Which one of the following examples best illustrates an *experimental study*?

1. In a preliminary effort to understand Jon’s chronically poor performance during independent seatwork time, a school counselor first wants to determine the number of times that Jon seeks the teacher’s attention during independent work. One morning, the school counselor spends two hours observing Jon in his classroom during independent work and counts the number of times that he (a) raises his hand and (b) gets out of his seat to be near the teacher.
2. A school superintendent discovers that different middle schools in her district give students different amounts of time for physical education (P E) classes each week. At the end of the school year, she examines the relationship between the amount of time that the students at each school spent in P E classes each week and their end-of-year grades in literacy, math, science, and social studies.
3. In his lesson planning, a high school music teacher thinks of two distinctly different ways in which he might teach his students about major versus minor scales, and he wants to find out which way will better help his students understand and learn to recognize the two types of scales. For his first two (morning) classes he teaches the lesson one way, and for his second two (afternoon) classes he teaches it the other way. During all four classes he subjectively estimates the amount of time that students are paying attention and compares the times for the morning classes with the times for the afternoon classes.
4. Students in a third-grade class are each using one of two versions of an online instructional program to learn how to pronounce English words with common spelling patterns (e.g., words with *-ight*, *-ough* or *-tion*). Version A presents three examples of each spelling pattern; Version B presents six examples of each one. The students have been randomly assigned to one of two versions of the program. The students using Version B can subsequently spell and pronounce more words correctly than those in Version A. However, students in both groups have trouble with exceptions (e.g., the words *eight* and *straight* aren’t pronounced the same way that *right* and *might* are pronounced, even though all four words end in *-ight*). [correct]

**[Feedback for Answer Choice 1]**

This is a descriptive study that does not involve identifying any relationship, let alone a cause-and-effect relationship.

**[Feedback for Answer Choice 2]**

This is a correlational study: There appears to be some sort of correlation between P E time and end-of-year grades, but from the evidence presented here, we cannot determine whether (a) increased P E time directly leads to (causes) higher academic achievement, (b) schools with high achievers also tend to be those that allot considerable time to P E classes, or (c) P E time and academic achievement are both the result of some other, still-undetermined variable.

**[Feedback for Answer Choice 3]**

Although the teacher is presumably trying to establish a relationship (correlation) between teaching strategy and students’ attention, his “data” (his own general impressions of students’ attention levels) are too vague and subjective to provide convincing evidence of an actual relationship, let alone a cause-and-effect relationship.

**[Feedback for Correct Answer 4]**

One variable (number of examples) appears to affect student’s learning in a cause-and-effect manner. Number of examples (the *independent variable*) is manipulated here, and students are randomly assigned to one of two treatment groups. Students’ subsequent abilities to spell and pronounce the words are the *dependent variables*, in that level of ability is in part the result of (and so depends on) the independent variable. Both versions of the program have a significant limitation, of course, in that students in both groups have difficulty with exception words.

**[Q5]**

Which one of the following conclusions can be drawn *only* from an *experimental* *study*?

1. “On average, older children think more logically than younger children do.”
2. “Students who actively try to make sense of classroom material remember it better than those who don’t.”
3. “Teachers can help students understand classroom material better when they occasionally stop to ask questions that students must answer.” [correct]
4. “Teachers who have higher expectations for their students have students who actually do achieve at higher levels.”

**[Feedback for Answer Choice 1]**

This conclusion can easily be drawn from a correlational study-more specifically, one that looks at a potential relationship between age level and logical thinking ability. The conclusion does not specially state that age in some way *causes* more logical thinking.

**[Feedback for Answer Choice 2]**

This conclusion points to a relationship between sense-making and memory for classroom subject matter; it does not specifically state that sense-making is the (causal) *reason* for better memory. (Note: Considerable research does exist to support the idea that sense-making efforts can, in fact, lead to better memory in a cause-and-effect manner, but as stated here, this conclusion does not make that causal connection.)

**[Feedback for Correct Answer 3]**

Here a clear causal connection is established: By occasionally asking questions, teachers can *help* and thereby enhance students’ understanding. In other words, question-asking is proposed to be the causal *reason* why students are learning more effectively.

**[Feedback for Answer Choice 4]**

This is merely a correlation between teacher expectations and student learning; the conclusion doesn’t state that higher expectations *per se* lead to (i.e., cause) better learning. Possibly some other variable is the underlying reason for *both* higher expectations and better learning.

**[Q6]**

Which one of the following statements is the most accurate one regarding *theories* in education and educational psychology?

1. They are often modified as new data emerge. [correct]
2. They have been irrefutably proven to be true.
3. They will eventually be replaced by brain-based explanations of how students learn.
4. Any theory can be used to explain virtually every instance of student learning and behavior.

**[Feedback for Correct Answer 1]**

Most theories continue to evolve over time as relevant new research findings are reported. Even in their “unfinished” states, however, they can be quite useful to educational practitioners.

**[Feedback for Answer Choice 2]**

Theories in virtually any area of study (physical sciences, social and psychological sciences, etc.) continue to evolve over time as new data come in. In fact, it is exceptionally difficult for scientists to *prove* something with 100% confidence; there is almost always at least a small shadow of doubt that things are not what they seem.

**[Feedback for Answer Choice 3]**

Although studies of the brain are becoming increasingly common in psychology and related disciplines, it is highly unlikely that a thorough understanding of brain structures and functions will tell us everything we need to know about how best to help students learn and achieve.

**[Feedback for Answer Choice 4]**

In education and educational psychology, as in most other disciplines, theories tend to be somewhat specific to particular phenomena. For example, a good theory of how and why some people are exceptionally creative problem-solvers will not necessarily shed much light on how teachers can best motivate their students to stay on task and do their homework every night, nor will a good theory of human motivation necessarily shed much light on the cognitive processes essential for creative problem-solving.

**Learning Outcome 1.3:** Students read, study, and learn more efficiently when they plan appropriately and use effective strategies.

**[Q1]**

Given what you have learned about the *spacing effect*, which one of the following strategies would be the best one for you to take when you know you have a classroom exam coming 14 days from now?

1. Clear your schedule of all nonessential activities on the day before the exam so that you can devote four to five hours to studying on that day.
2. Study for the exam once or twice during the first 10 days, and then give your brain a chance to “rest” during the 3-4 days immediately before the exam.
3. Study for it for short periods of time (e.g., 60 minutes) on at least five of those days, spread apart over the two-week period. [correct]
4. Divide the subject matter being tested into four to six discrete parts and proceed through each of those parts one by one during the first 10 days.

**[Feedback for Answer Choice 1]**

Cramming only on the last day before the exam-a strategy known as *massed practice*-tends to be less effective than distributed practice.

**[Feedback for Answer Choice 2]**

Although *distributed practice* (i.e., practice that is spread out over time) is generally more effective than massed practice, your brain is unlikely to benefit from a rest period in the days before the exam. It would be better to continue to study at regular intervals until the exam date.

**[Feedback for Correct Answer 3]**

This strategy reflects *distributed practice*, in which studying is spread out over a period of time.

**[Feedback for Answer Choice 4]**

Although *distributed practice* (i.e., practice that is spread out over time) is generally more effective than massed practice, your brain is *unlikely* to benefit from a four-day rest period in the days before the exam. A second concern is that the subject matter you are studying might be so intertwined that it wouldn’t be easily divided into discrete parts; also, a single study session for each part wouldn’t give you any distributed practice of the material in that part.

**[Q2]**

Two classmates in one of your classes confess to you that they haven’t been doing well on assessments in that class. They seek your advice on how they might study more effectively. Which one of the following pieces of advice would be best to give them?

1. “Before you begin a study session, decide what it is you want to accomplish during the session and work with your goal(s) in mind.” [correct]
2. “You’ll be able to study better if you go to a place where other people are apt to be around-say, in a dormitory lounge or in the bleachers at a gym.”
3. “Always study first thing in the morning if you can; nights are the worst times to study.”
4. “Be confident that if you work hard enough, you’ll be able to remember virtually 100% of what you’re studying.”

**[Feedback for Correct Answer 1]**

Setting concrete goals should enable them to focus their efforts in appropriate ways.

**[Feedback for Answer Choice 2]**

Such settings could offer too many distractions. It would be better to study in a quiet place, such as the library or a quiet coffee shop.

**[Feedback for Answer Choice 3]**

People vary regarding the times when they are most alert. For example, some students see themselves as “morning people,” whereas others could better be described as “night owls.”

**[Feedback for Answer Choice 4]**

Except in cases where an assessment will cover only a small amount of material (e.g., a list of 10 spelling words), it is probably unrealistic to expect oneself to remember *everything* one has been studying. By nature, human beings tend to sort through the vast amount of information they encounter every day and focus on things they believe will be most important to learn and remember over the long run.

**[Q3]**

When you study classroom material, it is generally a good idea to relate new information to what you already know and believe. In the process, which one of the following should you be sure to do?

1. Check to see whether any of the new ideas contradict your current personal beliefs about the topic you are studying. [correct]
2. Relate the new information primarily to your previous coursework; your personal experience and beliefs are often irrelevant to what you are studying.
3. Relate the new information primarily to your own personal experiences; material you have learned in previous coursework might unnecessarily confuse you.
4. First study each new piece of information as a separate entity that should be learned by itself; only after you have done this should you relate the information to other things you know and believe.

**[Feedback for Correct Answer 1]**

As the chapter’s OOPS test may have shown you, students’ existing beliefs about a topic may be only partially true; some beliefs may even be totally inaccurate. In addition to relating new information to things you already know (this might help you make better sense of the information), you should also seriously think about and revise things you currently believe that aren’t necessarily accurate-a process known as *conceptual change*.

**[Feedback for Answer Choice 2]**

Quite possibly, *both* your prior coursework and your own personal experiences can help you make sense of and better understand the new material you are studying.

**[Feedback for Answer Choice 3]**

Quite possibly, *both* your prior coursework and your own personal experiences can help you make sense of and better understand the new material you are studying.

**[Feedback for Answer Choice 4]**

The first step in this two-step process is unlikely to be helpful: It won’t help you in your sense-making efforts.

**[Q4]**

If you decided to create a *concept map* of some of this chapter’s contents, which one of the following would you do?

1. Create a separate flash card for each key concept (i.e., each concept that appears in blue font in the text); put both the concept and its definition (which you can find in the book’s glossary) on the card.
2. Write each of the chapter’s key concepts on a separate, bright-colored Post-It note, and post the notes in easy-to-see locations around your house, apartment, or dormitory room.
3. Make a list of important concepts in the chapter and create a three-day “to-do” schedule for yourself regarding when and where you will memorize the glossary definition of each concept.
4. Write key concepts and ideas on a sheet of paper and put a circle around each one, then draw lines between various pairs of concepts/ideas and briefly describe how the items in each pair are related. [correct]

**[Feedback for Answer Choice 1]**

Although flash cards can be helpful in some situations, they are unlikely to help you identify *interrelationships* among the concepts and ideas-an important step you must take to mentally *organize* what you are studying.

**[Feedback for Answer Choice 2]**

Although this strategy may continue to alert you to the names of new concepts, it won’t help you *make sense* of them in any way.

**[Feedback for Answer Choice 3]**

Memorizing textbook definitions won’t necessarily help you *make sense* of them and be able to remember and apply the concepts over the long run. In Chapter 2, you’ll learn more about the benefits of *meaningful learning* rather than the *rote learning* that memorization typically involves.

**[Feedback for Correct Answer 4]**

Yes, a concept map is a diagram that depicts both important concepts/ideas and various relationships among them. It can be an excellent strategy for helping you *organize* and make sense of what you are studying.

**[Q5]**

Which one of the following thoughts would be the best example of *elaboration* when you are studying this chapter’s section on research methods?

1. “Mixed methods research makes use of both quantitative and qualitative data.”
2. “The questionnaire about climate change I filled out last week might have been part of a descriptive study.” [correct]
3. “A researcher who conducts a quasi-experimental study doesn’t control for other possibly influential variables.”
4. “I have to be sure to remember that a correlational relationship doesn’t necessarily reflect cause and effect.”

**[Feedback for Answer Choice 1]**

This statement simply restates a fact presented in the chapter.

**[Feedback for Correct Answer 2]**

Here you are drawing from your recent experience with a questionnaire to generate a new example of the concept of *descriptive study*. In the process, you are adding to and embellishing on what you have learned about descriptive studies.

**[Feedback for Answer Choice 3]**

This statement simply restates a fact presented in the chapter.

**[Feedback for Answer Choice 4]**

Here you are simply reminding yourself about a point that the chapter makes about correlation versus causation.

#### Chapter 1 Application Exercises

**Application Exercise 1.1:** Designing an Action Research Project

**Big Idea 1.1: Effective teachers continually work to enhance their professional knowledge and skills.**

**[Q1]**

Review Pearson eText Video Example 1.3 to answer the following question:

In Pearson eText Video Example 1.3, Rachelle explains her area of focus for her action research project. She uses some terminology that may be unfamiliar to you, so it’s explained here briefly. Teachers *assess* students’ behavior in a variety of ways, such as by giving them tests, projects, and assignments. Teachers use *formative* assessments during instruction to help them plan their instruction and improve student learning and motivation. Teachers use *summative* assessments after instruction to assess students’ final achievement.

The first step in an action research project is to identify an area of focus by selecting a problem and developing specific questions related to that problem. What is Rachelle’s problem that she wants to solve and what is her research question that she wants to address?

**[Q1 Model Response]**

Rachelle’s problem is that after students had completed the summative assessments in her class, the class morale dropped dramatically and the students didn’t want to come to class. She wants to find something-such as formative assessments-that will bring up students’ summative assessment scores and morale to change the atmosphere of the classroom. Her research question is: How does the use of formative assessments affect class morale, summative assessment scores, and the general atmosphere of the classroom?

**[Q2]**

Review Pearson eText Video Example 1.3 to answer the following question:

The second step in an action research project is to collect data to answer the research question. Based on what Rachelle explains in Pearson eText Video Example 1.3, what data might she collect to answer her research question?

**[Q2 Model Response]**

Let’s first examine her research question again: How does the use of formative assessments affect class morale, summative assessment scores, and the general atmosphere of the classroom? To determine the effects of formative assessments on class morale, summative assessment scores, and the general atmosphere of the classroom, Rachelle would first have to explicitly define what she means by *class morale* and *general atmosphere*. Then, she would have to decide how to measure them. For example, for *class morale*, she could survey students and ask them to answer questions by providing ratings on scales, such as: “On a scale from 0 (not at all) to 10 (a lot), how much do you enjoy this class?” And to measure *general atmosphere*, she could use a question such as: “On a scale from 0 (not at all) to 10 (a lot), how much does the teacher create a classroom environment that supports your learning?” She could also interview students or ask them open-ended questions on a survey, such as: “What do you like about this class?” or, to assess the general atmosphere, “How do you feel about this class?” For the third step in this action research project, she would analyze and interpret the data by comparing the results of these items (and of the summative assessment) from before and after implementing the formative assessments. She would then use the results to take action (the fourth step in this action research project), perhaps by revising her formative assessment process. She could then go through this process again in future years by revising her formative assessment process and evaluating the effects of the revisions on class morale, summative assessment scores, and the general atmosphere of the classroom.

**Application Exercise 1.2:** Drawing Valid Conclusions from Research Studies

**Big Idea 1.2: Effective teachers use research findings and research-based theories to make decisions about instructional strategies, classroom management, and assessment practices.**

**[Q1]**

A high school biology teacher is teaching her students the hierarchy that biologists use to classify living things: kingdom, phylum, class, order, family, genus, and species. One common strategy for remembering the hierarchy is to think of the sentence “King Philip comes over for good spaghetti,” in which the words begin with the same letters as the words in the hierarchy (K P C O F G S). The teacher wants to know whether this sentence is actually helpful for students. She creates two handouts describing the classification hierarchy; the handouts are almost identical, except that one includes the “King Philip” sentence and the other does not. She shuffles the two handouts together in a pile and distributes one handout to each student in her class. The following day, she finds that students who have been given the “King Philip” sentence are able to remember the hierarchy more accurately.

1. Classify the research as one of the following:
   * Quantitative/descriptive
   * Quantitative/correlational
   * Quantitative/experimental
   * Quantitative/quasi-experimental
   * Qualitative
   * Mixed methods, *and then*
2. Identify one or more conclusions that might reasonably be drawn from this study and, if relevant, one or more conclusions that *cannot* be drawn from the study.

**[Q1 Model Response]**

Classification: Quantitative/experimental

Conclusion(s): Here we can conclude that there is a cause-and-effect relationship-in particular, that knowledge of the “King Philip” sentence enhances students’ memory for the hierarchy. The teacher is manipulating the independent variable: students’ access or nonaccess to the “King Philip” sentence. The handouts are the same in every way except for the sentence, and the teacher assigns students to the treatment and control groups randomly by shuffling the handouts. It’s important to note that after determining the effectiveness of the sentence for students’ learning on the second day, she should tell *all* of her students about the sentence and its potential usefulness so that all students can benefit from this memory strategy.

**[Q2]**

A middle school social studies teacher finds that some of his students can easily remember the ideas he presents, yet others have trouble remembering information from one day to the next. He suspects that the students who have better memories for the class material are those who are taking more complete notes in class. He collects students’ notebooks one day and finds that students who are doing well on classroom assessments take a lot more notes than students who are doing poorly.

1. Classify the research as one of the following:
   * Quantitative/descriptive
   * Quantitative/correlational
   * Quantitative/experimental
   * Quantitative/quasi-experimental
   * Qualitative
   * Mixed methods, *and then*
2. Identify one or more conclusions that might reasonably be drawn from this study and, if relevant, one or more conclusions that *cannot* be drawn from the study.

**[Q2 Model Response]**

Classification: Quantitative/correlational

Conclusion(s): We can conclude that there is an *association* between the quantity of students’ class notes and their performance on assessments. Thus, we can predict that, in the future, students who take more thorough class notes will, on average, achieve at higher levels. However, we *cannot* conclude that note taking is the *reason* for the better performance. In other words, we cannot draw any conclusion about a cause-and-effect relationship. The two groups of students are likely to be different in other ways besides note taking, and one or more of these other differences might be the underlying cause(s) of the differences in classroom performance. For example, the higher-achieving students might be more interested in the subject matter than their classmates, or they might be more motivated to get good grades; in either case, they might take more notes as a result.

**[Q3]**

The director of technology in the Emerson School District wants to gather information about the use of computer-supported instruction in language arts and literature classes in the district’s middle schools and high schools. For her study, the director identifies five of the top teachers in these content areas. She visits and observes each teacher’s classes on three different days and subsequently interviews each teacher. Then she summarizes the ways that these teachers incorporate the use of technology into their lessons and their students’ activities. The director also summarizes teachers’ beliefs about the roles of technology in students’ learning and motivation.

1. Classify the research as one of the following:
   * Quantitative/descriptive
   * Quantitative/correlational
   * Quantitative/experimental
   * Quantitative/quasi-experimental
   * Qualitative
   * Mixed methods, *and then*
2. Identify one or more conclusions that might reasonably be drawn from this study and, if relevant, one or more conclusions that *cannot* be drawn from the study.

**[Q3 Model Response]**

Classification: Qualitative

Conclusion(s): The study provides *non*quantitative descriptive data that describe how computer-supported instruction is used in these specific real-world settings. However, it does not enable us to draw conclusions about cause-and-effect relationships or to make any predictions about teachers’ or students’ future performance or motivation.

**[Q4]**

At the beginning of the school year, fifth graders in two different classes at two different schools are, on average, quite similar in their knowledge and skills in mathematics. In the first two weeks of the year, they use a computer software program that teaches them how to add, subtract, multiply, and divide fractions. Students’ progress at their own pace through the program, tackling many practice problems and getting immediate feedback about their solutions. To determine whether the feedback helps students learn more effectively, students in one class get feedback about all of their responses, while students in the other class get feedback on only half of their responses. The students who get feedback about all of their responses learn how to work with fractions more quickly than students in the other class.

1. Classify the research as one of the following:
   * Quantitative/descriptive
   * Quantitative/correlational
   * Quantitative/experimental
   * Quantitative/quasi-experimental
   * Qualitative
   * Mixed methods, *and then*
2. Identify one or more conclusions that might reasonably be drawn from this study and, if relevant, one or more conclusions that *cannot* be drawn from the study.

**[Q4 Model Response]**

Classification: Quantitative/quasi-experimental

Conclusion(s): Although the independent variable (frequency of feedback) has been manipulated, students have not been randomly assigned to groups; and therefore, this research is considered quasi-experimental instead of experimental. Given that their achievement levels prior to using the software were quite similar, we might reasonably conclude that students who get feedback about all of their responses learn faster than students who get feedback about only half of their responses. In other words, there is probably a cause-and-effect relationship between frequency of feedback and speed of learning. However, the study hasn’t controlled other factors that might be affecting students’ performance. For example, perhaps the teacher of the class that received feedback about all of their responses is also using other especially effective strategies for teaching students about fractions. Thus, any conclusion about a cause-and-effective relationship is tentative at best.

**[Q5]**

An educational psychologist videos 20 high school history teachers in action for a period of four weeks. He then codes every teacher statement into one of three categories: whether it (a) presents new information, (b) asks a question, or (c) gives instructions. He summarizes this information and compares the amount of teacher *questioning* to the students’ scores on a statewide history test given near the end of the school year. The researcher finds that when teachers ask a lot of questions in class, students are more likely to score at high levels on the history test.

1. Classify the research as one of the following:
   * Quantitative/descriptive
   * Quantitative/correlational
   * Quantitative/experimental
   * Quantitative/quasi-experimental
   * Qualitative
   * Mixed methods, *and then*
2. Identify one or more conclusions that might reasonably be drawn from this study and, if relevant, one or more conclusions that *cannot* be drawn from the study.

**[Q5 Model Response]**

Classification: Mixed methods

Conclusion(s): This study makes use of both qualitative information (teachers’ statements) and quantitative information (tabulation of the three kinds of teacher statements and students’ history test scores). Results indicate that there might be a *correlation* between amount of teacher questioning and student achievement. However, because the experimenter hasn’t manipulated the independent variable or controlled for other possible influential factors, we can’t draw any conclusions about cause-and-effect relationships.

**[Q6]**

During their 8th- and 11th-grade school years, students in the Ranger School District take standardized achievement tests designed to assess their language and mathematics skills. The superintendent receives a report showing how Ranger students compare with those in many other school districts across the nation. The superintendent discusses the results with the school principals.

1. Classify the research as one of the following:
   * Quantitative/descriptive
   * Quantitative/correlational
   * Quantitative/experimental
   * Quantitative/quasi-experimental
   * Qualitative
   * Mixed methods, *and then*
2. Identify one or more conclusions that might reasonably be drawn from this study and, if relevant, one or more conclusions that *cannot* be drawn from the study.

**[Q6 Model Response]**

Classification: Quantitative/descriptive

Conclusion(s): This study illuminates the current state of affairs regarding students’ achievement levels, at least as measured by the standardized tests. However, it doesn’t enable us to draw conclusions about cause-and-effect relationships or to make predictions about students’ future performance.

**Application Exercise 1.3:** Selecting Appropriate Study Strategies

**Big Idea 1.3: Students read, study, and learn more efficiently when they plan appropriately and use effective strategies.**

**[Q1]**

Six days from now, Lucas will have a multiple-choice test on the material in a 41-page textbook chapter. Because Lucas just started college this year, he asks you for some advice about how he could most effectively study for the test. Based on what is known about effective studying and learning, what would you tell him?

**[Q1 Model Response]**

Lucas should think about what he should do before he begins to study, what he will do during his study sessions, and what he will do after his study sessions. Before he begins to study, he should have a tentative plan for when he’s going to study, preferably selecting times on a few different days (e.g., one hour each day, every other day) to space out his study sessions. He should select times when he is mentally alert, select appropriate locations to study (e.g., a quiet space), and set goals for each study session. During his study sessions, he should begin by reviewing what he learned in his last study session, then preview what he’s about to study in the current session. While he’s studying, he should focus his attention on his studying and take notes while reading or watching videos. He should also use effective study strategies, such as relating new information to his existing knowledge, organizing the information, using visual imagery, thinking of examples and non-examples of concepts, elaborating on the information, checking his comprehension, and practicing retrieving information from his memory without any help. You would likely have to explain each of these strategies to him in more detail. When he is finished with his study session, he should re-evaluate his tentative study plan based on the progress he made during the current study session and revise it as needed to ensure that he’s prepared for his upcoming test.

**[Q2]**

Alina is a seventh-grade student who has a social studies exam in four days. She hasn’t missed any of the classes so far, and she has completed all of the homework assignments. She doesn’t want to review all of the material again because she believes that she knows everything she needs to know in order to get an A on the exam. What advice would you give her related to using review sessions in the next four days?

**[Q2 Model Response]**

If the information has already been studied and learned, review sessions don’t need to take long. Instead, they should be used to remember important points and clarify any misunderstandings. You could tell her to spend 15 minutes (or however long needed) to skim through her class notes, assignments, and readings related to the exam content. It would be best if she could do this at least the following day and then again the day before the exam because periodically reviewing material can help students remember it more effectively and accurately.

#### Chapter 1 Case Study Practice Exercises

[L O 1.2]

Case Study Practice Exercises 1.1: New Instructional App

**[Constructed Response]**

Case: New Instructional App

High school math teacher Mr. Gualtieri begins his class on Monday with an important announcement: “Our school has just purchased a new instructional app that we can use on our classroom tablet computers. This app, called Problem-Excel, will give you practice in applying the mathematical concepts and procedures we’ll be studying this year. I strongly encourage you to use it whenever you have free time so that you can get extra instruction and practice with things you might be having trouble with.”

Mr. Gualtieri is firmly convinced that the new app will help his students better understand and apply certain concepts in his math curriculum this year. To test his hypothesis, he keeps a record of which students use the app and which students do not. He then looks at how well the two groups of students perform on his next classroom test. Much to his surprise, he discovers that, on average, the students who have used the app have earned *lower* scores than those who have not used it. “How can this be?” he puzzles. “Is the app actually doing more harm than good?”

**[Q1]**

Mr. Gualtieri wonders whether the instructional app is actually hurting, rather than helping, his students. Assume that the app has been carefully designed by an experienced educator. Assume, too, that Mr. Gualtieri’s classroom test is a good measure of how well his students have learned the material they’ve been studying.

1. Explain why Mr. Gualtieri cannot draw a conclusion about a cause-and-effect relationship from the evidence he has. Base your response on principles of educational research.
2. Identify another plausible explanation for the results Mr. Gualtieri has obtained.

**[Short Answer Q1 Feedback]**

We can draw conclusions about cause-and-effect relations-for instance, that an instructional app helps or hinders learning in mathematics-only from an *experimental study,* in which the researcher systematically manipulates one variable while holding other potentially influential variables constant. The researcher then measures the effect of the manipulated variable on another variable. Mr. Gualtieri has instead conducted a *correlational study,* in which he simply looked at the relation between two variables (instructional app use and math achievement) as they occurred naturally in the environment. We cannot conclude that the app is the cause of students’ difficulty because Mr. Gualtieri didn’t eliminate other possible explanations for the differing math achievement of app users and nonusers.

Numerous factors may have influenced students’ decisions to use or not use the app-their motivation to learn the material, their belief in their ability to master it if they worked hard, the amount of free time they have had in class, and so on. Thus, the two groups of students are probably different in a variety of ways. One likely explanation for the app users’ lower scores is that students who chose to use the app were having trouble understanding class material, whereas many of the nonusers were mastering the material on their own.

[L O 1.2]

**[Multiple Choice]**

Case: New Instructional App

High school math teacher Mr. Gualtieri begins his class on Monday with an important announcement: “Our school has just purchased a new instructional app program that we can use on our classroom tablet computers. This program, called Problem-Excel, will give you practice in applying the mathematical concepts and procedures we’ll be studying this year. I strongly encourage you to use it whenever you have free time so that you can get extra instruction and practice with things you might be having trouble with.”

Mr. Gualtieri is firmly convinced that the new app will help his students better understand and apply certain concepts in his math curriculum this year. To test his hypothesis, he keeps a record of which students use the app and which students do not. He then looks at how well the two groups of students perform on his next classroom test. Much to his surprise, he discovers that, on average, the students who have used the app have earned *lower* scores than those who have not used it. “How can this be?” he puzzles. “Is the app actually doing more harm than good?”

**[Q1]**

Which one of the following results would provide the most convincing evidence that the Problem-Excel app enhances students’ mathematics achievement?

1. Students at a high school are randomly assigned to two groups. One group works with Problem-Excel, and the other group works with an app program called Write-Away, designed to teach better writing skills. The Problem-Excel group scores higher than the Write-Away group on a subsequent mathematics achievement test. [correct]
2. Ten high schools in New York City purchase Problem-Excel and make it available to their students. Students at these high schools get higher mathematics achievement test scores than students at 10 other high schools that have *not* purchased the app.
3. A high school purchases Problem-Excel, but only four of the eight math teachers at the school decide to have their students use it. The students of these four teachers score at higher levels on a mathematics achievement test than the students of the other four teachers.
4. All 10th graders at a large high school take a mathematics achievement test in September. At some point during the next 2 months, each student spends 20 hours working with Problem-Excel. The students all take the same math achievement test again in December and, on average, get substantially higher scores than they did in September.

**[Feedback for Correct Answer 1]**

Yes, only in this alternative are students randomly assigned to a group, ensuring that, on average, members of the two groups are probably quite similar with respect to other factors that might have an effect on their achievement scores (e.g., prior math achievement levels, student motivation, etc.).

**[Feedback for Answer Choice 2]**

In this situation, the two groups are not necessarily equivalent with respect to other potentially influential factors (e.g., prior math achievement levels, quality of in-class instruction, student motivation, and amount of free time available for using the app). Any one of these factors-or some other factor we haven’t thought of-might account for the higher scores for Problem-Excel users.

**[Feedback for Answer Choice 3]**

In this situation, the two groups are not necessarily equivalent with respect to other potentially influential factors (e.g., prior math achievement levels, quality of in-class instruction, student motivation, and amount of free time available for using the app). Any one of these factors-or some other factor we haven’t thought of-might account for the higher scores for Problem-Excel users.

**[Feedback for Answer Choice 4]**

In this situation, the improvement could be attributable to other mathematics learning experiences (e.g., math courses) during the three-month interval, increased neurological (brain) maturation, or other factors that came into play between September and December. Thus, we can’t necessarily attribute the improvement to use of the Problem-Excel app.

#### Chapter 1 Test Items

##### Multiple Choice

1. Which one of the following alternatives best describes *learner-centered instruction*?
   1. Instruction that is tailored to students’ characteristics and behaviors.
   2. Instruction in which students determine the specific topics they will study.
   3. Instruction geared primarily toward students who are highly motivated to learn.
   4. Instruction geared primarily toward students who are *not* very motivated to learn.
2. Which one of the following alternatives best describes *learner-centered instruction*?
   1. Students choose the learning objectives that they want to complete for most of the lessons.
   2. Students’ characteristics and behaviors drive almost everything that teachers do in the classroom.
   3. Students must work together in small groups or teams for most of the lessons.
   4. Students must complete a project or solve a problem.
3. Which one of the following is *not* true? Educational psychology is an academic discipline that:
   1. studies how humans learn.
   2. studies factors that motivate students in learning environments.
   3. does not study how children develop over time.
   4. uses the results of research to identify effective teaching practices.
4. Which one of the following is the best example of a teacher's *pedagogical content knowledge*?
   1. Knowing what researchers have discovered about the effectiveness of discovery-learning approaches to instruction.
   2. Knowing several effective ways to teach students about negative numbers.
   3. Making a reasonable guess as to why a particular student misbehaves just before lunch time every day.
   4. Understanding why water expands when it freezes.
5. *Students with special needs* are students who:
   1. have cognitive and emotional deficits that impair their classroom performance.
   2. have physical disabilities such as cerebral palsy, multiple sclerosis, spinal cord injury, epilepsy, or AIDS.
   3. have inherited conditions (e.g., Down syndrome, some instances of dyslexia) that adversely affect their ability to achieve at appropriate levels in the classroom.
   4. are different enough from their peers that specially adapted instruction or materials are necessary to promote their success at school.
6. The practice of *inclusion* involves which one of the following?
   1. Keeping students with disabilities together in one class so that they can take part in all of their classroom activities.
   2. Selecting high-achieving students to assist with the instruction of students who have special educational needs.
   3. Educating students with special needs in general education settings alongside students without special needs.
   4. Incorporating instruction in social skills into the regular classroom curriculum.
7. Which one of the following high school teachers clearly has high *self-efficacy* about his or her teaching?
   1. Mr. Abbot thinks that teaching is simply a matter of reading textbook passages aloud to his history class.
   2. Ms. Bouthot has a hypothesis about why some students in her English class rarely turn in their assignments.
   3. Ms. Crosby insists that students complete their math homework using a particular format.
   4. Mr. Driver is confident that he can get even seemingly “unmotivated” students excited about science.
8. Which one of the following teachers is most clearly engaging in *reflective teaching*?
   1. An art teacher lets students choose which of three media they would like to use in their painting: acrylics, oils, or watercolors.
   2. When students are clearly bored during a class lecture, a history teacher thinks about ways in which he might make the subject matter more interesting.
   3. A math teacher gives her students homework every night so that they can practice using the new procedures they've learned in class that day.
   4. A science teacher writes and administers a multiple-choice test to assess what students have learned in a recent unit about mollusks and crustaceans.
9. Which of the following is *not* typically involved in action research?
   1. Collecting data
   2. Analyzing and interpreting data
   3. Implementing an action plan
   4. Publishing the results in an academic journal
10. Which one of the following is the best example of *action research*?
    1. A teacher gives her students a questionnaire that asks them to describe how often they study and what kinds of strategies they use when they study. She will use the results to develop several lessons on effective study skills.
    2. A graduate student quietly observes adolescents' behaviors in the school cafeteria. He plans to describe his observations in his master’s thesis.
    3. A college professor recruits sixth graders to come to his lab, where she assesses their responses and reaction times in a variety of challenging problem-solving tasks. Her results will help her refine the theory of problem solving she has been developing.
    4. All of the school districts in a particular state are instructed to give the same mathematics achievement test to their high school juniors. The average test scores for each district will be presented in a report that will be released to the general public.
11. Which one of the following statements is consistent with research findings described in the textbook?
    1. Students who play video games are more likely to have delays in their cognitive development than students who play video games infrequently.
    2. Students learn a new idea most effectively when they keep it simple, without trying to remember its potential implications or applications.
    3. Students use both their right and left hemispheres for completing even simple tasks.
    4. Students are usually the best judges of what they do and don’t know.
12. Which one of the following statements is consistent with research findings described in the textbook?
    1. Repeating something over and over is usually the most effective way to learn it.
    2. Students generally aren’t very good at judging how much they know about something.
    3. For optimal performance, students should never feel any anxiety in the classroom.
    4. Children's personalities are not affected by the genetics they inherit from their biological parents.
13. Judging from the textbook’s discussion of educational research, which one of the following would be the best course of action for teachers to take?
    1. Teachers shouldn’t take research findings very seriously, because there are too many gaps in the knowledge we’ve gained from research.
    2. Teachers should focus on research that relates to a single theoretical perspective (such as Piaget’s theory or information processing theory).
    3. Teachers can use findings from educational research to guide their classroom decision making.
    4. Teachers should always go with their common sense and “gut” feelings about how to teach, regardless of any research findings to the contrary.
14. Which one of the following teaching practices is *definitely* an example of *evidence-based practice*?
    1. A kindergarten teacher asks students to bring something from home that begins with the letter B.
    2. A fourth-grade teacher uses a reading program that research has shown to be effective for fourth graders.
    3. A seventh-grade science teacher asks students to conduct experiments in which they must determine which one of several variables makes a pendulum swing fast or more slowly.
    4. A high school art teacher encourages students to choose a medium (e.g., clay or watercolor paints) that they can best use to express themselves.
15. Which one of the following is *not* true? Educational psychologists:
    1. use evidence from systematic research to inform teaching and learning practices.
    2. publish their research findings in journals and books.
    3. use the M L A (Modern Language Association) style when citing references in their publications.
    4. belong to national organizations to share their research with others.
16. Which of the following three sentences (numbered for clarity in this question) is consistent with *A P A style*? (#1) Students who are motivated tend to learn more than students who are not motivated (Beamer, 2010; Fuente, 2016). (#2) However, some researchers have found that unmotivated students can learn too (Paterno; Franklin). (#3) In fact, one unmotivated student received a higher grade than any of the motivated students (2010; 2016).
    1. The first sentence
    2. The second sentence
    3. The third sentence
    4. All three sentences are consistent with A P A style.
17. Which one of the following is the best example of *qualitative* research?
    1. Comparing average achievement test scores for students at three different schools.
    2. Finding out how long it takes six-year-olds to assemble challenging picture puzzles.
    3. Interviewing adolescents about the nature of their relationships with other students.
    4. Examining the number of days students were absent from school to identify potential school dropouts.
18. Imagine you are an educational researcher who wants to learn about the type of psychological environment in which middle school students feel most comfortable and best able to concentrate on their studies. You plan to examine a wide variety of factors that might contribute to such an environment, including physical factors (e.g., cleanliness and colorfulness of the school building) and social factors (e.g., teacher–student relationships, general tolerance for diverse behaviors and beliefs). You realize that students might identify important factors that you yourself haven’t even thought of. In this situation, your best choice would probably be:
    1. a descriptive, quantitative study.
    2. an experimental study with at least three treatment groups.
    3. an experimental study with one treatment group and one control group.
    4. a qualitative study.
19. Which one of the following conclusions could be drawn from a *descriptive* study?
    1. Approximately 80% of the students at Southside High School are planning to go to college.
    2. Students are more likely to appreciate classical music if they are exposed to it on a regular basis.
    3. Concrete experiences help students understand abstract ideas better.
    4. Students do better in school when they have warm, supportive relationships with their teachers.
20. A research study finds that, on average, students who weigh more do better in school. Which one of the following is an appropriate deduction from this information?
    1. Parents should feed their children as much as possible.
    2. The school cafeteria should decrease the fat content of the food it serves.
    3. On average, students who eat more do better in school.
    4. There is a correlation between weight and classroom performance.
21. In a study of 405 high school juniors, students who spent more time paying attention to their teacher scored higher on their end-of-grade tests. This fictitious study is an example of what type of study?
    1. A descriptive study
    2. A correlational study
    3. An experimental stud.
    4. A qualitative study
22. A researcher is interested in the effect of teacher–student ratios. She finds 10 fifth-grade classrooms with 30–40 students per class and 10 others with 15–25 students per class. She discovers that there is a negative correlation between class size and student achievement. Which one of the following conclusions can we draw from this study?
    1. Although class size doesn't necessarily cause changes in achievement, class size can help us predict school achievement.
    2. Classes should be as large as reasonably possible.
    3. Classes should be as small as reasonably possible.
    4. The researcher has conducted a descriptive study.
23. A study that tells us whether two variables are associated, but does *not* tell us if one variable causes or influences the other, is:
    1. a descriptive study.
    2. a correlational study.
    3. an experimental study without a control group.
    4. an experimental study with one or more control groups.
24. Dr. Lesgold finds that students in private schools perform better on achievement tests than do students in public schools. He can conclude that:
    1. the difference is probably due to differences in family income.
    2. the difference is probably due to the fact that private schools have smaller classes.
    3. the difference is probably due to the fact that private schools are more likely to “teach to the test.”
    4. students' achievement test scores can be predicted to some extent by the kind of school they attend.
25. Experimental research requires which one of the following?
    1. Manipulating an aspect of the environment
    2. Being able to predict two or more variables
    3. Describing each variable in considerable detail
    4. Studying behavior in an actual classroom environment
26. Mr. Jones, a physical education teacher, notices that some of his students are better basketball players than others. He wonders if having a basketball net at home fosters the development of basketball skills. He gives his students a short survey that asks them if they have a basketball net at home. Sure enough, Mr. Jones finds that the better basketball players are more likely to have a net at home. He concludes that having a basketball net at home facilitates the development of basketball skills. Is his conclusion appropriate?
    1. No, because he didn’t conduct an experimental study.
    2. No, because his study wasn’t conducted in a scientific laboratory.
    3. Yes, assuming that his students responded truthfully to the survey.
    4. Yes, because he used random assignment.
27. Dr. Kenney conducts a study in which she gives some students (chosen randomly) logically organized learning material; she gives other students the same material presented in a haphazard, unpredictable sequence. She finds that students with the organized material remember more. This study can best be described as:
    1. a descriptive quantitative study.
    2. a qualitative study.
    3. an experimental study.
    4. a correlational study.
28. In general, experimental studies have which one of the following advantages over descriptive and correlational studies?
    1. Only experimental studies allow us to be specific about our teaching objectives.
    2. Only experimental studies allow us to determine what caused something.
    3. Only experimental studies allow us to analyze data statistically and therefore arrive at precise results.
    4. Only experimental studies enable us to draw accurate conclusions.
29. Dr. Denna is conducting a study to learn more about a new instructional method for teaching writing to fourth-grade students. She has split her participants into two groups. Group 1 is exposed to this new instructional method for eight weeks of writing instruction. Group 2 is exposed to the traditional (unchanged) writing instruction for eight weeks. Dr. Denna then has both groups complete a writing assessment and compares their results. Group 1 can best be described as the:
    1. treatment group.
    2. placebo group.
    3. control group.
    4. instruction group.
30. Mr. Jacobs wants to find out whether a new program for teaching physical education promotes students’ physical development. So, he gives his students a number of tests before they begin the program (pretests) and the same tests again after they have been in the program for eight months (posttests). He finds that the students’ posttest scores are higher than their pretest scores and so concludes that the program is effective. What is *definitely* wrong with Mr. Jacobs’ conclusion?
    1. Eight months is too short a time for such a program to have a long-term effect.
    2. There are other possible explanations for his results.
    3. Tests are not a good measure of physical development.
    4. The posttests should always be different from the pretests.
31. Professor Moriarty conducts an experiment to test whether or not the Holmes Approach to Studying Psychology (H A S P) is superior to the Watson Approach to Studying Psychology (W A S P). He convinces Dr. Ormrod to use H A S P in her 9:00 class and W A S P in her 10:00 class. Students exposed to the H A S P method do better on the final exam than students exposed to the W A S P method. Prof. Moriarty concludes that H A S P is better than W A S P. What is *definitely* wrong with Moriarty’s experiment?
    1. The final exam is not a good measure of what students have learned.
    2. Students in the 9:00 class are probably more motivated.
    3. Students in the 9:00 class are probably smarter.
    4. There are several possible explanations for his results.
32. Which one of the following conclusions can be drawn *only* from an *experimental* study?
    1. Drugs administered during childbirth affect a child’s early development.
    2. Boys are more likely to show aggressive behavior than girls.
    3. Children’s muscular coordination improves as they grow older.
    4. Children grow taller as they get older.
33. To find out if visual imagery (i.e., “picturing” things in one’s mind) is more effective than verbal repetition in learning French vocabulary words, a French teacher develops two different study guides for her students: one that tells students how to use visual imagery to learn French words, and one that tells them to just repeat the words over and over. She randomly distributes the two study guides to her students. Over the next few weeks, the teacher finds that students using visual imagery study guides achieve higher average quiz scores. Because all of the students used their given study guides, and there was no reason to suspect other differences between the two groups of students, she concludes that the visual imagery study guide helped her students to learn their French vocabulary words more than the other study guide. Is the teacher’s conclusion valid for her students?
    1. No, because she used random assignment.
    2. No, because her experiment wasn’t conducted in a laboratory.
    3. Yes, because her students probably all had similar IQ scores.
    4. Yes, because she was able to manipulate a variable in the environment.
34. Which one of the following statements about educational research is *true*?
    1. Experimental research can only be conducted in the laboratory under somewhat artificial conditions.
    2. Descriptive research gives us the most information for making decisions about teaching practice.
    3. Experimental research allows us to draw cause-and-effect conclusions.
    4. Correlational research is more difficult and time consuming than experimental research.
35. Which one of the following statements is most accurate regarding psychological *principles*?
    1. Principles are comprised of many different theories.
    2. Principles are fairly unstable, and thus change over time.
    3. Principles tell teachers what factors are important in affecting other factors.
    4. Principles are more helpful for teaching than for learning.
36. In psychology, a *theory* can best be characterized as:
    1. a description of the results of a particular research study.
    2. a statement that describes how a particular variable affects learning or development.
    3. an integrated set of concepts and principles that explain a phenomenon.
    4. an objective measure of how a person behaves in a particular situation.
37. Which one of the following statements is most accurate regarding psychological *theories*?
    1. Theories have been proven to be true, and no more research is needed.
    2. Theories are continually modified as new data emerge.
    3. Theories will eventually be replaced by physiological (brain-based) explanations of behavior.
    4. Any single theory can be used to explain all aspects of human behavior.
38. Which of the following is *inconsistent* with the recommendations provided in the textbook about studying?
    1. Determine when you are most mentally alert and study at those times.
    2. It is important to determine what you want to accomplish during a study session, and plan the session accordingly.
    3. Study for several hours at a time without a break to ensure that you don’t lose your thought process related to the information.
    4. You can study in a coffee shop as long as the noise and activity doesn’t distract you from concentrating.
39. The textbook offers several suggestions for studying a textbook effectively. Which one of the following is *not* necessarily recommended?
    1. Take detailed notes on the book’s content.
    2. Occasionally stop and check to make sure you understand.
    3. Draw inferences from the things you read.
    4. Relate new ideas to your own past experiences.
40. Which strategy is *not* consistent with the study strategies presented in the textbook?
    1. At the beginning of a study session, Erika quickly reviews what she had studied in her prior study session.
    2. Erika studies one day a week for 4 hours instead of 4 days a week for one hour during each study session.
    3. Erika uses visual images to help her remember information.
    4. Erika plans specific times in her schedule to review what she has already studied.
41. Which one of the following is an example of *elaboration*?
    1. Sharon automatically knows how she can best study for an upcoming history test.
    2. When Melissa first learns about inertia, she thinks of examples of it in her own life to expand on the idea.
    3. Darren repeats the detailed excuses his friend Logan suggests he use to explain why he didn’t do his homework.
    4. Rosie repeats the spelling of each word several times the night before her spelling test.
42. Select a question that a teacher could address using action research. Provide the question and then describe how you would use the action research process to answer the question.
43. A psychologist conducts a research study and finds that abused children have more difficulty in school than nonabused children.
    1. Is this a descriptive, correlational, or experimental study? Justify your choice.
    2. Based on the study, the psychologist draws the conclusion that an abusive home life leads to poorer school performance in school. Is this conclusion justified? Why or why not?
44. Dr. Carey gives a variety of achievement and aptitude tests to 1,000 ten-year-old children from Southside Elementary School and 1,000 ten-year-old children from Northside Elementary School. He finds that, on average, the Southside students perform better on the tests than the Northside students. He concludes that the teachers at Southside are superior to those at Northside. Is this conclusion warranted? Why or why not?
45. You are tutoring a seventh-grade student who is getting poor grades in her classes. After working with her for a week or two, you realize that she does not regularly use any effective reading or study strategies. For the next tutoring session, you decide to teach her some strategies for learning and studying effectively. Choose a content area and something that the student is learning or studying, and describe some strategies that you would share with her to help her learn more effectively.

#### Chapter 1 Test Answer Key

##### ANSWER KEY: Chapter 1 Test (Multiple Choice)

1. A
2. B
3. C
4. B
5. D
6. C
7. D
8. B
9. D
10. A
11. C
12. B
13. C
14. B
15. C
16. A
17. C
18. D
19. A
20. D
21. B
22. A
23. B
24. D
25. A
26. A
27. C
28. B
29. A
30. B
31. D
32. A
33. D
34. C
35. C
36. C
37. B
38. C
39. A
40. B
41. B
42. The answer should include a specific question that could be answered using the action research process and then explain how the teacher would: collect data, analyze and interpret the data, and develop and implement an action plan.
43. 1. It is a correlational study because it investigates the extent to which two variables, abuse and school performance, are associated.
    2. The conclusion is not justified. Conclusions about cause-and-effect relationships cannot be drawn from correlational studies.
44. Dr. Carey's conclusion is not warranted because he has failed to control for other possible explanations for the differences in test scores (class size, curriculum, educational backgrounds of the parents, etc.).
45. The following are effective strategies that could be provided within the context of the example:
    * Have her relate what she reads to her existing knowledge and prior experience.
    * Have her actively consider how new information might contradict her existing beliefs.
    * Have her relate abstract concepts and principles to concrete examples.
    * Have her elaborate on what she reads, going beyond it and adding to it.
    * Have her periodically check herself to make sure she remembers and understands what she has read.