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Test Bank

For

Using Educational Psychology in Teaching

Eleventh Edition

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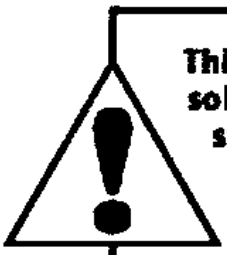

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INRODUCTION: TO INSTRUCTORS

This test bank accompanies the eleventh edition of *Using Educational Psychology in Teaching*. The test bank is composed of multiple-choice and essay items, and providing you with a tool that you can use to increase your students' learning is our primary goal.

All the items are organized under the major headings of each chapter.

The items are written at two levels of difficulty. Items that require knowledge and recall of factual information are listed under the heading "Knowledge-Level Items," and higher-level items are placed under the heading "Higher-Level Items" for each major section of each chapter.

All multiple-choice items have one best answer, and feedback for the correct answer is included for all the higher-level items.

We realize that responding to higher-level items will require interpretation by your students. We have made every effort to make the items clear and unambiguous, and our goal in including the feedback is to provide explanations for the best answers in each case. You may also choose to share the information with your students as you discuss items on your quizzes and tests and provide feedback.

An explanation for suggested answers to all essay items is also included with the answers to the items in each chapter.

If you have any questions or comments, please don't hesitate to contact us. The quickest way to reach us is at the following email addresses: peggen@comcast.net, and don.kauchak@gmail.com.

We wish you the very best in your teaching.

Paul
Don

CHAPTER ONE

EDUCATIONAL PSYCHOLOGY: UNDERSTANDING LEARNING AND TEACHING

Expert Teaching and Student Learning

Knowledge-Level Items

1. Of the following factors, which contributes most to students' learning and development?
    a. The curriculum that students follow
    b. The size of the classes students are in
    c. The students' school facilities and extracurricular activities
    d. The students' teachers

2. A person who is highly knowledgeable or skilled in a particular domain, such as physics, anesthesiology, or teaching is best describes as a(n):
    a. professional.
    b. expert.
    c. scholar.
    d. technician.

3. People's professional knowledge and skills, social abilities, and personality attributes that contribute to a nation's cultural and economic advancement, best describes:
    a. effective teaching.
    b. expert teaching.
    c. human capital.
    d. human learning.

4. Which of the following best describes expert teaching?
    a. Some people are natural teachers, and others are not. It is very difficult to acquire the skills needed to be an expert teacher without a great deal of natural ability.
    b. Some teachers possess more natural ability than others, but expertise can be acquired through study and practice.
    c. Expertise in teaching is acquired largely through experience in classrooms.
    d. Expert teaching in elementary schools is acquired through study and practice, but expert teaching in middle and secondary schools largely depends on teachers' knowledge of content.

Higher-Level Items

5. An elementary school decides to experiment with two different curriculum approaches to language arts. The first focuses on a whole language approach, and the second focuses on word-attack skills, such as phonics.

   If the schools' results are consistent with patterns identified by research, which of the following is the most likely outcome?

   a. The whole-language approach will result in more student learning than will the approach emphasizing phonics in all the elementary grades.
   b. The approach emphasizing phonics will result in more student learning than will the approach emphasizing whole language in all the elementary grades.
   c. The approach emphasizing phonics will result in more student learning in the lower elementary grades, but the approach emphasizing whole language will result in more learning in the upper elementary grades.
   d. The effectiveness of either approach depends on the knowledge and skills of the teacher implementing the program; one is not necessarily better than the other.

6. Research has identified a number of positive outcomes for students taught by expert teachers compared to students taught by teachers with less expertise. Which of the following is ***not*** one of those best describes the outcome for students taught by expert teachers compared to students taught by teachers with less expertise?

   a. Students taught by expert teachers are less likely to have children out of wedlock than are students taught by teachers with less expertise.
   b. Students taught by expert teachers are likely to earn higher salaries that are students taught by teachers with less expertise.
   c. Students taught by expert teachers are more likely to come to school socially mature than are students taught by teachers with less expertise.
   d. Students taught by expert teachers are more likely to attend college than are students taught by teachers with less expertise.

7. Of the following, which statement most accurately describes the difference between expert teachers and their colleagues with less expertise?

   a. Expert teachers possess more professional knowledge and skills that do their colleagues with less expertise.
   b. Expert teachers have more experience than their colleagues with less expertise.
   c. Expert teachers care about their students more than their colleagues with less expertise.
   d. Expert teachers have degrees in specific fields, such as math or English, whereas less expert teachers do not have comparable degrees.

Essay Items

8. Describe the difference between expert teachers and teachers with less expertise

9. A number of differences exist between a "good" school and a school that is less good. However, one difference is be more important than any other. What is this difference?

Educational Psychology, Expert Teaching, and Professional Knowledge
Knowledge-Level Items

10. The body of information and skills that is unique to an area of study, such as law, medicine, or teaching is best described as:
    a. professional knowledge.
    b. expert knowledge.
    c. background knowledge.
    d. formal knowledge.

11. Of the following, which description is most characteristic of beginning teachers?
    a. They are realistic, sometimes even pessimistic, about the extent to which they'll be able to help young people from disadvantaged backgrounds.
    b. They believe that they will be more effective than teachers now in the field.
    c. They are unsure of their commitment to teaching.
    d. They go into teaching for material rewards.

12. Research indicates that effective teaching requires four kinds of professional knowledge. They include:
    a. knowledge of content, general pedagogical knowledge, knowledge of learners and learning, and knowledge of human relations.
    b. knowledge of content, pedagogical content knowledge, general pedagogical knowledge, and knowledge of learners and learning.
    c. pedagogical content knowledge, general pedagogical knowledge, knowledge of learners and learning, and knowledge of human relations.
    d. knowledge of teaching skills, knowledge of learning styles, knowledge of student learning, and knowledge of content.

13. Teacher abilities such as questioning and the ability to organize a classroom so it functions smoothly would best be described as:
    a. knowledge of content.
    b. pedagogical content knowledge.
    c. general pedagogical knowledge.
    d. knowledge of learners and learning.

14. The ability to find or create examples of topics so that the topics are meaningful to learners is best described as:
    a knowledge of content.

b. pedagogical content knowledge.
c. general pedagogical knowledge.
d. knowledge of learners and learning.

15. "You can't teach what you don't know" is a commonly stated maxim in teaching. Of the following, it most nearly describes:
    a. knowledge of content.
    b. pedagogical content knowledge.
    c. general pedagogical knowledge.
    d. knowledge of learners and learning.

16. Reflective practice is defined as:
    a. the spontaneous problem-solving effective teachers employ.
    b. the confidence to communicate with parents, other teachers, and administrators.
    c. the process of conducting a critical self-examination of one's practice and thinking.
    d. the accumulation of day to day interactions that engaged teachers use when working with struggling learners.

Higher-Level Items

17. Look at the following statement:
    Research recognizes that students do not passively receive information from teachers (like tape recorders), but instead construct their own knowledge of the topics they study as they attempt to make sense of the information.
    You understand this statement and prepare and deliver your instruction with this idea in mind. Your understanding most closely relates to:
    a. knowledge of content.
    b. pedagogical content knowledge.
    c. general pedagogical knowledge.
    d. knowledge of learners and learning.

18. Hector is a middle school earth science teacher. He knows his students have difficulty understanding the geology of different land forms in our country. Knowing this, he has gone to the Internet and found a number of colored pictures of young mountains, mature mountains, young rivers, old rivers, and the same for plateaus. Recognizing that his students have difficulty with this concept and finding a way to better assist their learning, best illustrates Hector's:
    a. domain-specific prior knowledge.
    b. general pedagogical knowledge.
    c. general prior knowledge.
    d. pedagogical content knowledge.

19. Gretchen wants to strengthen her American literature instruction during the next school year, so she enrolls in a master's-level course that focuses on American classics, such as *The Scarlet Letter* and *To Kill a Mockingbird.* By enrolling in this course Gretchen is illustrating her desire to increase her:
    a. knowledge of content.
    b. general pedagogical knowledge.
    c. general prior knowledge.
    d. pedagogical content knowledge.

20. After studying educational psychology, Jeff Curry understands that the thinking of his high school students is concrete, e.g., they are able to understand abstract concepts like *density, nationalism,* or *symbolism,* for examples, only after seeing concrete illustrations of them. Without these illustrations, they attempt to memorize formulas or definitions that have little meaning for them.
    Of the following, the teacher's understanding would best be described as:
    a. knowledge of learners and learning.
    b. knowledge of content.
    c. pedagogical content knowledge.
    d. general pedagogical knowledge.

Use the following information for items 21 and 22.

April Jackson's students have difficulty understanding the concept *pressure,* tending to equate it with *force.* To try to help her students understand the difference, she stands with both feet on the floor and then stands with one foot on the floor. She then helps the students understand that the amount of force she exerts on the floor is the same on either one foot or both feet, but she exerts twice as much pressure on one foot, because the force is on a smaller area.

21. Her ability to represent the concept *pressure* in this way best illustrates her:
    a. knowledge of content.
    b. pedagogical content knowledge.
    c. general pedagogical knowledge.
    d. knowledge of learners and learning.

22. The way April represented her content—standing on one foot and then standing on two feet to show the students the difference between *force* and *pressure* is best described as a(n):
    a. simulation.
    b. model.
    c. case study.
    d. example.

Use the following information for Items 23–26.

Kathy Krudwig, an educational psychology instructor, wants her students to understand the importance of teacher questioning as a means of involving students. She read a research study in which one group of teachers was trained to call on all their students as equally as possible, another group of comparable teachers received no training, and the results indicated that the trained teachers' students achieved significantly higher than the other teachers' students.

She knows, however, that simply telling her students to ask many questions will be less effective than showing them something concrete, so she writes the following vignette and displays it on the document camera in her classroom.

Mrs. Myers was having a difficult time getting her students to respond. She tried various high-interest activities, but they remained apathetic.

Finally, she tried a direct approach. She told them that she was going to call on each of them whether or not they had their hand up. She reminded them that she was there to help them if they had trouble answering.

At first the process was very difficult, and she was exhausted at the end of the day, but within a week, the attention level and involvement of her students had increased significantly.

Kathy also "practices what she preaches" by calling on all of her students as equally as possible.

23. Of the following, the form of content representation best illustrated by the vignette Kathy displayed is best described as:
    a. an example.
    b. a case study.
    c. a simulation.
    d. a model.

24. We see that Kathy understood that "simply telling her students to ask many questions will be less effective than showing them something concrete." Kathy's understanding in this instance is best described as:
    a. knowledge of content.
    b. pedagogical content knowledge.
    c. knowledge of correlational research.
    d. knowledge of learners and learning.

25. Kathy's ability to create her vignette to help her students reach her goal is best described as:
    a. knowledge of content.
    b. pedagogical content knowledge.
    c. general pedagogical knowledge.
    d. knowledge of learners and learning.

26. Kathy's practicing what she preached by calling on her own students best indicates her:
    a. knowledge of content.
    b. pedagogical content knowledge.
    c. general pedagogical knowledge.
    d. knowledge of learners and learning.

27. Jack Ryan, a math teacher, uses lecture as his primary instructional strategy, and if his students are confused, he tries to explain the content even more clearly. Lucas Walsh, also a math teacher, uses a great deal of questioning with his students, varies his activities, and works hard to represent the content he teaches in ways that students can understand.
    Of the following, which is the most likely explanation for the differences between Jack's and Lucas's approaches to teaching?
    a. Lucas has more experience than does Jack.
    b. Lucas understands math better than does Jack.
    c. Lucas has more native ability than does Jack.
    d. Lucas possesses more professional knowledge than does Jack.

28. "I'm going to have the children practice on long-vowel sounds and blends during skills block tomorrow," Ava Goodwin, a kindergarten teacher, says to herself as she plans for the next week. "I don't think I've spent enough time on basic skills the past few weeks." Ava then spends more time on basic skills the next week.
    Ava's concluding that she hasn't been spending enough time on basic skills best illustrates which of the following characteristics of expert teaching?
    a. Decision making in ill-defined contexts
    b. Reflective practice
    c. Pedagogical content knowledge
    d. A body of specialized knowledge

29. Raphael Sanchez represents the concept *crustacean* by showing his students a lobster, a crab, and shrimp and having them identify the characteristics they have in common.
    Which of the following is Raphael best applying by representing *crustaceans* in this way?
    a. Strategy 2*: Linking abstract concepts to concrete representations* from the National Council on Teacher Quality's Six Strategies that Every New Teacher Needs to Know
    b. General pedagogical knowledge as a form of professional knowledge that all teachers should possess
    c. Principle 2: *What students already know affects their learning,* from the Top 20 Principles from Psychology for PreK-12 Teaching and Learning
    d. Principle 6: *Clear, explanatory, and timely feedback to students is important for learning,* from the Top 20 Principles from Psychology for PreK-12 Teaching and Learning

30. Which of the following best illustrates *Principle 5: Acquiring long-term knowledge and skill is largely dependent on practice* from the Top 20 Principles from Psychology for PreK-12 Teaching and Learning?
    a. Grace Simek gives her 6th graders several examples of different types of figurative language, such as simile, metaphor, and personification.
    b. Luna Rodriguez tries to ask questions, such as "Why?" and "How do you Know?" as often as possible in her teaching?
    c. Dylan Jacobs is working with his 1st graders on adding and subtracting whole numbers. After his lesson he has the students work on a seatwork assignment for several minutes and monitors their efforts.
    d. Jack Toner always provides detailed explanations for frequently missed items on both his homework assignments and on his weekly quizzes.

31. Mike Melvin, a 5th grade teacher, is working with his students on adding and subtracting fractions with unlike denominators. However, on his homework assignments he also includes some problems that involve adding and subtracting fractions with like denominators.

    Then, when he moves to multiplying and dividing fractions, he also includes a problem or two where students must add and subtract fractions, with both like and unlike denominators.

    Which of the following six essential teaching strategies that all new teachers need to know, from the National Council on Teacher Quality is Mike most nearly applying with his homework practice?
    a. Strategy 5: Distributing practice
    b. Strategy 2: Linking abstract concepts to concrete representations
    c. Strategy 4: Alternating problems with solutions provided and problems students must solve
    d. Strategy 6: Assessing learning

Essay Items

32. Describe and provide an example of each of the kinds of knowledge professional teachers possess.

Items 33 and 34 are related.

33. Paul Hernandez stands at the front of his classroom and smiles broadly as his seventh graders stroll in for their first meeting. This is the day he's been waiting for, and he feels ready. He is confident that his double major in history and geography will make him a stellar teacher. He feels especially lucky in that he's obtained an emergency certificate and hasn't been forced to waste time in teacher education classes.

    Which type of professional knowledge is Paul most likely to have? Explain.

34. Paul explains that geography influences a great many things about our lives, such as the location of major cities, the economies of different areas, and the lifestyles people adopt. This material is very interesting to him, and he's a bit surprised that his students don't seem to share the same interest.

    Paul's approach to instruction suggests that he lacks two forms of professional knowledge. What are they?

The Role of Research in Acquiring Professional Knowledge
Knowledge-Level Items

35. Which of the following is the best definition of *research*?
    a. The process of making decisions about the best way to represent the content that is being taught
    b. The process of systematically gathering information in an attempt to answer professional questions
    c. The process of requiring students to demonstrate that they have met specified standards, and holding teachers responsible for students' performance
    d. The process of making changes in educational policy to more nearly meet the needs of students at all levels

36. Which of the following statements most accurately describes the role of research in teaching?
    a. It is the mechanism expert teachers use to improve their practice.
    b. It is the process teachers use to help students understand abstract concepts.
    c. It is the mechanism expert teachers use to confirm commonsense understanding about teaching.
    d. It is the process teacher use to understand theoretical problems that don't have direct application in classrooms.

37. Researchers will often investigate educational events, such as the impact of a certain teaching strategy on the achievement of students, using numerical data and statistical techniques. This process is best described as:
    a. qualitative research.
    b. quantitative research.
    c. descriptive research.
    d. longitudinal research.

38. The use of surveys, interviews, or observations to identify people's opinions and attitudes is best described as:
    a. quantitative research.
    b. correlational research.
    c. experimental research.
    d. qualitative research.

39. Research that combines quantitative and qualitative approaches to trying to answer an educational question is best described as:
    a. descriptive research.
    b. correlational research.
    c. mixed-methods research.
    d. longitudinal research.

40. Of the following, the best description of the type of research that is most commonly conducted by teachers in their classrooms is:
    a. descriptive research.
    b. correlational research.
    c. action research.
    d. experimental research.

41. When conducting action research, after identifying and diagnosing a problem that is important to you, the next step is to:
    a. use the results of the study to generate additional research.
    b. implement the findings to solve or improve a local problem.
    c. generalize the findings to other action research settings.
    d. systematically plan and conduct a research study.

42. Research in education has received a considerable amount of criticism over the years, with its lack of impact on classroom practice being one of the most important.
    Which of the following types of research has become prominent in response to these criticisms?
    a. Design-based research
    b. Qualitative research
    c. Action research
    d. Quantitative research

43. Of the following, what is the best description of a theory?
    a. A series of related patterns that can be used as a basis for explanation and prediction.
    b. A large body of information that has limited value in the real world.
    c. An abstract description of events taking place primarily in the sciences.
    d. A series of descriptions and conjectures that don't have any basis in fact.

44. Sets of related principles that are based on observations and are used to explain additional observations best define:
    a. pedagogical content knowledge.
    b. random assignment.
    c. research.
    d. theories.

45. Of the following, the best description of the use of theories is to:
    a. rehearse and reflect.
    b. describe and correlate.
    c. explain and predict.
    d. inquire and experiment.

Higher-Level Items

46. A research study indicating that teachers who use concrete examples to illustrate their topics have students who score higher on their achievement tests than teachers who represent the ideas abstractly best illustrates what kind of research?
    a. Qualitative research
    b. Quantitative research
    c. Descriptive research
    d. Longitudinal research

47. Amanda Jones is an educational researcher who uses a series of case studies to investigate factors related to the success of members of cultural minorities in colleges and universities. The type of research that Amanda does can best be described as:
    a. quantitative research.
    b. action research.
    c. mixed-methods research.
    d. qualitative research.

48. Luisa Hernandez is an educational researcher. She surveys everyone in the district to obtain their opinions about after-school enrichment programs. What type of research is best illustrated by Luisa's efforts?
    a. Quantitative research
    b. Qualitative research
    c. Mixed-methods research
    d. Design-based research

49. A research team from a nearby university collaborates with Felice Hernandez, a 5th grade teacher, to examine the impact of concept maps, on students' reading comprehension. A series of studies are conducted with Felice's, and each study's design depends in part on the results of the previous study.
    Of the following, which type of research is best illustrated by this description?
    a. Quantitative research
    b. Qualitative research
    c. Action research
    d. Design-based research

50. Nikki Yudin, a middle school teacher, has recently read articles suggesting that homework doesn't increase student learning. So, she decides to investigate the question.

In two of her classes she gives homework as always, and in two other classes she assigns no homework. She follows this practice for one 9-week grading period, and finds that the classes who did homework scored higher than her other two classes on her 9-weeks test.

Which of the following types of research is best illustrated by Nikki's study?

a. Action research
b. Qualitative research
c. Mixed-methods research
d. Design-based research

51. Researchers observe a sample of teachers and find that those who ask large numbers of questions have students who are more attentive than those who spend more time lecturing and explaining. They also interview a selected sample of students to determine students' emotional reactions to being asked large numbers of questions.

Of the following which type of research is best illustrated by the researchers' practices?

a. Quantitative research
b. Qualitative research
c. Mixed-methods research
d. Action research

52. You understand the statements "People tend to display the same behaviors that they see other people display," and "People are more likely to imitate the behaviors of famous people than people who are less famous."

You realize that the statements are related and you then realize why movie stars and athletes are used to help companies sell their products.

Of the following, what best describes the two related statements?

a. Combined, they illustrate components of a theory.
b. Combined, they illustrate experimental research.
c. Combined, they illustrate critical decision making.
d. Combined, they illustrate pedagogical content knowledge.

53. You have studied a theory that focuses on the way people learn, and you understand the theory thoroughly. Of the following, which statement best describes how you will use this understanding in the real world?

a. It provides you with information about the way people learn that you know to be true for all cases.
b. It allows you to predict what kind of practice will likely result in the most learning.
c. It provides you with a set of teaching rules, which if properly applied will almost always work.
d. It provides you with knowledge and understanding, even though it has limited application for classroom practice.

Essay Items

54. Describe each of the following types of research and explain how they're different: quantitative research, qualitative research, mixed-methods research, action research and design-based research.

55. Describe the relationship between research and theory. Provide an example that illustrates the relationship between the two.

Teaching in Today's Classrooms
Knowledge-Level Items

56. Statements that describe what students should know or be able to do at the end of a prescribed period of study are best described as:
    a. forms of accountability.
    b. standards.
    c. value-added models.
    d. assessments.

57. Which of the following best explains why the Common Core State Standards Initiative (CCSSI) was developed?
    a. States wanted to ensure that all students graduate from high school with the skills and knowledge necessary to succeed in college, career, and life, regardless of where they live.
    b. Our federal government wanted to create a national curriculum that would be competitive with other advanced nations.
    c. States in our country wanted standards to focus to a much greater extent on the impact of technology on learning and teaching.
    d. Educational leaders wanted to create standards that would "level the playing field" for students who are members of cultural minorities.

58. The process of requiring students to demonstrate that they have met standards, and making teachers responsible for ensuring that students do indeed meet the standards is best described as:
    a. value-added modeling.
    b. standards-based education.
    c. assessment.
    d. accountability.

59. Which of the following best describes demographic trends predicted to exist over the next few years in our country?
    a. By the year 2026 more than half of the students in our country will be members of cultural minorities.
    b. By the year 2026, more than half country's students will be of Hispanic background.
    c. By the year 2026, more than half of the students in our country will be students with exceptionalities.
    d. By the year 2026, more than half of the students in our country will be African American.

60. Which of the following best describes the poverty rates in our country compared to other industrialized countries?
    a. The percentage of American families below the poverty line is consistently lower than in other industrialized countries.
    b. The percentage of American families below the poverty line is about the same as in other industrialized countries.
    c. The percentage of rural American families below the poverty line is lower than in other industrialized countries, but the percentage of urban American families below the poverty line is higher than in other industrialized countries.
    d. The percentage of American families below the poverty line is consistently higher than in other industrialized countries.

61. Which of the following best describes experts' estimates of the impact that technology will have on education over the next several years?
    a. Technology will present both potential benefits and challenges for teachers; technology is neither all good nor all bad.
    b. Technology will revolutionize teaching; in 10 years teaching won't resemble the way it exists today.
    c. The influence of technology on teaching will largely be limited to using the Internet to access information.
    d. Research suggests that technology is having a negative impact on learning because of the amount of time students spend on activities such as texting and playing video games.

Higher-Level Items

62. Teresa Walker is a second-grade teacher in a large urban elementary school. Her students take a state test near the end of the school year to determine their learning progress. Teresa's year-end evaluation is determined in part by the amount her students improve, such as moving from the 50^{th} to the 60^{th} percentile in reading during the academic year.
    The overall process Teresa is experiencing best illustrates which of the following?
    a. Accountability
    b. High-stakes testing
    c. Pedagogical content knowledge
    d. Standards-based instruction

Essay Items

63. Explain why standards and accountability are so much a part of teaching in today's schools in our nation.

64. Describe the Common Core State Standards Initiative, and explain why it was developed.

65. Describe the general process of teacher licensure and evaluation that virtually all teacher candidates will experience.

66. Describe an important demographic trend that is occurring in our country and the implications this trend will have for teaching in the future.

CHAPTER TWO

COGNITIVE AND LANGUAGE DEVELOPMENT

What Is Development?

Knowledge-Level Items

1. Of the following, what is the best definition of development?
    a. Changes that occur in human beings as they grow from infancy to adulthood
    b. The process of adjusting schemes to maintain a state of equilibrium
    c. Modifying environmental experience to fit existing schemes
    d. Physiological changes in an individual that result from genetic makeup

2. Which of the following is a principle of development?
    a. Development proceeds in discrete steps, like walking up a stairway.
    b. Development and learning are relatively independent.
    c. Children develop at about the same rate until they reach school age.
    d. Development depends on both heredity and the environment.

3. At the center of Bronfenbrenner's model is/are:
    a. the individual.
    b. parents.
    c. the microsystem.
    d. the mesosytem.

4. In Bronfenbrenner's model, the people and activities in the child's immediate surroundings, which include parents, peers, school, and other influences such as television and the Internet, make up the:
    a. environment.
    b. microsystem.
    c. chronosystem.
    d. exosystem.

5. In Bronfenbrenner's model, interactions between people and activities in the child's immediate surroundings, such as interactions between peers, school, and the immediate neighborhood, make up the:
    a. microsystem.
    b. mesosystem.
    c. exosystem.
    d. macrosystem.

6. Societal influences, such as parents' jobs, school systems, and workplace conditions, best describe which of Bronfenbrenner's bioecological systems?
    a. Microsystem
    b. Mesosystem
    c. Exosystem
    d. Macrosystem

Higher-Level Items

7. One eighth grader is a young woman, physically and emotionally mature, whereas her classmate is still a "little girl," both physically and emotionally. Which of the following principles of development does this example best illustrate?
    a. Development proceeds in orderly and predictable patterns.
    b. Experience enhances development.
    c. People develop at different rates.
    d. Development depends on both heredity and the environment.

8. Fred Rogers encourages parental involvement in his students' activities. He calls parents, has his students create a newsletter that goes to parents each month, and sends packets of work home to be signed and returned. Which of Bronfenbrenner's bioecological systems is best illustrated by Fred's efforts?
    a. Microsystem.
    b. Mesosystem.
    c. Exosystem.
    d. Macrosystem.

9. Michaels's cultural background emphasizes individualism, autonomy, and self-reliance, whereas Chu's culture emphasizes group cooperation and respect for authority. In Bronfenbrenner's model, these influences on personal development would be classified as part of the:
    a. microsystem
    b. mesosystem
    c. exosystem
    d. macrosystem

10. Jennifer is fortunate enough to go to a school that has a full-time school psychologist, school nurse, and small class sizes. Sonya's school, however, is overcrowded, and the school psychologist only comes twice a week, because he has two other schools for which he is responsible.

    These influences on personal development would be classified in Bronfenbrenner's model as part of the:
    a. microsystem.
    b. mesosystem.
    c. exosystem.
    d. macrosystem.

11. Jenny Newhall, a first-grade teacher, demonstrates that air takes up space by pushing an inverted drink cup into a fish bowl of water. The students see that the cup doesn't fill with water. Darlene explains that water doesn't go into the cup because "the cup is tipped over." Alysia says, "Air kept the water out. My dad and I were in the swimming pool, and when he tipped the cup, some air got out and water got in, but if he didn't tip the cup, no water could get in."

    Which of the following principles of development does this example best illustrate?
    a. Development proceeds in orderly and predictable patterns.
    b. Development depends on both heredity and the environment.
    c. People develop at different rates.
    d. Development occurs in a variety of domains.

Essay Items

12. Describe the three general principles of development, and provide an example of each.

13. Describe each of the systems in Bronfenbrenner's bioecological model of personal development.
14. Describe two important implications of Bronfenbrenner's bioecological model of personal development, and provide an example to illustrate each.

The Neuroscience of Learning and Development
Knowledge-Level Items

15. Research has uncovered a number of characteristics of our brains. Of the following, which is *not* one of those characteristics?
    a. The brain is our body's most complex organ.
    b. The brain instinctively looks for patterns in the way the world works.
    c. The structure of the brain develops during childhood and remains largely unchanged after that time.
    d. Genetically determined electric circuits are the foundation of the nervous system.

16. Brain nerve cells are called:
    a. neurons.
    b. dendrites.
    c. synapses.
    d. lobes.

17. The components of neurons that transmit outgoing messages to other neurons are called:
    a. dendrites.
    b. lobes.
    c. synapses.
    d. axons.

18. The components of neurons that receive incoming messages from other neurons are called:
    a. dendrites.
    b. lobes.
    c. synapses.
    d. axons.

19. Of the following, the part of the brain most nearly responsible for much of human problem solving and language is the:
    a. dendrite branch.
    b. neural connection.
    c. synaptic center.
    d. cerebral cortex.

20. The process of firing and insulating a neural circuit is best described as which of the following?
    a. Synaptic pruning
    b. Myelination
    c. Neural connectivity
    d. Neuroplasticity

21. The process of eliminating synapses that are infrequently used is best described as which of the following?
    a. Myelination
    b. Neuroplasticity
    c. Neural reduction
    d. Synaptic pruning

22. A misconception generated by a misunderstanding, a misreading or a misquoting of facts scientifically established by brain research best describes a:
    a. neuro-segment.
    b. critical period.
    c. neuromyth.
    d. neuro-fallacy.

23. The finding that people who learn a foreign language later in life often speak with an accent is best explained by:
    a. the importance of optimal environments.
    b. the existence of critical periods.
    c. increased neural activity during language development.
    d. the effects of enriched environments.

24. Research on *critical periods* in brain research most nearly suggests which of the following?
    a. Critical periods exist for humans but are flexible.
    b. The best time for the introduction of reading and math is 6 to 8 years.
    c. Critical periods provide critical "windows of opportunities" for developmental growth.
    d. Preschool should be a time of exploration and free play.

25. Which of the following best describes the concept of *neuroplasticity?*
    a. The ability of the brain to rewire itself in response to experience
    b. The tendency of people to be left-brained or right-brained
    c. The tendency of the brain to look for patterns in the way the world works
    d. The ability of the brain to govern and determine a range of behaviors

26. Several controversies exist with respect to neuroscience. Which of the following is ***not*** one of those controversies?
    a. The tendency of people to use neuroscience to explain behaviors and events it is incapable of explaining.
    b. The benefits or lack of benefits of added stimulation for cognitive development in young children
    c. The influence of experience on the physiology of the brain.
    d. The role of critical periods for development

Higher-Level Items

27. Neuroscientists, psychologists, and educators generally believe that teenagers need firm and consistent home and school environments that support learning and development. Which of the following components of the physiology of our brains and nervous systems is most closely related to this conclusion?
    a. The neuron
    b. The cerebral cortex
    c. The prefrontal cortex
    d. The dendrite

Use the following example for Items 28 and 29.

Jenny Newhall, a first-grade teacher, demonstrates that air takes up space by pushing an inverted drink cup into a fish bowl of water. The students see that the cup doesn't fill with water. Darlene explains that water doesn't go into the cup because "the cup is tipped over." Alysia says, "Air kept the water out. My dad and I were in the swimming pool, and when he tipped the cup, some air got out and water got in, but if he didn't tip the cup, no water could get in."

28. With respect to cognitive development, which of the following conclusions is most valid?
    a. Darlene is more "developed" than is Alysia, because she made a comment based on observation.
    b. Alysia is more "developed" than is Darlene, because she made a cognitively more sophisticated conclusion.
    c. Alysia is more "developed" than Darlene, because she is more mature.
    d. Both of the children are about equally developed, because they are both in the first grade, and children of the same age tend to be at about the same developmental level.

29. With respect to the experience with air taking up space and the learning physiology of the brain, which of the following conclusions is most valid?
    a. Darlene will have more synaptic connections related to air taking up space than will Alysia.
    b. Both of the children will have about the same number of synaptic connections.
    c. Alysia will have more synaptic connections than will Darlene.
    d. The experience will result in more synaptic pruning for Alysia than it will for Darlene.

30. Bruce is struggling with a word problem in math. The part of his brain that is most directly involved in his attempts is the:
    a. occipital lobe.
    b. temporal lobe.
    c. parietal lobe.
    d. cerebral cortex.

31. Geraldo, a third grader, is creating a story map that identifies the feelings of the character in the story. His teacher's goal is for all of her students to be able to draw inferences about characters' feelings based on clues in the stories they read.
    The part of the learning physiology of Geraldo's brain that will be most strongly influenced by these experiences are the:
    a. dendrites.
    b. synapses.
    c. axons.
    d. neurons.

32. "I just attended the best workshop I've ever been to," Suzanne exclaims to her friend, Molly. "They talked at length about being sure to adapt our instruction to our students' preferred learning styles, and I'm trying to make sure I do that now as I plan."
    Of the following, which is the best assessment of Suzanne's efforts?
    a. Her efforts are likely to dramatically increase her students' learning.
    b. Her efforts are likely to increase her student's learning, but not dramatically.
    c. Her efforts are likely to significantly decrease her students' learning.
    d. Her efforts are not likely to impact her students' learning one way or the other.

33. Which of the following is the most important implication of neuroscience for our teaching?
    a. Attempt to design our instruction so it's consistent with students' preferred learning styles.
    b. Encourage school leaders to organize the curriculum so content is presented during students' critical periods for learning.
    c. Provide students with a great deal of practice with the content and skills they are attempting to acquire.
    d. Allow students to have input into projects, so right-brained and left-brained students can capitalize on their learning tendencies.

Essay Items

34. Explain the learning physiology of the brain and explain how it is related to cognitive development.

35. Describe three implications of neuroscience for our teaching, and provide an example to illustrate each implication.

Piaget's Theory of Cognitive Development
Knowledge-Level Items

36. The biological changes we see in individuals as a result of the interaction of their genetic makeup with the environment is called:
    a. learning.
    b. maturation.
    c. development.
    d. experience.
37. According to Piaget, people's need for order, structure, and predictability is called:
    a. development.
    b. learning.
    c. maturation.
    d. equilibrium.

38. Of the following, the best definition of a scheme is:
    a. the knowledge, procedures, and relationships that we use to understand the world.
    b. the orderly durable changes in a learner resulting from learning, experience, and maturation.
    c. a state of conceptual balance and order.
    d. the process of modifying environmental experience to fit present understanding.

39. The process of changing existing schemes in response to new experiences is called:
    a. assimilation.
    b. accommodation.
    c. equilibration.
    d. maturation.

40. A form of adaptation in which an experience in the environment is modified to fit an existing scheme is called:
    a. organization.
    b. accommodation.
    c. assimilation.
    d. maturation.

41. The ability to mentally trace a line of reasoning back to its beginning is referred to as:
    a. reversibility.
    b. centration.
    c. transformation.
    d. systematic reasoning.

42. The stage in which children are unable to remember physical objects that are no longer visible is called the:
    a. sensorimotor stage.
    b. preoperational stage.
    c. concrete operational stage.
    d. formal operational stage.

43. The inability to interpret an event from another person's point of view is called:
    a. irreversibility.
    b. centration.
    c. egocentrism.
    d. assimilation.

44. The tendency to focus on one perceptual aspect of an event to the exclusion of all others is called:
    a. egocentrism.
    b. irreversibility.
    c. transformation.
    d. centration.

45. The ability to mentally record the process of change from one state to another–such as mentally recording a clay ball being flattened–is called:
    a. centration.
    b. reversibility.
    c. transformation.
    d. conservation.

46. The idea that the "amount" of some substance stays the same regardless of its shape or the number of pieces into which it is divided is called:
    a. centration.
    b. equilibrium.
    c. transformation.
    d. conservation.

47. The process of ordering of objects according to increasing length, weight, or volume is called:
    a. seriation.
    b. transformation.
    c. conservation.
    d. centration.

48. When teachers work with children, Piaget would most strongly advocate which of the following?
    a. Hands-on experience
    b. Video and vicarious experience
    c. Texts with logical systematic teacher presentations
    d. Lectures and explanations of content to be learned.

49. Of the following, which is the best description of the state of *typical* kindergartners' cognitive development?
    a. Their thinking is limited to the motor processing of information.
    b. Their thinking is dominated by their perception of concrete objects.
    c. Their thinking is logical if they are presented with concrete experiences.
    d. Their thinking is logical if they are able to work together in pairs or small groups.

50. Most students during kindergarten and first grade are at what stage of cognitive development?
    a. Sensorimotor
    b. Preoperational
    c. Concrete operational
    d. Formal operational

51. According to Piaget, the typical 10-year-old is in which stage of development?
    a. Sensorimotor
    b. Preoperational
    c. Concrete operational
    d. Formal operational

52. According to Piaget, at which stage does symbolic thought emerge?
    a. Sensorimotor
    b. Preoperational
    c. Concrete operational
    d. Formal operational

53. The ability to infer a relationship between two objects based on knowledge of their relationship with a third object is defined as:
    a. conservation.
    b. seriation.
    c. transitivity.
    d. centration.

54. Which of the following is *not* a characteristic of formal thought?
    a. Thinking abstractly
    b. Thinking concretely
    c. Thinking systematically
    d. Thinking hypothetically

55. According to Piaget, which of the following best describes the role of social interaction in cognitive development?
    a. Social interaction does not play a role in cognitive development.
    b. Social interaction provides a mechanism for learners to test their schemes against the schemes of others.
    c. Social interaction directly causes development by helping learners remain at equilibrium.
    d. Social interaction allows learners to work within their zones of proximal development.

56. According to Piaget's theory together with research examining the theory, which of the following best describes the thinking of adolescents?
    a. They are formal operational in their thinking in all areas except higher-level mathematics.
    b. They are concrete operational in their thinking in all areas.
    c. They are capable of formal operational thought, but most remain concrete operational outside in which they have significant experience.
    d. Because they are chronologically at the age of formal operations, they are formal operational in this thinking.

Higher-Level Items

57. Brad always takes the same route to work each morning, parks in the same place, and returns home again the same way. I like it this way," he says. "I don't have to think about anything. I just go." The Piagetian concept most closely related to this illustration is:
    a. transformation.
    b. maturation.
    c. accommodation.
    d. equilibrium.

58. Kerry understands of how the western United States was settled. He knows that large numbers of settlers came from Europe and tried to make a new life in the American West. His teacher, Mr. Rudy, notes in class that the settlers included some from Mexico and also some former slaves. Kerry now questions his own understanding. Which of the following Piagetian concepts is Kerry most clearly is displaying?
    a. Transformation
    b. Maturation
    c. Assimilation
    d. Disequilibrium

59. Mrs. Ortega dresses very professionally for school each day, and the students even notice how nice she always looks. She is planning a unit on poverty in America, so on Monday, the day she begins the unit, she dresses in old, torn, and soiled clothes and marches into her classroom to the astonishment of her students. Of the following, the Piagetian concept most closely related to the students' reaction is:
    a. transformation.
    b. disequilibrium.
    c. reversibility.
    d. assimilation.

60. Joe has just learned the characteristics of a circle and looks at his family as a circle, his friends as a circle, the loop around the city as a circle. This best illustrates Piaget's concept of:
    a. scheme.
    b. accommodation.
    c. transformation.
    d. reversibility.

61. Molina believes there are nine planets in the solar system, but she understands the characteristics of the solar system quite well. She knows, for example, that the outer planets—Jupiter, Saturn, Uranus, and Neptune—are large, gaseous, and cold. Now, her teacher explains that scientists are suggesting that a new planet-like body may exist beyond Pluto and that Pluto itself is no longer considered a planet.

    Molina considers this new information and during discussion in class states, “If there is another planet out there, it would have to be incredibly cold!” Piaget would say she:

    a. went through a process of transformation, seeing the process move from one point to another.
    b. illustrated seriation by adding an additional planet to her understanding.
    c. reached equilibrium through the process of accommodation.
    d. assimilated new information into an already existing scheme.

62. Sally understands the concept *feline* based on examples, such as a mountain lion, cheetah, and leopard. She sees a picture of a bobcat and concludes that it is a feline even though it is much smaller than the other examples. This best illustrates Piaget's concept of:

    a. assimilation.
    b. accommodation.
    c. seriation.
    d. centration.

63. Dr. Evans, an economics professor, once said, "The world is governed by economics." Later the faculty was told in a meeting about university enrollment problems and what effect these had on funding. Dr. Evans nods knowingly and mumbles, "Yes, economics rules the world." Piaget would say she:

    a. went through a process of transformation seeing the process move from one point to another.
    b. accommodated a scheme to include an additional example.
    c. assimilated an example into an already existing scheme.
    d. maintained equilibrium through the process of maturation.

Items 64-66 are related to each other.

64. Tanya is 16 and is learning basic word processing in a class in her high school. In Piagetian terms the best description of *her ability to use the word processing program* would be called:

    a. a transformation.
    b. accommodation.
    c. maturation.
    d. a type of scheme.

65. Tanya was using the Mac, and the school switched to the Windows operating system. She commented that it was really different, and much of what she did before had different commands, but she has now made the switch to Windows successfully. After Tanya changed her thinking, which of the following is the most accurate statement?
    a. Tanya adapted through the process of assimilation.
    b. Tanya adapted through the process of accommodation.
    c. Tanya adapted through the process of maturation.
    d. Tanya adapted as a result of social experience.

66. Tanya is used to using the word processing program Word, and she is doing some work for her brother Mike, who has been using WordPerfect, a different word processing program. Tanya is quickly able to use WordPerfect for Windows with little difficulty, since many of the commands for it are the same as the commands for Word. Tanya's ability to use WordPerfect best illustrates:
    a. cognitive development as a result of maturation.
    b. learning as a result of social experience.
    c. the process of assimilation.
    d. the process of accommodation.

67. Ms. Ramsay is discussing the Civil War with her students. She poses the question, "What would life have been like as a child during this time?" Her students are able to generate some plausible explanations. Using Piaget's theory as a basis, at which stage of development, are her students most nearly demonstrating?
    a. Sensorimotor
    b. Preoperational
    c. Concrete operational
    d. Formal operational

68. Teachers often comment that they can easily tell which students in their classes have had parents who have worked with them, such as reading to them, talking to them, and taking them to places, such as museums, compared to other students whose parents have been less involved. Of the following, the Piagetian concept most closely related to this description is:
    a. maturation.
    b. experience.
    c. transformation.
    d. centration.

69. People sometimes argue that students shouldn't take professional education courses as undergraduates, because they aren't "meaningful." Colleges of education have responded to this criticism by having undergraduate students spend time in P-12 classrooms working with teachers in the real world. According to Piaget, of the following, the best explanation for the value of having P-12 students spend time in classrooms would be that it:
    a. helps preservice make the *transformation* from the university classroom to the real world of teaching.
    b. provides concrete experiences for the abstract concepts related to teaching and learning that teachers must understand.
    c. contributes to preservice teachers' maturation, so they are more confident when they begin their work in the real world of classrooms.
    d. provides the necessary social interaction to improve preservice teachers' communication skills.

70. We don't try to teach algebra to second graders. Based on Piagetian theory, which of the following is likely the best explanation for why we don't?
    a. Experience: Second graders are qualitatively capable of dealing with algebra, but they lack the prerequisite experiences.
    b. Maturation: Students' thinking isn't mature enough to cope with the abstract thinking required in algebra.
    c. Symbolism: Second graders have not yet developed symbolic thought.
    d. Initiative: Second graders typically lack the initiative to study a topic such as algebra.

71. Piaget's theory suggests that children are essentially egocentric when they're born and their egocentricity gradually declines as they develop. Of the following, the factor most influential in helping to reduce egocentricity would most likely be:
    a. social interaction.
    b. experience with the physical world.
    c. transformation.
    d. maturation.

72. In the children's story *Bambi,* Thumper the rabbit is teaching Bambi about the forest, and Bambi has learned about flowers.

    They then encounter the skunk. "Flower," Bambi says, because the skunk somehow reminds him of a flower.

    "No, Bambi," Thumper laughs, "Skunk."

    "Flower!" Bambi insists.

    The Piagetian concept that most closely relates to Bambi's reaction is:
    a. transformation.
    b. assimilation.
    c. accommodation.
    d. maturation.

73. Which of the following best illustrates *qualitative* differences in thinking?
    a. Dennis used to be able to solve only one algebraic equation but can now solve two simultaneous algebraic equations.
    b. Jennifer used to think that food disappeared when we ate it but now knows that our body changes it through digestion.
    c. Ann used to be able to find the longitude and latitude of points only on a plane map, but she now can find longitudes and latitudes on a globe.
    d. Al knows that force is a push or a pull, so he now concludes that magnets exert a force on some metal objects even though the magnet isn't touching the object.

74. Charles is shown two rows of coins having six coins in each row. He concludes that the rows have the same numbers of coins. The coins in the second row are then spread apart as Charles watches so the second row appears longer. Charles then concludes that there are more coins in the second row. Which of the following Piagetian concepts does Charles' behavior best illustrate?
    a. Centration
    b. Accommodation
    c. Reversibility
    d. Transformation

75. Isaac has a scheme for *tree* but not for *electricity.* What stage doesn't Isaac's thinking most nearly illustrate?
    a. Sensorimotor
    b. Preoperational
    c. Concrete operational
    d. Formal operational

76. Ava lays out four wooden sticks on the table in front of her with the longest on the left, second longest next to the first stick, third longest next to the second stick, and shortest stick on the right. Piaget would say Ava's ability most nearly illustrates:
    a. accommodation.
    b. centration.
    c. classification.
    d. seriation.

77. Jerry, a first grader, sorts bolts into one pile, nuts that fit on the bolts in a second pile, washers that fit over the bolts in a third pile, and nuts that are too small to fit on the bolts in a fourth pile. Which of Piaget's stages of development does this ability best illustrate?
    a. Sensorimotor
    b. Preoperational
    c. Concrete operational
    d. Formal operational

78. Students are asked to conjecture as to what conditions would result in more girls choosing to take advanced science and mathematics courses. According to Piaget, students are able to handle this type of question at what stage of development?
    a. Sensorimotor
    b. Preoperational
    c. Concrete operational
    d. Formal operational

79. Carrie's mother gives her three cookies as a snack. "I have only three cookies," Carrie protests. "I want more cookies." Her mother then breaks the cookies in half, they count the six pieces together, and Carrie stops protesting. Which stage of cognitive development is best illustrated by the fact that Carrie stops protesting?
    a. Sensorimotor
    b. Preoperational
    c. Concrete operational
    d. Formal operational

80. Abigail is able to simplify the following mathematical expression: $4 + 7(2 – (-3)) - 7$. Which stage of development is best illustrated by Abigail's ability?
    a. Sensorimotor
    b. Preoperational
    c. Concrete operational
    d. Formal operational

81. Mr. Smith is discussing the question, "What would life be like for us if we were living 100 years from now?" His students offer some insightful and original answers. Which stage of development is best illustrated by the students' ability to deal with the question effectively?
    a. Sensorimotor
    b. Preoperational
    c. Concrete operational
    d. Formal operational

Use the following information for items 82-84.

Ben Johnson is teaching the concept *arthropod* (insects, spiders, lobsters, crabs, shrimp, etc.) to his fifth graders. He wants them to understand that arthropods are cold blooded and have exoskeletons, three body parts, and jointed legs as characteristics.

82. Using Piaget's work as a basis for his decision, which of the following would be the best example for teaching the concept?
    a. A lobster from a fish store
    b. A movie showing a "crabber" catching crabs in a crab pot
    c. A color picture of a shrimp swimming in the water
    d. A picture showing insects and their body parts

83. After Ben shows several examples of arthropods, and the students appear to understand the concept—being able to identify the characteristics of arthropods in additional examples—he asks if Mrs. Edwards, the school principal, is an arthropod. Tina, one of Ben's students, concludes that Mrs. Edwards is indeed an arthropod. When Ben asks Tina to explain why she thinks so, Tina responds, "Mrs. Edwards has jointed legs."

    Of the following, which concept is Tina most nearly demonstrating with her reasoning about Mrs. Edwards?

    a. Centration
    b. Accommodation
    c. Transformation
    d. Seriation

84. What stage of development is best illustrated by Tina's thinking in this example?

    a. Sensorimotor
    b. Preoperational
    c. Concrete operational
    d. Formal operational

85. Mrs. Wells is teaching her fifth graders to find the volume of rectangular solids using the formula V = l x w x h (length times width times height). They have difficulty with the problems, not seeming to be able to visualize the boxes when shown pictures of them in their textbooks. According to Piaget, which of the following would be the best solution to this dilemma?

    a. Wait until they are developmentally ready to deal with the abstraction in finding volume. (Wait and teach it in the sixth grade.)
    b. Show them an empty box, and put cubes in it until it is full to illustrate volume and the concept of "cube".
    c. "Walk them through" several problems taken from their textbooks, being certain that they are successful at each step in the calculation.
    d. Give them pictures of boxes to help them better visualize the problem.

86. Mr. Garvey is working on finding the volume of pyramids with his seventh-grade math class. His students have trouble distinguishing between the altitude of a face of the pyramid and the altitude of the pyramid itself. He then makes a pyramid out of cardboard, sticks a toothpick down the middle, and says, "Now this is the altitude of the pyramid itself." They then deal effectively with the problem.

    Based on this information, the best description of the stage of thinking Mr. Garvey's students are using is:

    a. preoperational, since they cannot correctly perceive the difference between the two altitudes.
    b. concrete operational, since they now understand and can now solve the problem.
    c. formal operational, since they are in the seventh grade, which typically makes them 12 years old.
    d. formal operational, since finding volumes requires the use of symbols, which is abstract.

Use the following information for items 87 and 88.

Mrs. Green teaches an eighth-grade physical science class with students of average to above-average ability. The students are having a difficult time understanding the idea that ice melts at 32 degrees Fahrenheit and water freezes at the same temperature. They can't understand how a solid and a liquid can be at the same temperature when the material is the same.

Mrs. Green explains, "Heat is required to change ice from the solid state to the liquid state. The energy is needed to break down the orderly arrangement of the molecules in the ice, even though the molecules don't move any faster."

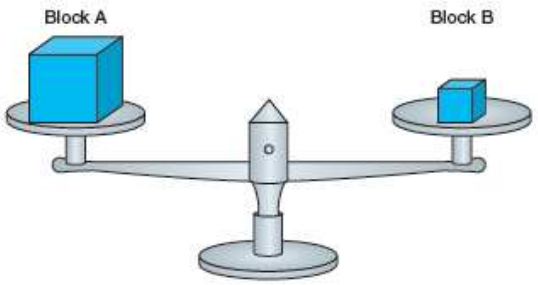
Her students still don't get it.

87. Which of the following would be the most likely explanation Piaget would offer for the students' difficulty?
    a. The students are not yet chronologically at the age of formal operations, and this is a formal operational task.
    b. The students' maturation isn't to the point where they are ready to handle this topic.
    c. The students lack the ability to understand topics as sophisticated as Mrs. Green is trying to teach.
    d. The students lack the concrete experiences needed to understand the ideas involved.

88. Using Piaget's work as a basis for your conclusion, which of the following would be the best solution to Mrs. Green's problem?
    a. Describe the process of the change in molecular motion between a liquid and solid in more detail, so they see the difference.
    b. As a classroom activity, have the students observe some ice cubes as they're allowed to melt, and then describe what they see.
    c. Have them carefully read the explanation in their texts and then discuss the meaning of the text description.
    d. Have the students observe ice cubes as they're allowed to melt, combined with showing them a model illustrating the molecular motion of ice and water.

Use the following information for items 89-92.

A teacher brings a balance into the classroom and places it in front of the students as you see here. The balance has two blocks of different sizes on it. Block A is bigger than block B, but the balance is balanced. The blocks are solid cubes, and they cannot be compressed.



The teacher then presents the students with the following quiz questions.

a. Block A is heavier than block B. T F
b. Block A is more dense than block B. T F
c. Suppose you have a fluid equal in density to block A and another equal in density to block B. The first fluid will float on the second fluid. T F
d. Block A takes up more space than block B. T F

Consider each of the quiz questions (a, b, c, and d), and decide at what level of development a student must be in order to answer correctly.

89. Item a:
    a. preoperational
    b. concrete operational
    c. formal operational

90. Item b:
    a. preoperational
    b. concrete operational
    c. formal operational

91. Item c:
    a. preoperational
    b. concrete operational
    c. formal operational

92. Item d:
    a. preoperational
    b. concrete operational
    c. formal operational

93. Mrs. Solomon gives each of her third graders four wooden squares (each 1" by 1") and a piece of poster paper. They identify the wooden pieces as squares and conclude that they're all the same size.

She has them put the squares together to form a larger square (2" x 2") and to draw a line around the larger square. They remove the wooden squares, and she asks them how much space the wooden pieces covered and leads them to conclude, "four squares."

She asks them what they call the space and introduces the term *area.* She then tells them they have an area of "four squares."

To reinforce the idea, she then asks them what the area of two blocks is and helps them to conclude, "two squares." Later they measure the squares to find that they're 1" on a side, and she introduces the term "square inch."

Based on this information, which of the following is the best assessment of the developmental appropriateness of Mrs. Solomon's teaching of the concept area?

a. Her instruction was developmentally inappropriate, because she shouldn't have told them they had an *area* of four squares. She should have had them generate the term *area* for themselves.
b. Her instruction was developmentally inappropriate, because she should have also used a wooden space to put the squares on instead of poster paper.
c. Her instruction was developmentally appropriate, because the students had concrete illustrations of both *area* and *square.*
d. Her instruction was developmentally appropriate, because she reinforced the concept through teacher direction.

Essay Items

94. Describe two characteristics each of preoperational thought, concrete operational thought, and formal operational thought.

95. You're a high school teacher. Based on research examining Piaget's theory, identify one of the most important implications of his theory for your teaching, and provide an example to illustrate your description.

96. Gary is a fourth grader in school early in the school year. He has above-average ability according to intelligence tests. One day Mrs. Winton, Gary's teacher gave the class a math test, and Gary did quite poorly on it. Gary was devastated but resolved to try harder on the next test.

Given the information in the example, what would be the best explanation for Gary's performance on the test, according to Piagetian theory?

97. Children typically are not allowed to start school if their birthday falls past a certain date (e.g., turning 5 by the first of October). Historically, this hasn't always been the case. Explain how this policy could be the result of Piaget's influence.

98. Two kindergarten teachers were joking about their ages. Patti is older than Jeanna. Jeanna, however, is taller. The children consistently conclude that Jeanna is older than Patti. On the basis of Piagetian theory, explain why the children would conclude that Jeanna is the older of the two.

99. Identify two ways in which neo-Piagetian views of development differ from Piaget's original descriptions of development.

100. Describe four suggestions for applying Piaget's theory in classrooms that teachers can use to promote cognitive development with their students, and provide a classroom example of each.

Vygotsky's Sociocultural Theory of Cognitive Development
Knowledge-Level Items

101. Of the following, which description best outlines the characteristics of a *sociocultural view of development*?
    a. Emphasis in experience and the need for equilibrium embedded in a cultural context in influencing development
    b. Emphasis on social interaction, language, and cultural context in influencing development
    c. Emphasis on culture, transformation, and conservation in influencing development
    d. Emphasis on assimilation, culture, and language in influencing development

102. Of the following, which theorist most stresses the importance of social support and language in cognitive developmental growth?
    a. Chomsky
    b. Bandura
    c. Piaget
    d. Vygotsky

103. Which of the following concepts undergirds Vygotsky's perspective on learning?
    a. Culture and language
    b. Adaptation and accommodation
    c. Assimilation and proximity
    d. Adaptation and equilibrium

104. Which of the following are essential to Vygotsky's view of development?
    a. Social interaction and activity
    b. Close emotional relationships with adults and peers
    c. Adaptation through experimentation
    d. Individual trial and error and experimentation