

## Cluster 2

### Cognitive Development

<b>Module 3: Development: Some General Principles</b>	<b>Relevant Test Items</b>
<b>Objective 2.1:</b> Provide a definition of development that takes into account three agreed-upon principles and describe three continuing debates about development, along with current consensus on these questions.	Multiple Choice: 1-6 Essay: 27
<b>Objective 2.2:</b> Summarize research on the physical development of the brain and possible implications for teaching.	Multiple Choice: 7-14 Essay: 28
<b>Module 4: Piagetian And Information Processing Theories</b>	
<b>Objective 2.3:</b> Explain the principles and stages presented in Piaget's theory of cognitive development, including criticisms of his theory.	Multiple Choice: 15-21 Essay: 29-30
<b>Module 5: Vygotsky's Sociocultural Perspective</b>	
<b>Objective 2.4:</b> Explain the principles presented in Vygotsky's theory of development, including criticisms of his theory.	Multiple Choice: 22-24 Essay: 31
<b>Module 6: Implications Of Piaget's And Vygotsky's Theories For Teachers</b>	
<b>Objective 2.5:</b> Discuss implications of Piaget's and Vygotsky's theories for teaching.	Multiple Choice: 25-26 Essay: 32

#### Multiple Choice Questions

- Each of the following children is undergoing change. All of these changes are defined as developmental EXCEPT:
  - Julius is working on his batting skills, and he hit the ball much farther today.
  - Cait left out several steps in the process of conducting the lab experiment, but she understands what she did wrong and is redoing the experiment.
  - Mark is walking carefully on one foot while his sprained ankle heals.
  - Davarko has learned enough English to introduce himself to other students.
- Rachel has a hard time relating to other students. She is very independent, but wants to have friends. She has tried to carry on conversations about the science concepts that interest her and information she learned from her dad who is a civil engineer. She's trying to branch out and watch a TV show some of the students like so she can discuss it with them at school tomorrow. Rachel's experiences target development in which of the following areas?
  - Cognitive development
  - Personal development
  - Physical development
  - Social development

3. Three questions surrounding development elicit continuing debate among researchers and theorists. These three questions include which one of the following?
  - a. Do people develop at the same rate?
  - b. Does development take place gradually?
  - c. Is development orderly?
  - d. What is the shape of development?
  
4. Kim heard her grandmother speak Mandarin from the time she was born. Her adopted brother never heard Mandarin as a baby or as a child. As Kim grows up, she is more likely than her adopted brother to produce native sounds in Mandarin. This illustrates which of the three ongoing debates surrounding development?
  - a. Nature versus nurture
  - b. Critical versus sensitive periods
  - c. Continuity versus discontinuity
  - d. Qualitative versus quantitative change
  
5. Mason grew one inch between sixth grade and seventh grade. What type of developmental change is this?
  - a. Quantitative
  - b. Qualitative
  - c. Discontinuous
  - d. Personal
  
6. Peyton's language skills are developing rapidly, and he seems to add several new words to his vocabulary every day. What is responsible for this development in a two-year-old?
  - a. Culture
  - b. Environmental influences
  - c. Coaction of nature and nurture
  - d. Biology and maturation
  
7. Mr. Mills instructs his students to practice the steps in the process over and over. As a result of students' practice, what is happening in their brains?
  - a. Overproduction of neurons in the amygdala
  - b. Strengthening of connections between neurons
  - c. Pruning of neurons in the amygdala
  - d. Increase in number of axons per neuron
  
8. What part of the brain has the information processing capacity of a small computer?
  - a. Each neuron
  - b. Cerebellum
  - c. Thalamus
  - d. Hippocampus
  
9. Mrs. Bollar created four centers in her classroom that related to sea life. Children accessed books, photographs, charts and posters, computer programs, mini-movies, and models. At the end of the unit, the students visited an aquarium. What type of synaptic production takes place as a child accesses such a rich learning environment?

- a. Neurogenesis
  - b. Myelination
  - c. Experience-dependent
  - d. Experience-expectant
10. As an adult, Sanya wants to learn Spanish and become a Spanish teacher. She is having trouble trilling the *r* and does not sound like a native speaker. What kind of synapse overproduction and pruning process is associated with Sanya's difficulty?
- a. Neurogenesis
  - b. Myelination
  - c. Experience-dependent
  - d. Experience-expectant
11. Mr. Benet gives his students an assignment that prepares them for their upcoming debate. The assignment involves the analysis of divergent perspectives on the issue, development of arguments to support the diverse perspectives, and efficient recall of resources and persuasive points during the debate. What part or parts of the brain are most likely functioning to complete this assignment effectively?
- a. Amygdala
  - b. Right hemisphere of the cortex processing creatively
  - c. Left hemisphere of the cortex processing analytically
  - d. Many parts working simultaneously
12. "High horse power, poor steering," is a common phrase describing adolescent brain maturity. Which of the following behaviors best illustrates the meaning behind this saying?
- a. Hansen had never skipped class before, but decided it was worth skipping to spend the day on the lake with two buddies.
  - b. Sophie studied harder and longer than usual and really wanted to ace the chemistry test, but she didn't study the lab material.
  - c. Carrington studied every day for the physics exam and felt good about his preparation, but his anxiety overwhelmed him when he started taking the test.
  - d. DeLinda wanted to go to the football game on Friday night, but she decided to go to a movie with her dad instead.
13. What facts about brain development during adolescence explain their risk-taking impulsivity?
- a. The right hemisphere develops earlier than the left hemisphere.
  - b. The left hemisphere develops earlier than the right hemisphere.
  - c. The limbic system develops more slowly than the prefrontal lobe.
  - d. The limbic system develops earlier than the prefrontal lobe.
14. Katie was watching a movie and heard the main character say, "You only use 10% of your brain, and you're either right-brained or left-brained. Stop working at it. Your brain can't change. Drink up. At least we know your drinking isn't killing your brain cells." What part of the character's statement is true?
- a. You only use 10% of your brain.
  - b. Your drinking isn't killing your brain cells.
  - c. You're either right-brained or left-brained.
  - d. Your brain can't change.

15. According to Piaget, four factors interact to influence cognitive development. Factors include maturation, acting on the environment, and equilibration. What is the other factor?
  - a. Synaptic pruning
  - b. Social transmission
  - c. Quality of parenting
  - d. Quality of teaching
  
16. Bryan went to the zoo with his first-grade class. At the zoo, he saw alligators for the first time. He had never even seen pictures of alligators, but called them big-mouthed snakes. What basic tendency of thinking is Bryan using?
  - a. Conservation
  - b. Assimilation
  - c. Object permanence
  - d. Reversible thinking
  
17. Which of the following children has most likely reached the concrete operational stage of cognitive development according to Piaget's four stages?
  - a. Bart dislikes carrots and tells his mom that his friend Doug doesn't like carrots.
  - b. Sara imitates her mother's mouth movements and says, "Dad."
  - c. Pierre follows the pattern of brushing his teeth and changing his clothes before bedtime.
  - d. Cori places the six colorful containers in order of size from smallest to largest.
  
18. Sherita is now grasping the concept of conservation. She is most likely in what stage of development?
  - a. Formal operational
  - b. Preoperational
  - c. Sensorimotor
  - d. Concrete operational
  
19. Dewayne is engaged in the following activities. Which of the activities illustrates conservation?
  - a. Dewayne grouped the words according to their parts of speech by creating columns for nouns, verbs, adjectives, and adverbs.
  - b. Dewayne subtracted 100 from 700 and then added it back to arrive at 700 again.
  - c. Dewayne poured paint from the gallon bucket into his paint pan and realized it's the same amount of paint, but looks like less.
  - d. Dewayne arranged the members of his favorite baseball team in sequential order according to height.
  
20. In which assignment does Ms. Carlson expect her students to use formal operational thinking?
  - a. Ms. Carlson asked students to create mind maps representing their understanding of the organization of their state government.
  - b. Ms. Carlson instructed students to use the note-taking strategy they learned earlier to make notes during a lecture.
  - c. Ms. Carlson asked students to think of metaphors for the current state of the economy in the U.S.

- d. Ms. Carlson told students to share their summary of the story with their partner and compare perceptions.
21. Sierra walked into class late and felt quite embarrassed. To make matters worse, she was having a bad hair day and felt like all eyes were on her, judging her, and rejecting her. Sierra's thinking can be described as:
- disequilibrium.
  - adolescent egocentrism.
  - adaptation by assimilation.
  - accommodation.
22. Which theorist or group of theorists promoted the idea that knowledge is co-constructed during social interactions?
- Piaget
  - Neo-Piagetian theorists
  - Elkind
  - Vygotsky
23. Paige talks out loud to herself as she gets her backpack ready for school. She doesn't want to forget anything important. What would Vygotsky most likely say about Paige's behavior?
- Paige's inner speech is a sign of immaturity.
  - Paige's self-talk serves a positive self-guiding function.
  - Paige's private speech is a sign of instability.
  - Paige's private speech is egocentric and negative.
24. Nick is doing his sixth-grade homework in history. The task requires him to make two maps of his state and compare the two maps. One map represents the state in 1850 and the other represents the state in current times. Nick is working at the task, following the instructions, and feeling that he can complete it successfully. He does need to ask the teacher one question before he finishes. Which of the following terms best describes the relationship of this assignment to Nick's level of performance?
- Above his zone of proximal development
  - In his zone of proximal development
  - Below his zone of proximal development
  - Unrelated to his zone of proximal development
25. In which of the following situations does Mr. Cannon scaffold learning?
- Mr. Cannon assigned readings in the text about the period of history immediately following the Civil War in the U.S.
  - Mr. Cannon gave a student a choice between two actions: return to his seat quietly and immediately or stay after school.
  - Mr. Cannon showed a brief video with a close-up demonstration of the detailed steps he had explained to the class.
  - Mr. Cannon divided students into groups to play their favorite game of trivial pursuit in history.
26. Mrs. Strasbourg made the following statement to her students. "Learning is an active process. Your learning leads you to higher levels of development. I will be working with you, guiding you to more advanced thinking this year. And you will be working

together, learning from one another.” Which theorist or theorists most likely agree with Mrs. Strasbourg’s statement?

- a. Piaget
- b. Vygotsky
- c. Both Piaget and Vygotsky
- d. Current and past psychologists

### **Essay Questions**

27. Lara’s two sons have completely different dispositions and behaviors though they have the same parents and are growing up in the same household. Explain the developmental principles that influence such differences—principles related to the age-old question about the source of development.
28. Riley is typically a rule follower who doesn’t cause trouble. He’s on the football team, has a good reputation, and likes school. In his tenth-grade year, he has started going out with the guys after football games on Friday nights. Now he’s breaking rules, taking risks, and doing things that his younger self labeled as stupid and reckless. Based on what we know about brain development, what explains Riley’s behavior?
29. Suppose that you have a new teaching job, and your students are all most likely in Piaget’s concrete-operational stage of development. Describe strategies you will use to teach the concrete-operational students effectively.
30. Five-year-old Ava and her family welcomed a new baby this week. Ava’s little sister was adopted a few days ago, and now Ava is a bit confused. Her little sister didn’t come from Mommy’s tummy. Her parents flew away and came home with her. But Ava remembers that her little brother came from Mommy’s tummy two years ago.

Using Piaget’s conclusions about humans’ basic tendency toward adaptation, discuss how Ava must adapt her existing schemes to assimilate and accommodate these changes in family structure.

31. Mr. Harper tells one of his third-grade students to talk to himself and tell himself to stay seated, stay focused, and complete the task. This third grader has been diagnosed with ADHD and needs to learn strategies to help him control his behavior and complete his work. What would Lev Vygotsky most likely say about Mr. Harper’s method of management?
32. Ms. Jacobs teaches 26 second-grade students who represent a wide range of diversity. Her students include six English learners, one student who just arrived from Mexico, three students with special learning needs, students from extreme poverty to middle class, and students from various ethnic groups. She has divided students into three reading groups and expects other students to work silently and independently as she

works with reading groups. All students work on the same spelling tasks and worksheets during their independent seatwork.

How might Ms. Jacobs's teaching procedures during reading group time need to change if she followed Vygotsky's ideas about the zone of proximal development?

Cluster 2  
Cognitive Development

**Answer Key: Multiple Choice Questions**

1.	c	<p><b>Correct Answer:</b> Mark is walking carefully on one foot while his sprained ankle heals.</p> <p><b>Feedback for Correct Answer:</b> Mark’s situation involves temporary change caused by an accident. Development includes orderly, adaptive changes we go through between conception and death that remain for a reasonably long period of time.</p> <p><b>Text Reference:</b> A Definition of Development</p>
2.	d	<p><b>Correct Answer:</b> Social development</p> <p><b>Feedback for Correct Answer:</b> Social development involves changes over time in the ways we relate to others. Rachel’s different efforts relate to her social development.</p> <p><b>Text Reference:</b> A Definition of Development</p>
3.	d	<p><b>Correct Answer:</b> What is the shape of development?</p> <p><b>Feedback for Correct Answer:</b> The question of the shape of development is also expressed as continuity versus discontinuity. Is human development a continuous process of increasing abilities, or are there leaps to new stages when abilities actually change?</p> <p><b>Text Reference:</b> A Definition of Development</p>
4.	b	<p><b>Correct Answer:</b> Critical versus sensitive periods</p> <p><b>Feedback for Correct Answer:</b> Are there critical periods during which certain abilities, such as language, need to develop? If those opportunities are missed, can the child still “catch up”? These are questions about timing and development.</p> <p><b>Text Reference:</b> A Definition of Development</p>
5.	a	<p><b>Correct Answer:</b> Quantitative</p> <p><b>Feedback for Correct Answer:</b> Continuous or quantitative change is like walking up a ramp to go higher and higher: Progress is steady. Qualitative, discontinuous changes are like walking up steps.</p> <p><b>Text Reference:</b> A Definition of Development</p>
6.	c	<p><b>Correct Answer:</b> Coaction of nature and nurture</p> <p><b>Feedback for Correct Answer:</b> some psychologists assert that behaviors are determined 100% by biology and 100% by environment—they can’t be separated. Current views emphasize complex coactions (joint actions) of nature and nurture.</p> <p><b>Text Reference:</b> A Definition of Development</p>
7.	b	<p><b>Correct Answer:</b> Strengthening of connections between neurons</p> <p><b>Feedback for Correct Answer:</b> Connections between neurons become stronger with use and practice, but they become weaker when not used.</p> <p><b>Text Reference:</b> The Brain and Cognitive Development</p>



8.	a	<p><b>Correct Answer:</b> Each neuron</p> <p><b>Feedback for Correct Answer:</b> Each neuron has the processing capacity of a small computer. Neurons are specialized nerve cells that accumulate and transmit information in the brain and other parts of the nervous system. An infant brain contains billions of neurons with such capacity. The cerebellum, thalamus, and hippocampus are regions of the brain.</p> <p><b>Text Reference:</b> The Brain and Cognitive Development</p>
9.	c	<p><b>Correct Answer:</b> Experience-dependent</p> <p><b>Feedback for Correct Answer:</b> Two kinds of overproduction and pruning processes take place. Experience-dependent production occurs as synaptic connections are formed based on the individual's experiences. The brain doesn't "expect" these behaviors, so new synapses form in response to these experiences.</p> <p><b>Text Reference:</b> The Brain and Cognitive Development</p>
10.	d	<p><b>Correct Answer:</b> Experience-expectant</p> <p><b>Feedback for Correct Answer:</b> Experience-expectant overproduction and pruning processes are responsible for general development in large areas of the brain and may explain why adults have difficulty with pronunciations that are not part of their native language. This is called <i>experience-expectant</i> because synapses are overproduced in certain parts of the brain during specific developmental periods, awaiting (expecting) stimulation. If the expected experience (such as speaking Spanish) doesn't occur during the specific developmental period, pruning takes place.</p> <p><b>Text Reference:</b> The Brain and Cognitive Development</p>
11.	d	<p><b>Correct Answer:</b> Many parts working simultaneously</p> <p><b>Feedback for Correct Answer:</b> Nearly any task, particularly the complex skills and abilities that concern teachers, requires simultaneous participation of many different areas of the brain in constant communication with each other. For example, the right side of the brain is better at figuring out the meaning of a story, but the left side is where grammar and syntax are understood. So both sides of the brain have to work together in reading and other complex cognitive tasks.</p> <p><b>Text Reference:</b> The Brain and Cognitive Development</p>
12.	a	<p><b>Correct Answer:</b> Hansen had never skipped class before, but decided it was worth skipping to spend the day on the lake with two buddies.</p> <p><b>Feedback for Correct Answer:</b> Adolescents often have trouble avoiding risks and controlling impulses. This is why adolescents' brains have been described as "high horse power, poor steering"</p> <p><b>Text Reference:</b> The Brain and Cognitive Development</p>
13.	d	<p><b>Correct Answer:</b> The limbic system develops earlier than the prefrontal lobe.</p> <p><b>Feedback for Correct Answer:</b> One explanation for this problem with avoiding risks and impulsive behavior looks to differences in the pace of development for two key components of the brain—the limbic system</p>

		<p>and the prefrontal cortex. The limbic system develops earlier; it is involved with emotions and reward-seeking/novelty/risk-taking/sensation-seeking behaviors. The prefrontal lobe takes more time to develop; it is involved with judgment and decision making.</p> <p><b>Text Reference:</b> The Brain and Cognitive Development</p>
14.	b	<p><b>Correct Answer:</b> Your drinking isn't killing your brain cells.</p> <p><b>Feedback for Correct Answer:</b> Heavy drinking does not kill brain cells but it can damage the nerve ends called dendrites. This causes problems with communicating messages in the brain. This damage is mostly reversible.</p> <p><b>Text Reference:</b> The Brain and Cognitive Development</p>
15.	b	<p><b>Correct Answer:</b> Social transmission</p> <p><b>Feedback for Correct Answer:</b> According to Piaget, our cognitive development is influenced by <i>social transmission</i>, or learning from others. Without social transmission, we would need to reinvent all the knowledge already offered by our culture.</p> <p><b>Text Reference:</b> Piaget's Theory of Cognitive Development</p>
16.	b	<p><b>Correct Answer:</b> Assimilation</p> <p><b>Feedback for Correct Answer:</b> Assimilation involves fitting new information into existing schemes. Bryan fit the new information of encountering alligators into his existing scheme for snakes.</p> <p><b>Text Reference:</b> Piaget's Theory of Cognitive Development</p>
17.	d	<p><b>Correct Answer:</b> Cori places the six colorful containers in order of size from smallest to largest.</p> <p><b>Feedback for Correct Answer:</b> Cori is demonstrating seriation—the ability to arrange objects in sequential order according to size. Children typically develop the ability to handle operations such as seriation in the concrete-operational stage.</p> <p><b>Text Reference:</b> Piaget's Theory of Cognitive Development</p>
18.	d	<p><b>Correct Answer:</b> Concrete operational</p> <p><b>Feedback for Correct Answer:</b> The basic characteristics of the concrete operational stage are the recognition of the logical stability of the physical world; the realization that elements can be changed or transformed and still conserve many of their original characteristics; and the understanding that these changes can be reversed.</p> <p><b>Text Reference:</b> Piaget's Theory of Cognitive Development</p>
19.	c	<p><b>Correct Answer:</b> Dewayne poured paint from the gallon bucket into his paint pan and realized it's the same amount of paint, but looks like less.</p> <p><b>Feedback for Correct Answer:</b> Conservation is the principle that the amount or number of something remains the same even if the arrangement or appearance is changed, as long as nothing is added and nothing is taken away.</p> <p><b>Text Reference:</b> Piaget's Theory of Cognitive Development</p>

20.	c	<p><b>Correct Answer:</b> Ms. Carlson asked students to think of metaphors for the current state of the economy in the U.S.</p> <p><b>Feedback for Correct Answer:</b> Formal operations are mental tasks involving abstract thinking and coordination of a number of variables. For students to think of metaphors for the current state of the economy, they must consider a number of variables about the economy and make abstract comparisons.</p> <p><b>Text Reference:</b> Piaget’s Theory of Cognitive Development</p>
21.	b	<p><b>Correct Answer:</b> adolescent egocentrism.</p> <p><b>Feedback for Correct Answer:</b> Adolescent egocentrism is the assumption that everyone else shares one’s thoughts, feelings, and concerns. This leads to the sense of an imaginary audience or the feeling that everyone is watching.</p> <p><b>Text Reference:</b> Piaget’s Theory of Cognitive Development</p>
22.	d	<p><b>Correct Answer:</b> Vygotsky</p> <p><b>Feedback for Correct Answer:</b> Vygotsky assumed that higher mental processes, such as directing your own attention and thinking through problems, first are <i>co-constructed</i> during shared activities between the child and another person. A co-constructed process is a social process in which people interact and negotiate to create an understanding or to solve a problem. The final product is shaped by all participants.</p> <p><b>Text Reference:</b> Vygotsky’s Sociocultural Perspective</p>
23.	b	<p><b>Correct Answer:</b> Paige’s self-talk serves a positive self-guiding function.</p> <p><b>Feedback for Correct Answer:</b> According to Vygotsky, private speech is positive and represents externalized thought. It functions to communicate to self for the purpose of self-guidance and self-direction.</p> <p><b>Text Reference:</b> Vygotsky’s Sociocultural Perspective</p>
24.	b	<p><b>Correct Answer:</b> In his zone of proximal development</p> <p><b>Feedback for Correct Answer:</b> The zone of proximal development is the phase at which a child can master a task if given appropriate help and support. Nick had appropriate instructions and needed only a small amount of additional support from the teacher. The work does not appear to be too difficult because he believes he can complete the task successfully. The task doesn’t appear to be too easy because he is working at it and still needs a bit of help from the teacher.</p> <p><b>Text Reference:</b> Vygotsky’s Sociocultural Perspective</p>
25.	c	<p><b>Correct Answer:</b> Mr. Cannon showed a brief video with a close-up demonstration of the detailed steps he had explained to the class.</p> <p><b>Feedback for Correct Answer:</b> Scaffolding is support for learning and problem solving. The support could be clues, reminders, encouragement, breaking the problem down into steps, providing an example, or anything else that allows the student to grow in independence as a learner. According to Vygotsky, much of children’s learning is assisted or mediated by teachers or parents and tools in their environment, and most of this guidance is communicated through language.</p>

		<b>Text Reference:</b> Implications of Piaget’s and Vygotsky’s Theories for Teachers
26.	b	<p><b>Correct Answer:</b> Vygotsky</p> <p><b>Feedback for Correct Answer:</b> Vygotsky believed that learning is an active process. He saw learning as a tool in development—learning pulls development up to higher levels and social interaction is a key in learning. Vygotsky’s belief that learning pulls development to higher levels and more advanced thinking means that other people, including teachers, play a significant role in cognitive development.</p> <p><b>Text Reference:</b> Implications of Piaget’s and Vygotsky’s Theories for Teachers</p>

### Answer Guide: Essay Questions

27.	<p><b>Suggested Response:</b> What is the source of development? Is it nature or nurture? The answer to this age-old question relates to the explanation of the different dispositions and behaviors of Lara’s two sons. Current views emphasize complex coactions (joint actions) of nature and nurture. In fact, some psychologists assert that behaviors are determined 100% by biology and 100% by environment—they can’t be separated. Though the two sons are influenced by similar environmental contexts, they are individuals with different genes and other biological factors. They also respond differently to their environment, and these differences influence their development as individuals and their behaviors.</p> <p><b>Text Reference:</b> A Definition of Development</p>
28.	<p><b>Suggested Response:</b> Based on what we know about brain development, the limbic system develops faster than the prefrontal cortex. The limbic system is the part of the brain involved with emotions and reward-seeking, sensation-seeking behavior and impulsivity. The prefrontal lobe is involved with judgment and decision making. At Riley’s age, he is dealing with a maturing limbic system that is more responsive to emotional stimulation. At the same time, his judgments are less mature and less controlling of the impulsive desires and reckless influences.</p> <p><b>Text Reference:</b> The Brain and Cognitive Development</p>
29.	<p><b>Suggested Response:</b> Concrete-operational children are usually in upper elementary and middle school, though some older students remain in this stage of development. The following strategies should be effective:</p> <ul style="list-style-type: none"> <li>• Use concrete objects in teaching when possible. Provide manipulatives and allow students to interact with these objects to develop understanding and to solve problems.</li> <li>• Use visual media as much as possible. Almost any lesson or concept can be illustrated in pictures, charts, timelines, drawings, videos, and other visual means. Allow children to make their own drawings, charts, and illustrations when applicable.</li> <li>• Break down complex ideas or series of steps into chunks they can understand. Give them frequent practice. Start with one or two steps of a skill and expand to more steps. Review and revisit new skills often.</li> </ul>

	<ul style="list-style-type: none"> <li>• Keep presentations of information short. Use many examples and ask students to give examples. Make sure examples relate to students' lives and things they understand.</li> <li>• Provide frequent opportunities for students to use skills of organizing, classifying, and grouping. Gradually increase the difficulty of the tasks. They should understand reversibility and have challenging tasks that involve mentally reversing steps or actions. They should also understand seriation and should have opportunities to arrange objects sequentially by size, weight, volume or other quantitative aspects such as time.</li> <li>• Challenge students with higher order thinking tasks. Require them to analyze ideas and situations. Teach them to make comparisons using Venn diagrams and other graphic organizers. Involve them in problem solving on increasing levels of difficulty.</li> </ul> <p><b>Text Reference:</b> Piaget's Theory of Cognitive Development</p>
30.	<p><b>Suggested Response:</b> Ava had one scheme for getting a sibling, and that scheme was the birth of her brother. She saw her mother go through a pregnancy and get bigger every month until her little brother was born. Ava was able to assimilate the new information about a baby growing inside a mommy and then being born. That's the way she came into this family. Now she needs to accommodate, because flying away and bringing a baby home is a different way to become part of the family. Ava needs to create a new scheme for getting a baby, and that scheme is adoption. The idea of adoption doesn't fit Ava's existing scheme and can't be assimilated. This new idea requires new mental structures.</p> <p><b>Text Reference:</b> Piaget's Theory of Cognitive Development</p>
31.	<p><b>Suggested Response:</b> Lev Vygotsky believed that inner speech or private speech enables children to provide for auxiliary tools to overcome impulsive actions, solve problems, or self-regulate behavior. Thinking depends on speech, and language in the form of private speech guides cognitive development. Vygotsky would agree with Mr. Harper's method. He would encourage a child to use such a strategy to regulate his own behavior. At an older age, the child will probably be able to self-regulate by speaking the reminders in his mind rather than speaking them aloud.</p> <p><b>Text Reference:</b> Vygotsky's Sociocultural Perspective</p>
32.	<p><b>Suggested Response:</b> The zone of proximal development is the area of learning in which a child can learn and master a task with help and support. The idea is that children are appropriately challenged with learning tasks. The tasks are not too easy, leading to boredom, and they are not too difficult, leading to frustration. In Ms. Jacobs's class, students are at different levels. They need to be challenged differently. The English learners, for example, are not at the same level with spelling and independent seatwork as students who are native English speakers. In the same way that Ms. Jacobs provides reading instruction at different levels, she should also provide spelling and other language arts instruction at different levels. Additionally, she might consider ways to allow students to work with a partner as needed. Then the students who find the work easy can be challenged with helping another student learn. Students who struggle can be challenged more appropriately by receiving the scaffolding needed to learn and succeed academically. Ms. Jacobs might also set up</p>

	procedures for students to get the help they need by following steps to get help quietly.
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	<b><i>Text Reference:</i></b> Vygotsky's Sociocultural Perspective; Implications of Piaget's and Vygotsky's Theories for Teachers
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