

The following materials are intended to help prepare teacher candidates to pass the Praxis PLT (principles of learning and teaching) K-6 and 7-12.

Format of the Test Starting September 2002

Test Format

- There will be 4 case studies. With each, there will be 3 constructed responses (essays).
- 24 discrete multiple-choice questions.
- Scores on the test can range from 100-200. A score of 160 or above is passing.

Content Categories Approximate weight appears in parentheses.

Students as Learners (35%)

- Student development and the learning processes.
- Students as diverse learners.
- Student motivation and the learning environment.

Instruction and Assessment (35%)

- Instructional strategies.
- Planning instruction.
- Assessment strategies.

Communication Techniques (15%)

- Effective verbal and nonverbal communication.
- Cultural and gender differences in communication.
- Stimulating discussion and responses in the classroom.

Teacher Professionalism (15%)

- The reflective practitioner.
- The larger community.

Scoring

Constructed responses can receive a 2, 1, or 0.

- 2: The response contains appropriate answers to all parts of the question. It demonstrates an understanding both of the details of the case study and the principles of learning and teaching.
- 1: The response contains appropriate answers, but only to part of the question.
- 0: The response contains no appropriate answers to any part of the question.

Major Theorists, Theories, and Perspectives Likely to be on the PLT

You should be familiar with the following theorists, theories, or perspectives. Crucial concepts are boldfaced. If they seem unfamiliar to you, you are encouraged to obtain an undergraduate educational psychology text and familiarize yourself with them.

Cognitive Development. Cognitive development concerns how children's thinking becomes more efficient, logical, or informed over time.

Piaget: Jean Piaget was a developmental psychologist who proposed a 4-stage theory of the changes children normally go through on their road to adult logical thinking. He believed that these stages were biologically determined and therefore universal. Ages to which the stages are applicable appear in parentheses. They are 1. **sensorimotor stage** (0-2): children's knowledge of the world consists of their physical interactions with it. 2. **preoperational stage** (2-7), children think symbolically but not logically. 3. **Concrete operations stage** (7-11): children think logically, but only in the here and now. At the **formal operations stage** (12 on), children begin to think logically about hypothetical and abstract situations. Educationally important concepts of the theory include **assimilation** (Children understanding information in light of existing concepts) **accommodation** (Children must revise their concepts in light of new information.) **equilibrium** (Everything in the child's world makes sense.) and **disequilibrium** (A child encounters a discrepant bit of information that creates confusion but arouses curiosity.). **Educational Implications: Readiness** (Content must be taught to children that is developmentally appropriate.) **Creating disequilibrium:** (Interesting or unexpected demonstrations, anecdotes, or facts are an ideal way to initiate learning.) **Hands on learning** (Piaget believed that children learn best by doing; for example, by the use of manipulatives to learn math concepts.)

Vygotsky: Whereas Piaget emphasized biology, Vygotsky, his contemporary, emphasized language and social interactions in his theory of cognitive development. His is not a stage theory; rather, Vygotsky argues that cognitive development advances incrementally. He was the first social constructivist (one who believes that students create their own knowledge under social guidance, which may or may not be an accurate representation of external reality). He argued that human thought begins in young children as overt speech that they use to plan, cope, recall, and rehearse. Most utterances of children, including those that guide their behavior, are borrowed from their social environment (e.g., parents, teachers, friends, and older siblings). As they mature, children's overt speech becomes covert (private) thoughts, but still remain vital in directing their behavior. **Educational Implications: Modeling speech** (Teachers should not only demonstrate the steps of problem solving or components of a skill, they should also provide students with accompanying speech that describes what they are doing and why they are doing it, which will help guide students' behavior when they engage in independent practice, such as homework.) **Scaffolding** (different forms of social support teachers provide for students engaged in problem solving or other tasks, which includes prompts (reminders), encouragement, modeling, feedback, and so forth, short of solving the problem for the child) **Zone of proximal development** (the edge of a child's knowledge or problem solving competency; the point at which a child can only succeed with scaffolding provided by another more skilled individual; the optimal point at which learning can occur and is unique to each child for each task)

The Information Processing Theory of Cognitive Development is not a stage theory; rather, it postulates that cognitive development occurs incrementally in the form of gradual increases in knowledge and skill. It also emphasizes the steps students use in solving a problem; that is, the mental activities that underlie problem solving. Older children are hypothesized to have more knowledge than younger children in their Long-Term Memories (LTM). Their knowledge is thought to be stored in a more organized fashion such that it is more accessible during problem solving. Older children can be regarded as experts and younger children as novices. Older children's skills, including reading, writing, and computational, are more automatic and efficient. For instance, older readers are able to decode words quite quickly. Consequently, they can focus attention on text comprehension rather than on sounding out words. Perhaps the most educationally important contribution of information processing theory concerns metacognitive development. **Metacognition** refers to children's knowledge of and control over their own thought processes. Older children have many more strategies for meaningful learning than do the younger. For instance, when learning new material, they typically adopt a more efficient strategy of encoding new information by relating it to information currently in LTM. Younger children are more likely to use inefficient rote rehearsal. Teachers can teach metacognitive strategies to students to make them better independent learners, especially by modeling their use.

Social Development: Social development concerns how children become more socially aware and interpersonally skilled with age.

Erikson: As children advance physically and cognitively, Western society increasingly makes social demands on them. Ideally, parents and teachers nudge them toward becoming autonomous, contributing adult members of society. Erikson proposed 8 stages, which individuals go through during the life span. As a major socialization institution of society, schools affect children's social development across many of these stages. The first five are most relevant to school success and are reviewed below. The last 3 apply to adults. Each stage is characterized by a conflict, successful resolution of which contributes to autonomy and happiness in adulthood. Unsuccessful resolution can have persistent, negative consequences on future development. Normative ages of applicability appear in parentheses.

Trust vs. Mistrust (0-1): Children must receive consistent, quality care from primary caregivers. In its absence, they will have difficulty forming trusting relationships later in life.

Autonomy vs. Shame/Doubt (1-3): Toddlers who are encouraged to dress, wash, feed themselves, and so forth, develop a sense of autonomy that can promote independence later in life. Without this encouragement, children may become unsure of themselves and not fully realize their emerging capacities.

Initiative vs. Guilt (3-5): Children in this age range begin to develop and act on preferences for activities, people, and so on. Parents, day care providers, and other concerned parties need to encourage children to make choices and develop preferences, so long as they do not infringe on the rights of others. Otherwise, they may become apprehensive and risk-avoidant.

Industry vs. Inferiority (6-12): Children's well developed cognitive and motor skills enable them to set and achieve long-term goals, including writing short stories, designing and carrying out science experiments, or building models. If parents, teachers, peer tutors, or others suitably provide scaffolding, children can emerge from this stage capable of making long-term commitments in the face of short-term deprivations, setbacks, and frustrations. Otherwise, they may feel inadequate and lack the confidence to set and sustain such commitments.

Identity vs. Confusion (adolescence): Society's main expectation for adolescents is that they define themselves with regard to what societal adult role (career) they will pursue. Ideally, the choice should involve an extended search followed by a commitment. Those who are **identity achieved** emerge from adolescence having explored and found the adult role that best matches their interests and abilities. **Identity diffused** individuals enter adulthood unsure of what role they want to pursue and have not actively explored possibilities. This is considered a negative outcome. Adolescence in **moratorium** are unsure of what role they want to fulfill in adulthood but are actively searching, an outcome that is quite common but positive. **Identify foreclosure** applies to those who select a role to satisfy the expectations of others (e.g., being forced into the family business) or society rather than through their own exploration. Frustration and resentment often occur at some point in the foreclosed individual. **Educational Implications:** Middle and high school teachers should encourage students to recognize their interests and aptitudes and explore career options to match them.

Moral Development

Kohlberg: Kohlberg proposed a theory of the stages children go through as they develop more sophisticated ways of thinking about moral issues. His is not a theory of how children act morally. By presenting children of various ages with moral dilemmas, he identified three levels. Nested within each are two stages. The three levels coincide with Piaget's preoperational, concrete operational, and formal operational stages, respectively.

I Preconventional Level: Dependent on preoperational thinking, the child is egocentric; that is, he or she has difficulty conceiving the moral impact of an action on others.

- 1. Punishment Obedience:** Children at this stage define as moral any behavior that avoids punishment. Any action likely to produce punishment is viewed as immoral.
- 2. Instrumental Relativist:** Children consider that any actions that are in their self-interest or are mutually advantageous to the child and/or others are moral.

II Conventional Level: Dependent on concrete operational thinking, children can think logically about moral issues so long as the reasoning required is not too abstract or involve purely hypothetical situations.

- 3. Good boy/nice girl:** No longer egocentric, children consider the perspectives of others by regarding, as moral, actions that are pleasing to others, particularly adults. Actions that are displeasing to adults will be viewed as morally wrong.
- 4. Law & Order: Moral** actions are judged to be choices of action that follow the dictates of recognized authority (e.g., the President) or that adhere to the letter of the law. Actions that defy authority or the law are perceived to be morally wrong.

III Postconventional Level: Dependent on formal operations, moral reasoning reflects considerations of abstract principles, timeless truths, or hypothetical thinking.

- 5. Social contract:** Moral laws are perceived to be relative to a particular time and place, arrived at by consensus for the benefit of the greater group. The Mayflower compact is an example. It constituted moral authority until it was superseded by other documents, such as the U.S. constitution.
- 6. Universal ethical principle:** Reasoning is guided by appealing to transcendent moral principles, such as the sanctity of life or the inalienability of basic human rights. The principles apply to many situations that are regarded as timeless and universal.

Moral Education: The PLT may inquire about moral education programs. Such programs use discussion, role playing, cooperative learning, and similar activities to foster tolerance for diversity, discourage academic dishonesty, promote good citizenship, discourage illicit drug use, and similar ends.

Perspectives on Intelligence. Intelligence is the single most important and heavily studied individual difference dimension along which children differ. Intelligence involves the ability to **adapt well to changing circumstances**, the ability to **learn from experience**, and the ability to **apply what is being learned to new situations**, among other capacities. Two highly influential perspectives on intelligence are considered below.

The Psychometric View of Intelligence. French psychologist Alfred Binet published the first IQ test in 1905. Like most modern intelligence tests, it was not based on a theory of intelligence. As today, test items were chosen because a) performance on them was predictive of school success and b) older children did better on the items than younger children. That is, most IQ tests include items that are academically and developmentally discriminating, a psychometric view on intelligence. Modern IQ scores provide ordinal data by describing how well a child's test performance compares with his or her peers. For instance, a global IQ score of 100 indicates that a child is at the 50th percentile compared to a national sample. Traditional intelligence tests emphasize verbal ability, reasoning, memory, and perception. Two IQ tests commonly used are the Wechsler Intelligence Scale for Children-3rd Edition and the Stanford-Binet. Both are individually administered (one child, one examiner) tests that are used to make important decisions about students, including placement in a special education program.

Multiple Intelligence: Howard Gardner has expanded traditional views of intelligence by proposing that it is more heterogeneous than previously thought. He has identified 8 varieties of intelligence: 1. verbal (using language well), 2. logical-mathematical (logically and fluently manipulating symbols), 3. spatial (ability to manipulate visual images). The remaining five are unorthodox: 4. musical (ability to produce music), 5. bodily-kinesthetic (ability to acquire motor skills), 6. intrapersonal (ability to manage one's life well), 7. interpersonal (ability to interact effectively with others), and 8. naturalistic (the ability to recognize naturally occurring patterns in nature). Intelligence tests based on Gardner's theory are being developed. **Educational Implications:** By expanding the traditional concept of intelligence, teachers who adopt Gardner's view can develop in students a broader tolerance for other students' strengths as well as their own. By incorporating a variety of authentic activities in the classroom that call on different kinds of intelligence, a broader range of students will have the chance to view themselves as intelligent and excel.

Influential Educators or Educational Movements in Recent Years

Dewey: John Dewey was a prominent educational philosopher who lived in the second half of the 19th and first half of the 20th centuries. A revolutionary against overly disciplined education in which pupils were seen as passive vessels in which teacher's pour out their knowledge, he advocated that children must be actively engaging the environment in order to learn. As one of the first constructivists, Dewey strongly believed that the curriculum should be designed to prepare students to succeed in the real world, adjusted to be appropriate to a given child's level of cognitive development, and involve hands-on materials (e.g., manipulatives).

Montessori: Maria Montessori, the first female doctor of Italy, began a school whose purpose was to provide wayward children with skills to keep them from becoming wards of the state. She was one of the first to mainstream special children into the regular classroom and believed that cognitive development proceeds by a careful matching between a child and his or her environment. Montessori advocated that multi-sensory and structured learning materials should be presented to children that are just on the fringe of what they understand at that moment. Therefore, each child's education is, to a certain extent, customized for his or her interests, aptitude, and current level of achievement.

Constructivism: Constructivism has been an influential movement in education over the last few decades. Based on Vygotsky's theory of cognitive development and the writings of Dewey (1910), it concerns how students make sense of new experiences with their current knowledge. Constructivism acknowledges the active role students must play in their learning if it is to occur deeply, to endure, to be enjoyable, and to transfer to contexts beyond the classroom. Six principles capture how learning is conceptualized from this perspective. 1. Students must perceive that the material to be learned is important. 2. They must act on the information at a deep level. 3. It is crucial that they relate new material to information already contained in their long-term memories. 4. Students will continually check and update their understandings based on new experiences. 5. New learning does not automatically transfer to new contexts to which it might apply. 6. Finally, students become autonomous learners if they become aware of the process of learning itself (metacognition), including strategies for consolidating new material and for checking their understanding.

Learner-Centered Instruction: As opposed to traditional college instruction, involving lectures punctuated by objective tests, instruction from a learner-centered perspective is the facilitation of students' construction of knowledge according to the six principles above. First and foremost, it takes account of students' interests, experiences, background knowledge, developmental level, and aptitude. Learner-centered instruction requires that teachers are aware that learners construct their own meanings, beginning with the beliefs, understandings, cultural practices, and so on, that they bring to the classroom. Accomplished teachers give learners reason by respecting and understanding learners' prior experiences and understandings, assuming that these can serve as a foundation on which to build bridges to new understandings.

The following recommendations are consistent with learner-centered teaching. 1. Frequent teacher-student interaction should occur. 2. Cooperative learning activities should be interspersed among other engaging instructional formats. 3. Students should be actively involved with learning. 4. Teachers should provide prompt, constructive and encouraging feedback on students' performance. 5. Teachers should keep students focussed on learning, not on the fear of embarrassment, which might result in highly competitive or non-tolerant classroom environments. 6. Teachers should communicate high expectations and provide the scaffolding necessary to enable the students to achieve these expectations. 7. Finally, teachers should respect diverse talents and ways of learning (take into individual differences into account).

Bloom's Taxonomy of Cognitive Learning Objectives: An aid to writing learning objectives and constructing assessments, questions concerning Bloom's taxonomy may appear on the PLT. Bloom analyzed levels of comprehension of discourse from the most basic (knowledge) to the most advanced.

1. Knowledge: The information from a lesson has entered memory, but is not necessarily understood.

2. Comprehension: The information is not only in memory but is also understood. Evidence of this can be the student's ability to paraphrase it accurately.

3. Application: The ability to use what has been learned and understood in authentic (real-world) contexts.

4. Analysis: The ability to identify the component parts of a situation or context.

5. Synthesis: Competence in bringing fragments or elements of a learning situation together to form meaningful patterns or unified wholes. Examples would include comparing and contrasting theories of learning or summarizing the highpoints of what they just read.

6. Evaluation: Competence in making critical judgments about a work or product or performance. Examples include critiquing a short story, a musical piece, or a scientific experiment.

Educational Implications. According to Bloom, higher levels of understanding are built on the lower levels. For instance, students must comprehend material before they can apply it. It is important for beginning teachers to include instructional objectives at each level of understanding and include test items that assess each level. Doing so discourages rote learning in students.

Test Preparation Strategies

I. Obtain a recent educational psychology text book and review any chapters related to the following:

- ◆ Cognitive development: Piaget, Vygotsky, Case
- ◆ Moral development: Kohlberg, Gilligan, approaches to moral education.
- ◆ Social development: Erikson, peer influences on behavior.
- ◆ Cognitive approaches to learning: Short-term memory, long-term Memory, encoding, storage, retrieval, facilitating transfer of learning beyond the classroom, developing critical thinking and creativity.
- ◆ Behavioral approaches to learning: Skinner, Pavlov, behavior modification.
- ◆ Social theories of learning: Bandura, self-efficacy, vicarious reinforcement, punishment.
- ◆ Cognitive views on motivation: attribution theory (see Weiner), self-efficacy, factors contributing to a mastery orientation over a performance orientation.
- ◆ Behavioral & Humanistic views of motivation: proper use of praise (Dweck), Maslow's hierarchy, and so forth.
- ◆ Factors related in individual differences in learning: theories of intelligence (e.g., Gardner, Sternberg), IQ tests, learning styles, gender, race, ethnicity, disabilities, and how they manifest themselves in the classroom.
- ◆ Classroom management: **withitness**, overlapping, momentum, seating arrangements, planning for contingencies, assertive discipline, teacher-owned problems, student-owned problems.
- ◆ Planning for instruction and different formats for teaching: Learning objectives, Bloom's taxonomy, cooperative learning, direct instruction, discovery learning, mastery learning, and expository instruction.
- ◆ Assessment of instruction: Aptitude vs. achievement tests, norm-referenced vs. criterion-referenced tests, traditional vs. authentic assessments, factors affecting the reliability and validity of teacher constructed tests, how to interpret standardized test scores.
- ◆ Teacher Professionalism: How to relate to parents, laws pertaining to you in the classroom, professional development opportunities.

II. On the Internet, visit the Praxis Website at ETS. You may find other invaluable websites concerning how to prepare for the Praxis PLT.

III. Several books have been published in recent years concerning preparing for the Praxis PLT. They feature practice case studies and constructed responses. You are encouraged to buy one.

Test-Taking Strategies

- I. **Answer the 24 multiple-choice questions first.** Once you get involved reading the case studies and writing the constructed responses, it is easy to lose track of time. Consequently, the two-hour time limit may come, and you will have lost those points. Note that there is no penalty for guessing incorrectly.
- II. **Read constructed response questions first.** Each of the four case studies is accompanied by three constructed responses. Before you read a case study, read through the accompanying essay questions a few times. Knowledge of the essay topics will direct your attention to important aspects of the case study as you are reading it. When you encounter information relevant to your case study while reading, you may wish to underline it (you can write in the test booklets).
- III. **No filler.** In order to obtain maximum credit on your constructed responses, be sure to address all parts of the question. DO NOT provide filler to dazzle raters with how much you know. They are highly trained, experienced teachers who know when examinees are compensating for lack of understanding with an avalanche of words. Answer each part of the question point-by-point in the same order it was asked and only provide relevant information.

Justify any assertions you make with relevant theories or data. If you preface a claim with “I believe...” you will lose points. YOUR OPINION IS NOT WHAT MATTERS. WHAT RESEARCH OR THEORY SAYS IS WHAT MATTERS! Write “According to Piaget...”, “Erikson suggests that...”, “Research has demonstrated that more effective teachers plan for instruction...”, “It has been shown that females are often higher in math anxiety than males...” and so forth.

Don’t answer in full sentences: It is not necessary to answer in full sentences. Rather, you can answer in outline form. Bullets can be used. Not answering in full sentences will save much time.

Beginning or burned out teachers: Case studies will frequently describe a beginning teacher who, although highly motivated, is often trying to do too much all at once. As you read, bear in mind that teachers need to get to know students individually and must not try to do everything ALL AT ONCE. A case study might also describe an experienced teacher who is burned out or set in their ways such that they are unwilling to experiment with different and potentially effective alternative teaching formats. There will be much to criticize. Be sure to support your criticisms of what the teacher did with relevant details of the case study and then justify your criticism by identifying the relevant principles from educational psychology. Finally, do not write in vague generalizations (e.g., “Teachers need to be on top of things.”). Instead, be specific (e.g., “Teachers need to be aware of all

student behaviors at all times.”).

Plan out your constructed responses. Before you start writing, plan out your constructed responses. When you write, it is a good idea to double space. Also be sure to use all available time (2 hours). If you finish early, go back and proofread the constructed responses. Insert details if they are needed. You will not be penalized for misspellings or punctuation problems. It is more important to have clear, concise answers than flowing penmanship.

Please read through the case study below and then construct a response to it. A constructed response that would receive full credit is presented afterward, with which you can compare your structured response. You are strongly discouraged from reading it first. It is much better to construct your own first.

Incident at Greenwood

The first few days at Greenwood had gone as uneventfully as Josephina, a new teacher, had hoped they would. She was excited over the opportunity to teach her favorite subject, language arts, but things could have gone a little more smoothly. For example, from the first day, as each lesson began, a few students ignored Josephina's request for silence. She decided to ignore their continuous chattering, hoping that these few students would become interested in the lesson once they reached the writing activities, at which time all students would give her their undivided attention, but this did not occur. In fact, each day as she stood at the front of the room introducing the day's lesson and giving pertinent information, the noise from the class became increasingly louder. Most student comments were unrelated to the content in the day's lesson. Now, at the end of the second week, the students had gotten so loud that other teachers had begun complaining, saying that Ms. Gomez's classes were so noisy that they were disturbing their classes.

As the first-period class got underway one morning, the inevitable happened. Bo Carter, who had recently devoted his time and energy to aggravating his teachers and classmates, had rushed through his seatwork and was now diligently pursuing this new interest of christening his neighbors with new names. Keith Adams, a light-complexioned and light-haired 15-year-old, was the chosen target for today's verbal abuse. Keith did not appear to mind the comments; in fact, he seemed to be completely ignoring them as Bo referred to him as "liquid paper," "chalk head," and "Casper, the Friendly Ghost." Even though Keith ignored it, the name-calling worsened.

As Josephina moved throughout the room, she came close enough to see this heckling behavior. As soon as she saw that trouble was building, she slowly walked away pretending not to notice, hoping that her distance would lessen the problem. Anyway, Josephina concluded that she could not let herself be distracted from the lesson since she thought she could do only one thing at a time and do it well. Suddenly, without warning, Keith stood up and punched Bo squarely in the face. A burst of blood sprayed from Bo's nose. Seeing the blood frightened Bo and provided him with a surge of energy. He grabbed Keith and lifted him up, throwing him across a couple of desks. The other students watched with glee and welcomed the diversion from the otherwise boring lesson. Josephina was stunned by the violence, and she was shocked by the reactions of the other students. This was a progressive community. What could she do? She temporarily froze, watching in horror as Keith came crashing to the floor with Bo squarely across him, pinning his shoulders to the floor.

Then Josephina found herself running across the room and pulling at Bo's collar, shouting, "Stop it! Stop it!" The swinging and kicking suddenly stopped and a pall of silence fell over the class.

Now everyone was eyeing the teacher, eager to see her next move.

1. What did the teacher do wrong?
2. a) What are the disadvantages of strictly behavioral approaches to classroom management? b) Were any disadvantages evident in the case study?
3. Briefly describe a proactive approach to classroom management that might have been used in this case.

Acceptable constructed responses to *Incident in Greenwood* in essay format

1. A fire is always easiest to put out when it is first getting started. Josephina's major problem was to ignore the violations of the rules that occurred early on. For instance, the case study states that on the first day students ignored her request for silence. She did not seem to notice the gradual crescendo of noise, although other teachers did. Later on she did not actively intervene on behalf of Keith Adams when Bo Carter began bullying and ribbing him. Only when events took a dramatic, violent turn did she intervene, which was too late.

2. a) A major disadvantage of strictly behavioral approaches to classroom management is that they are considered "band-aid" approaches. Instead of eliminating undesirable behaviors such as ribbing or physical aggression, negative behaviors may only "go into hiding" in the teacher's presence. When the teacher is absent, they may escalate. b) Disadvantages of behavioral approaches were evident in this case. Josephina clearly used the behavioral approach called praise and ignore: be attentive when students are working well, ignore misbehavior, thereby not reinforcing it. It is likely that the children's talking and Keith's bullying were for other reasons such as boredom. Keith may have been acting out over personal problems he had at home.

3. Research has clearly shown that the best approach to classroom discipline is proactive, not reactive. Excellent classroom managers, on the first day of class, will clearly post and discuss rules for acceptable behavior. A few general-purpose rules, such as "Show respect to all others" are easiest for students to remember and cover many situations. Research also shows that consequences of violating the rules must be spelled out and enforced. Josephina ignored violations. Josephina also was not adequately prepared. Expert teachers have backup activities so that when students are done with one, another engages them. This did not occur with Bo. After he raced through his seatwork, bullying became his diversion.

Notice that the questions were answered in the same order in which they were asked. All parts of the answer are clearly marked. Moreover, unrelated or superfluous information was not provided. Finally, relevant examples from the case study and support from research or theory are cited to justify all claims that were made.

Acceptable constructed responses to *Incident at Greenwood* in outline format

1. Classroom management problems with Josephina's teaching.
Research has demonstrated that the following are important behaviors for teachers to employ, all of which Josephina did not.
 - Do not ignore misbehaviors.
 - Have zero tolerance for bullying or other forms of aggression.
 - Let students know that you are in control of the classroom by making good eye contact, standing near students who are being disruptive, and so forth.
2. a. Disadvantages of strictly behavioral approaches.
 - Research has shown that behavioral approaches may suppress behavior, not remedy its underlying cause if it is emotional, etc.
 - Punishment can backfire on the teacher, making students resentful rather than motivated to learn.b. Josephina's misuse of behavioral approaches.
 - Her use of the praise and ignore approach backfired because her attention was not the reinforcer for the misbehaviors.
 - She did not intermix behavioral approaches with others such as establishing rules of respect and specifying consequences for violations.
3. Things Josephina should have done to prevent problems. Research has shown that she should have:
 - Established a few general rules such as "Show respect for others" the first day of class.
 - Consequences for violations of the rules should have been defined and clearly posted.
 - Follow through, violations of the rules should have been promptly punished.

Motivating Michael

Mr. Graham shares his knowledge and love of farming in his classroom and laboratory. He thinks of himself as a “hands-on” teacher, inspiring his students to apply what they learn through projects. Students view him as a popular teacher. To Mr. Graham, Michael is one of the best students in his class. He sees himself in Michael—a farm boy who yearns to spend the rest of his life on the family farm.

A parent-teacher conference was convened to help Michael. Present were Michael’s mother Mrs. Grey and some of his teachers: Mr. Graham, his math teacher, Ms. Martin, and his English teacher, Mrs. DeValle. Ms. Martin has trouble understanding why her students are not as excited or interested in math as she is. Michael is a special frustration. “If he didn’t understand the problem,” she had thought, “I would not be so upset.” Not turning in homework or showing disinterest especially angered her. She had discussed Michael with other teachers and had tried, unsuccessfully, to influence his behavior in more positive ways. Mrs. DeValle said to Mrs. Grey, “What we would like to do is to share some of our concerns about Michael’s work in school, beginning with Ms. Martin and then me. Then we’d like to discuss some things that we can all do to help Michael. I’ve asked Mr. Graham to be here, mainly because Michael does extremely well in the agriculture course. He might be able to share some ideas to help us. Is that all right as an agenda?” “That’s fine,” Mrs. Grey acknowledged.

Ms. Martin began. “Mrs. Grey, I’ve checked Michael’s prior work in math. He has remained at grade level or better on standardized math tests over the years. As I grade his papers, I believe he understands most of the basic concepts and operations on the surface, but he gets careless when he applies a concept or operation to solving a problem.” “For example,” she went on, pulling a paper from a stack in front of her, “here are four problems on the first page of this test that are wrong. In all four problems he followed the process correctly, but the answers are wrong. And here are several similar homework papers. It’s not that Michael does not understand. He doesn’t seem to concentrate as much as he should when he does work in class.”

“Is there anything you could share with us, Mrs. Grey, that would help Ms. Martin better understand why Michael has trouble concentrating on his math work?” Mrs. DeValle asked. “No, not really. At home he gets done with what he sets out to do. If he likes doing something and wants to finish it, he gets it done fast and does a good job,” Mrs. Grey responded. “Michael has similar problems in my English class,” said Mrs. DeValle. “And about once a week he misses a homework assignment. Ms. Martin says she has the same problem. Does Michael do homework at home?”

“Not very often, I don’t think. My husband and I have told him he has to get his work done in study hall. He’s got so many chores. And now with harvesting, it’s worse. He has to work on the farm from the time he gets home from school until dark, and sometimes till about two or three in the morning,” Mrs. Grey noted. “What about weekends? Ms. Martin queried. “Michael and I go to church on Sunday morning. When we get home, we have a big dinner. Then most times, this time of year, Michael helps his father mend fences, tend to cattle, or work in the fields. There’s always something to do on the farm, even on the weekends,” Mrs. Grey explained. “Michael’s performance is above average in my class,” Mr. Graham offered. “In fact, he’s one of the best students I’ve had in a couple of years. What surprises me is that when I give assignments where he must deal with math or English, he has no difficulty.” “Yesterday, the class computed crop yields for corn, oats, and soybeans, based on different weather, factors—days of sunshine, amount of rain, level of humidity, daily temperatures, and so forth,” Mr. Graham continued. “Each student had his own set of factors and a formula to use. Michael breezed through the assignment.” “I told you he can do what he sets his mind to do and enjoys doing,” Mrs. Grey interrupted.

The Challenge

1. What motivational problem is Michael suffering from?
2. How might Michael’s problem be explained from a behavioral perspective? From a cognitive perspective?
3. What, if anything, can be done to help Michael be more successful in math and English?

Acceptable constructed response to *Motivating Michael* in essay format.

1. There are two kinds of problems from a classroom management standpoint: teacher-owned and student-owned. Teacher-owned problems are caused by student misbehavior that is disruptive of the learning of an entire class and must be handled promptly. Michael has a student-owned problem. His motivational problem affects his learning, no one else's. Moreover, his motivation problem is clearly situational. He loves the subject of agriculture, and not much else. His problem is clearly not related to aptitude given the math teacher's feeling that he understands the material and his ability to do English and math connected with agricultural. It is also possible that his extended work schedule on the farm deprives Michael of needed sleep. According to Maslow, lack of satisfaction of physical needs undermines motivation of higher needs such as knowledge.

2. From a behavioral standpoint, Michael is intrinsically motivated (liking an activity for its own sake) to do agriculture. Everything else is extrinsically motivated, that is, done minimally to avoid negative consequences such as failure or negative reactions of parents and teachers. Cognitive views of motivation would emphasize how Michael's perception of English, math, and other non-agricultural subjects are that they are irrelevant and unconnected to his primary love: agriculture.

3. The solution to Michael's motivation problem may lie in Mr. Graham's observation that when English and math are embedded in agricultural problems, Michael's interest blossoms. Ms. Martin, and Mrs. DeValle might meet with Mr. Graham and, with his input, customize assignments in their classes to have an agricultural slant. Michael might be given extra credit assignments requiring him to uncover other applications of math to agriculture or write essays on agricultural subjects. Research reveals that extrinsic motivators are sometimes necessary to produce intrinsic motivation, so long as the focus is in helping students to appreciate the relevance of the subject matter. Once Michael discovers the myriad of ways math and English connect to agriculture, his interest in these subjects is likely to grow.

Acceptable constructed responses to *Motivating Michael* in outline format.

1. Sources of motivational problem for Michael.
 - His problem is student owned, affecting him while not disrupting the learning of classmates.
 - Problem situational: It was due to lack of ability or general lack of interest. He could do math and English if it related to agriculture.
 - His extensive chore list may have deprived Michael of needed sleep.
2. Explaining for Michael's behavior behaviorally.
 - He is intrinsically motivated to do agriculture (motivated by enjoyment). He does his other work to avoid negative consequences from parents and/or teachers.
3. Explaining his behavior cognitively.
 - Michael perceives math and English as being unrelated to agriculture. A problem may be with how these subjects have been taught to him.
4. These recommendations are based on research and can help to motivate Michael.
 - His English and math teachers should work with his agriculture teacher to find ways to interrelate the material.
 - Offering him extra credit if he can find on the Internet examples of ways in which having good English and math skills improve productivity on the farm.

Developing Metacognition

To say the least, Mapledale was different from the lab school of the university that Brad had attended as an undergraduate. Most of the faculty members were content just to complete the day. Yet a few seemed to stay on “the cutting edge” of their disciplines. They were attending evening classes and were using ideas learned in these graduate classes to design materials and activities for school. Although these teachers were friendly enough, Brad had been unsuccessful in trying to interest them in metacognition; therefore, he pursued his own research by himself.

During the past two years Brad had experimented with several cognitive approaches, one at a time. One of the most gratifying lessons was an experiment that he had conducted with advanced organizers. The experiment had involved three separate lessons, each purposefully different. In one lesson he used a videotape. Prior to showing the tape to one of his classes, Brad identified four concepts that he wanted students to notice. In a second lesson he used as many mnemonics as he could.

In a third class, Brad purposefully made several assignments to assure success for all students so that he could use reinforcements. He was interested in learning what effects a lesson so rich in reinforcements might have on the students.

For each of these lessons, Brad used another class as a control group. Although he did not record the results, from observing each class he concluded that the experimental lessons clearly resulted in more learning.

Brad considered all of these as “trial” lessons. The students did not display the level of enthusiasm for inquiry, as had his students at the university laboratory school. Now he was ready to incorporate these strategies into a lesson that would be appropriately recorded and conducted in an acceptable research project.

Brad wanted to improve this lesson further by having the students discover the pertinent concepts for themselves, rather than having them pre-identified. But he wasn’t quite sure how he could use advanced organizers and also have the students discover the concepts. He also wanted to introduce both an individualistic approach and cooperative learning. This paradox was, to say the least, perplexing, yet the literature he had read supported both individual learning (i.e., accommodating the individual styles of learners) and learning cooperatively.

The lesson Brad chose to incorporate these strategies was a surprise to the students. He began by grouping the students, assigning five students to each group and purposefully grouping the extroverts together to prevent them from dominating their groups. He also grouped the introverts together to force participation among the members of these groups.

The chairs in each group were assembled in a tight circle around an empty desk. On the desk, in the center, Brad placed a small cloth bag with a drawstring. Students in each group were to empty the contents on the table. From each bag came a match, a paper clip, a few sunflower seeds, and a small calendar. Before giving the command to empty the bags, Brad turned on a strobe light and a CD player, which played electronic music.

With their items in front of them, the students were told that they were to use their imaginations and describe what they saw. They would be allotted 30 minutes to write a story. Those who preferred could discuss or “talk out” their perceptions, and those who preferred to write alone without discussing their views could do so.

The second part of the lesson would involve a totally different assignment, the black box puzzle. Students were given a black box containing one moveable object. They were to conduct such investigations as shaking the box, inverting it, smelling it, and even dropping it. They were to listen to the box and weigh it. In summary, they were told to use their senses to solve the mystery of the unknown contents. Each student was permitted to ask three investigative questions.

For this activity, the entire class worked as individuals. The objective was to be the first to correctly identify the contents. Brad wondered whether the competition for this activity or the cooperation in the former activity would be the stronger stimulus.

During the hour, Brad moved about the room carefully monitoring the students. He offered no advice, but he responded to each question that students directed him to.

Some of the students found both of these activities challenging and exciting. Others, who always seemed withdrawn, were content to remain passive. Some groups got a little loud, but the noise level subsided each time Brad moved near the noisy groups. Brad was more concerned over the withdrawn students than he was over the noise level. He wondered whether the teacher’s role is to ask questions or to answer questions.

1. Are there any problems with Brad’s experimental approach to instruction?
2. Suppose you were in Brad’s position. How would you alter the lesson to produce more creativity and learning?
3. What is the value of teaching from a metacognitive perspective?

Acceptable Constructed Responses to *Developing Metacognition in Essay Format*.

1. There are several problems with Brad's experimental approach to instruction. One of the most salient is that Brad was trying to accomplish too many objectives at one time. He was trying to expose students to cooperative learning, to determine the effects of advanced organizers, to introduce them to individualistic instruction, and so forth. Any one of these is more than a lesson in itself. So many coupled with the unusual props (e.g., strobe light, black bag) overloaded and confused students to the point where nothing was learned. Research shows that teachers should focus on attaining a single instructional objective at a time, lest they lose the students. In a similar vein, Brad did not explain the purpose of the activities before exposing the students to them. The purpose of providing students with advanced organizers is to direct their attention to the relevant aspects of an experience and provide them with guidance concerning what to do.

Another concern is that students were assigned to cooperative learning groups comprised of individuals like themselves, for instance, introverts with introverts. It is unlikely that such a group would accomplish much. Research on cooperative learning reveals that group composition should be heterogeneous to promote diverse exchange. For instance, extroverts with introverts could encourage the latter to "come out of their shells." Mixing blacks and whites can produce the sharing of diverse perspectives, and so forth.

2. Consistent with the comments above, I would have curtailed the lesson to focus on a single learning objective, for instance, helping students to become independent (metacognitive) learners. A good activity for accomplishing this was for students to discover the contents of the black box. First I would have provided an advanced organizer concerning the process of discovery itself. Questions such as "How can we know what something is without being able to see it directly?" would have gotten students in the proper frame of mind. With their attention properly focused, I would group students 3 to 4 per group, such that their composition was diverse. For 20 minutes, each group would be assigned a black box and told to determine its contents following the rules laid out in the case study. Afterward, a classroom discussion would highlight what students had learned about the process of discovery. A homework assignment of discovery in the home would reinforce the lesson.

3. To me, teaching from a metacognitive perspective means instruction that develops in students' metacognitive skills. In other words, they learn how to learn. The main advantage of a teacher setting metacognitive goals for their students is that they will become independent learners. Metacognitive strategies are the most transferable. When doing homework or when confronted by material in class other than that in which metacognitive skills were acquired, students are likely to apply the strategies they learned anyway.

Creating Diversity

Tina had learned some things about Mayburn prior to moving there, so she was aware that the student population was somewhat diverse, but when she encountered her fourth-grade class in the fall, she realized that she had really underestimated the differences in its needs. There were 20 students in her class; 14 of the students were African-American, 7 of whom were bused in to Nathan Hale in conjunction with the desegregation program.

As a first step in an effort to create higher levels of individualized instruction, Tina developed profiles for each of the 26 students. Extracting information from student files, she made note cards that she could use for reference purposes, even in the classroom. When she completed the cards, her perspective of the range of diversity among her students was enhanced. She could see more clearly how the children bused in from the inner city differed from those who live in Mayburn. She could see how diverse the group was with regard to past achievement. The following three student profiles show the level of diversity in her class.

Name: Elaine B. Race: African American
Age: 9 Height: 4'9" Weight: 82 IQ: 120-123
Past Academic Performance: Very good. Creative and hard-working.
Family: Parents married; father an engineer, mother an account executive for advertising firm. An older brother (age 13).
Primary Interests: Science, social studies.
Strengths: Self-starter; bright; high need to achieve.
Primary Needs: To learn to work with others; to improve social skills; to reduce self-induced stress.

Name: Joseph K. Race: African American
Age: 10 Height: 5'1" Weight: 102 IQ: 95-98
Past Academic Performance: Performance varies depending on the subject areas; good in math; does not like art, language arts, social studies.
Family: Parents divorced; mother remarried; stepfather is custodian, mother unemployed; two siblings, brother (age 6) and sister (age 5).
Primary Interests: Basketball, collecting baseball cards.
Strengths: Has good math skills; works very well with others; very popular with other students; excels in physical tasks.
Primary Needs: To improve attention span; to develop a more balanced interest in academic work; to develop self-discipline, especially as related to completing individual tasks.

Name: Ann T. Race: Caucasian
Age: 10 Height: 4'10" Weight: 92 IQ: 109-112
Past Academic Performance: Inconsistent. Exhibits periods of high interest, but grades have been uneven.
Family: Adopted; stepfather is bank executive, stepmother is nurse; no siblings.
Primary Interests: Music, drama.
Academic Strengths: Very creative, cooperative when working with others; appears to have good reasoning skills; does reasonably well with abstract problem solving.
Primary Needs: To be more task oriented (is easily distracted); to improve basic skills in math and writing; to learn to assume responsibility; to show more maturity.

Tina remembered visiting a school during her junior year in college that was using cooperative learning. Her professors had talked about this teaching paradigm being used to mix students of varied academic abilities, but she was surprised to learn that the schools she visited was using the techniques largely to mix children of different races so that they would become comfortable working with each other. Given the diversity of students in her class, she decided that some form of cooperative learning would help her achieve her goal of more individualistic instruction.

The decision was made to form five groups, which seemed to be a manageable number. Some broad guidelines for placing students in the groups were established:

1. No group could contain more than 65% of students of the same race. If groups were to be formed, they might as well be used to deal with culture-related goals in a diverse-population school.
2. The groups would be as heterogeneous as possible with regard to ability. This would allow the more able students to assist students with lesser ability.
3. Effort would be made to balance interests in groups. For example, a student with high interest in art or music would be put in a group with a student who had a high interest in math or science.
4. Effort would be made to balance personalities. An extroverted student, for instance, would not be placed in a group that consisted entirely of the same personality type.
5. Children who were bused to Nathan Hale from the inner-city schools would be dispersed across groups. No more than two of these students would be assigned to any given group.
6. Since some of the students were physically and emotionally more developed than others, an effort would be made to mix the students with different levels of maturity.
7. An attempt would be made to group students with similar learning styles.

Tina mapped out her plan to the best of her ability. She developed goals in three broad categories that she labeled, "Academic", "Social", and "Multicultural." The goals required her to make periodic assessments to determine whether the grouping procedure was effective. When she completed her plan, she made an appointment to see Paul Bowers, the principal, to discuss her intentions and to see if he would provide her with two additional computers. Each classroom in the school had three, but Tina wanted one for each group.

Mr. Bowers listened intently as Tina related her plan to create instructional groups. He was particularly fascinated by her intention to group students who exhibited diverse characteristics but shared similarities with regard to learning styles. When she was finished, he praised her effort but cautioned her about being too ambitious during her first year of teaching. He said he would find resources to get the extra two computers; but he would only do so if Tina shared her plan with Dr. Barbara Sake, the district's director of curriculum. The principal wanted to make sure there would be no objections from the central office. Further, he indicated that if the plan was put into effect, he was willing to get personally involved. He found it a refreshing and promising idea.

1. Do you anticipate any problems with Tina's approach to promoting diversity? If so, what are they? If not, how can you be sure?
2. What alterations would you make to Tina's implementation of cooperative learning groups to promote diversity and the individualization of instruction?
3. What are the pros and cons of cooperative learning?

Acceptable constructed responses to Promoting Diversity in outline format

1. Problems with Tina's Approach to Promoting Diversity

a) Tina is profiling students based on their files rather than by getting to know them directly. Only when teachers get to know students on an individual basis can they create the most heterogeneous grouping.

b) She is trying to do too much. In the case study states that she seeks to promote academic, social, and multicultural growth. Students are likely to be confused and overwhelmed by instructional objectives and activities that would be required. According to research on effective instruction, teachers should set manageable goals for students.

2. Adjustments I would make to Tina's approach.

Research shows that cooperative learning is an excellent vehicle for promoting diversity if implemented properly. To do so, I would

a) scale down the educational goals. Promoting multicultural growth is a sufficient goal.

b) I would also wait to get to know students better. Rather than profiling them based on test scores, where are bussed in from, and other potentially misleading cues, I would wait a few months and get to see the areas in which students achieve highest, their personalities, and so forth.

3. Cooperative learning has been shown to promote the following educational objectives.

a) Cooperative learning is a collaborative approach to instruction that increases student involvement in learning. Students are more actively involve in learning than with lecture.

b) Students can develop high self-efficacies at a task, knowing that they can rely on the help of other students when accomplishing the assigned task. Students also show greater intrinsic motivation.

c) Females, members of minorities, and students at risk for academic failure do well in cooperative learning groups.

The downside of cooperative learning, if any, is that it takes a lot of teacher effort to be done right.

- a) students who are likely to work well together should be group 3-5.
- b) Students need to be assigned one or more goals.
- c) Clear expectations regarding how to behave must be communicated.
- d) Students must be interdependent but individually accountable.
- e) Teachers must serve as a mentor, not director.

Fostering Critical Thinking in the Classroom

Mr. Benson, a high school social science teacher, teaches a geography class that presents him with the greatest challenge. The student composition of the class reflects that of the school. There are 18 black, 7 Hispanic, 4 Asian, and 2 white students in the class. The class is an elective at Belmont, but it is used to meet graduation requirements. The range of abilities in the class is wide.

One day, while still at home, Benson thought: "I know they're here somewhere."

Spying a tattered paperback copy of Bloom's *Taxonomy of Educational Objectives* near the top of the shelf, he pulled it out. "If I were organized, I'd find Sanders's book close by," he mused. "Ah, here," he said aloud, as he noticed the book on the bottom shelf.

He walked to his desk, put his drink down, and began leafing through Sanders's *Classroom Questions: What Kinds?* An excerpt from page 7 caught his eye, which read, "The taxonomy of questions helps to clarify 'learning by doing' by demonstrating that a child can be sitting quietly at a desk and yet be vigorously engaged in any one of a number of kinds of mental activities."

"Just the opposite of my geography class," he thought. "They sit quietly at their desks but aren't really engaged mentally."

He took a sharp pencil and legal-sized yellow pad from the desk drawer and took notes. In short order he opened Bloom's text. He skimmed over the book from introductory remarks, a discussion of purposes for developing the taxonomy, to the appendix. He copied the levels of the taxonomy on a second sheet of paper. He closed Bloom's book and reopened the Sanders text, went back to the first sheet of paper, and continued writing.

During the weekend, Benson reworked his lesson plan for his fifth-period geography class. He reviewed notes on a 20-minute UNESCO film on the economic system of Mexico. Then he drew a grid of the taxonomy with each level noted down the left-hand margin of the paper. As he went back over his notes, he wrote questions for each level of the taxonomy. On Monday morning, after getting dressed and eating breakfast, he reworked the questions for a last time, realizing there would not be time during the day to do more planning for the class.

He had spent several hours preparing questions and was excited about trying his sequenced approach to questioning. The fifth-period bell rang, and the students took their seats. Benson looked over the names in his grade book and glanced around the room. All the students were present.

For the first five minutes of the class he reviewed Friday's lesson, which had covered the political system in Mexico. After summarizing major points of the political system, Benson set the stage for the class's activity. "For the remainder of the period," he continued, "We will explore the economic system of Mexico. To introduce the topic I have printed five key terms on the chalkboard. Please put these in your notes. As you view the short film I will show in a minute," he continued, "each of these terms will be defined and discussed. Please define the terms in your own words in your notes. Some of the terms you should recognize. We've used them before."

He then repeated the key terms aloud: "*Currency. Gold standard. Inflation. Balance of trade. Consumption.*"

"Mona, please turn off the lights," Benson said as he motioned to a student to ready the room for the film.

After the film, he turned off the projector and flipped on the lights. "Take the next couple of minutes to finish your notes, while I rewind the film and put it in its canister," Benson instructed the class.

Three minutes later, armed with questions he had prepared over the weekend, Benson began the discussion. "You will recall that when we studied other countries, we talked about the fact that a country's currency serves as the foundation for its economic system. What is currency?"

None of the students responded. He waited. After a half-minute of silence, he said impatiently: "Come on, we've covered this in three other South American countries in the past two weeks. What is a currency?"

Meekly, one of the students offered a response.

After the student was finished speaking, Benson replied reassuringly "That's a good start. Who can build on what Lois has said?"

For the next 30 minutes Benson struggled to get students to respond. He stumbled through the grid of questions, noticing that students seemed reluctant to offer answers and had trouble moving up the taxonomy to higher-order questions. Out of frustration he ended the discussion early.

1. What did Benson do wrong? Be specific and support your criticisms with relevant theory or research.
2. If in Benson's shoes, what would you have done differently? Support your choice of instructional activities with relevant theory or research.
3. What educational goals are served through the use of critical thinking questions?

Acceptable constructed responses to *Fostering Critical Thinking in the Classroom* in outline format

1. Things Mr. Benson did wrong.

- a) Benson tried to do too much all at once, particularly, getting his students to think critically when apparently they hadn't in the past.
- b) Benson's instruction lost *momentum* when after the film he rewound it and put it in the canister. Research shows that effective teachers do not lose momentum.
- c) He did not appear to provide students with proper *wait time* or provide other *scaffolding* as research has shown to be necessary when critical thinking questions are asked.
- d) His interactions with the students seemed to cause them to become embarrassed. Research has shown that if one student is put on the spot and embarrassed other students will be vicariously punished from participating.

2. What I would have done differently: Under the same conditions, I would have

- a) not included questions from each level of Bloom's taxonomy. I would have included questions concerning knowledge, comprehension, and perhaps application. To include analysis or the other levels would likely be beyond students' zone of proximal development.
- b) called upon particular students to answer questions, rather than waiting for students to respond. If a student was unsure of the answer, prompts or other assistance would be offered. Following sufficient time, another student would have been asked the question. If no one could answer, then such questions may be beyond their zones.
- c) not lost momentum by rewinding and canning the film right after its presentation; rather, consistent with good instructional practice, I would do that during lunch. After the film, I would engage students in a class discussion.

3. Educational goals met by critical thinking questions.

- a) They help to meet cognitive learning objectives, including the higher of Bloom's taxonomy: analysis, synthesis, and evaluation.
- b) They also help meet constructive learning goals by engaging students. If critical thinking questions are asked of cooperative learning groups, students will have to share opinions, brainstorm, engage in problem solving, and so forth. Of course, the teacher must monitor and facilitate to make sure that the students stay focused on the task..