

Overviews—General Content

Elementary Education: Content Knowledge (0014)

The Praxis II Content Knowledge examination for elementary education is a comprehensive and detailed investigation of the core information that an examinee possesses pertaining to the topics covered: language arts, mathematics, social studies, and science. This multiple-choice test was constructed to assess the base knowledge of individuals who plan to teach at the elementary level.

Examinees should plan on a two-hour exam of the content categories that comprise the four main subjects in an elementary classroom. The information in this exam is based on the content that is included in curricula for elementary children at all grade levels. Whether an individual plans to teach 2nd grade or 5th grade, all elementary subject matter must be understood.

This guide provides in-depth content for exam 0014 divided by the four main subject areas, but it is not inclusive of the entire breadth of the content available for all grade levels. After reviewing and studying the content available in this guide, if you feel that further study is necessary, refer to subject areas on the Internet or utilize library information or college texts.

Examinees should review the description of the content in the following list, along with the percentages and number of questions, to determine the areas that may need the most concentrated study. When taking the actual exam, the questions are situated in the test booklet according to each subject area. A scientific or four-function calculator is permitted for use on this exam.

The Praxis II Elementary Education: Content Knowledge 0014 is divided as follows:

Language Arts	30 questions	25% of the test
	Understanding Literature	30%
	Text Structures and Organization for Reading and Writing	5%
	Literacy Acquisition and Reading Instruction	30%
	Language in Writing	25%
	Communication Skills	10%
Mathematics	30 questions	25% of the test
	Critical Thinking	none given
	Number Sense and Numeration	31%
	Algebraic Concepts	23%
	Informal Geometry and Measurement	23%
	Data Organization and Interpretation	23%

Social Studies	30 questions	25% of the test
	Geography	15%
	World History	10%
	United States History	25%
	Political Science	20%
	Anthropology, Sociology, Psychology	15%
	Economics	15%
Science	30 questions	25% of the test
	Earth Science	25%
	Life Science	25%
	Physical Science	25%
	Science in Personal and Social Perspectives	10%
	History and the Nature of Science	5-10%
	Unifying Processes	5-10%

As an examinee, you will notice this exam covers a vast array of information on these four topics. It may seem difficult to know what to study, although the outline given of the percentages will provide a good start in preparing for the amount of test questions that will be included on the exam in certain topic areas. On the actual exam, there may be diagrams, charts, equations, story problems, definitions, readings, poetry, or examples of items used in a classroom. Examinees will want to make sure they study the broad content of these subject areas and concentrate on the specific areas where they feel they may lack knowledge.

A practice exam for #0014 is found at the end of this guide and should help with further study. The answers are not only provided, but a general explanation is also available. Use the practice exam to help in deciding the areas to study and the depth of your studies.

No matter what you study for this exam, the amount of information you retain will be invaluable to your career as a teacher. Innumerable times, students ask for information about the subjects or topics being studied, and it is a wise teacher who is able to provide the details and facts to answer student questions.

Curriculum, Instruction, and Assessment (0011)

The Praxis II exam 0011 is a broad-based set of materials that covers the common subjects taught in elementary education. In a multiple-choice format, this two-hour exam includes 110 questions centered on language arts, mathematics, science, social studies, fine arts, and physical education. The questions are related to curriculum planning, instructional design, and the assessment of students.

The breakdown of the Content Categories for the Curriculum, Instruction, and Assessment exam is as follows:

Reading and Language Arts	38 Questions	35%
Mathematics	22 Questions	20%

Science	11 Questions	10%
Social Studies	11 Questions	10%
Arts and Physical Education	11 Questions	10%
General Information	17 Questions	15%

The material included in this section pertains primarily to the general information of curriculum, instruction, and assessment, but this information may also be applied directly to specific elementary topics or subject areas (science, math, language arts, social studies, and integrated subjects). There is a content-specific section under each subject area in this guide to also study for the 0011 exam.

Examinees should be knowledgeable in all subject areas, as well as with the general aspects of the educational process. Review of previously learned concepts, an understanding of the educational practices, and the ability to apply those concepts and practices will enable the examinee to acquire a satisfactory score on the Praxis II. Remember as you study that to enhance the academic process educators should do the following:

- Acknowledge the theories of development and learning, incorporating them into a personal philosophy.
- Gain knowledge about the core subjects at the elementary level.
- Design and plan effective instruction that encompasses all learners.
- Encourage students to be active participants in creating the learning environment, activities, and experiences.
- Promote learning opportunities that allow students to interact with adults and work cooperatively with others.
- Utilize multiple instructional strategies and a variety of methods.
- Provide adequate materials and developmentally appropriate activities and experiences.
- Instill the use of critical thinking skills, problem-solving skills, and decision-making skills in daily activities.
- Manage behaviors through positive situations, modeling, and training.

Curriculum, instruction, and assessment are the critical elements of educational programming in all subject areas.

Curriculum is *what* is taught.

Instruction is *how* it is taught.

Assessment examines *whether* it was taught and how well it was learned.

Knowledge and Understanding of Human Development

In order to adequately and effectively educate children, teachers must be knowledgeable about the stages and theories related to human development. There are long-standing thoughts about human development and contemporary ideas focused on current research and observation. Educators should review the content of the concepts of human development to better understand how children evolve in the early stages. This review will aid teachers in creating a positive classroom environment and incorporating the theories of learning into instructional delivery.

Constructivism

A popular early theory of human development, constructivism implies that learning evolves and becomes more complex and more complete over time as individuals build upon prior knowledge. Piaget was instrumental in describing that children develop by constructing or building knowledge based on what is already known. He believed that disequilibrium, equilibrium, and assimilation (and sometimes accommodation) are steps in the process of constructing knowledge.

The two principles of this theory are as follows:

Learning is an individualized process; students learn different things from the same experience.

Learners must be active in the learning process.

Zone of Proximal Development (Vygotsky)

This theory was defined by the Russian psychologist Lev Vygotsky. His theory was based on the idea that when children have assistance with learning, they can do more collaboratively than by themselves. He described the **zone of proximal development** as the difference between what a child can do on her own and what that child can do with assistance, either from adults or peers. Vygotsky believed that children who interact and work with others perceive things differently, and this collaboration facilitates movement into this zone where certain learning processes occur.

Bronfenbrenner Ecological Model

The child is at the center of an integrated system that functions interactively within itself and may be diagrammed using four concentric circles.

- **Microsystem:** the child, the environment, and those people or entities with whom the child directly interacts—family, school, and neighborhood
- **Mesosystem:** interactions of the people with each other in the child’s environment; not directly affecting the child
- **Exosystem:** the broader community in which the child lives; the extended family, friends of family, and social services
- **Macrosystem:** the attitudes, ideologies (laws, values), customs of the culture in which the child lives

Maslow’s Hierarchy of Needs

Abraham Maslow created a hierarchy on which one may observe the more sophisticated needs of an individual at the top levels of the hierarchy. He believed that basic needs must be met for a child to grow and develop; the most basic needs being those that are physiological (air, food, water, rest, shelter). As those needs are met, a child may advance up the steps of the various levels to the top where the child develops into her potential and becomes the best she can be. If all the needs on this hierarchy are met, the child will have the ability to seek knowledge, learn, and develop appropriately. The following is the hierarchy from bottom to top:

- Level I: basic needs; exploration, manipulation, physiological needs
- Level II: security, protection, safety
- Level III: closeness and love
- Level IV: esteem and self-esteem
- Level V: self-actualization

Psychosocial Theory of Development

Erikson identified eight stages of human development, each thought to influence the next stage in the developmental process.

1. Trust vs. Mistrust
2. Autonomy vs. Shame and doubt
3. Initiative vs. Guilt
4. Industry vs. Inferiority
5. Identity vs. Role confusion
6. Intimacy vs. Isolation
7. Generativity vs. Stagnation
8. Integrity vs. Despair

Domains of Learning

Five specific areas of development are referred to as the early **domains of learning**, and educators generally address these domains in the early childhood years to be sure a student is developing appropriately across all sectors. These domains affect one another as a child develops, and instruction should support these domains, providing the child with a strong foundation of learning.

The five domains, which are briefly summarized in this section, include the following:

- Cognitive Domain
- Language/Communication Domain
- Physical/Motor Domain
- Social-Emotional Domain
- Self-Help/Adaptive Domain

Cognitive Domain

The Cognitive domain is the most critical domain as mental skills are essential for the development of all other domains throughout a lifetime. This domain focuses on the primary mental skills such as thinking and reasoning. Other mental skills include remembering, problem solving, decision making, naming, recognizing, making generalizations, understanding cause-and-effect relationships, and analyzing perceptions.

The theorists who most closely concentrated their philosophy on this domain include

- Skinner, Behavioral Learning Theory
- Piaget, Cognitive Development Theory

Language/Communication Domain

Communication and language are very important in life, and this is a critical domain of development. Language, the systematic use of sounds, signs, or written symbols for the purpose of communication or expression, must become meaningful to children, and they must acquire skills using language structures, pattern combinations, gestures, facial expressions, early literacy, and expressive and receptive language in order to develop in this area. The skills of this domain are acquired based on a child's environment and experiences. Early literacy development is a child's first introduction to reading and writing. Children must be exposed to activities that stimulate oral language and listening in order for them to acquire reading and writing skills.

Physical-Motor Domain

Children interact with their environment in very physical ways. The motor domain is the first to develop as children begin moving, and they continue to collect large amounts of data through this domain of learning throughout their lives. The motor domain includes gross motor (large muscles), fine motor (small muscles), sensory-integration (tactile, vestibular, and proprioception), and perceptual (coordination of muscles and movement). The theories formed by Gesell, Piaget, Ayres, and Kephart apply to the physical-motor domain of learning.

Social-Emotional Domain

Emotions are an expression of feelings that reflect needs and desires. If their basic needs are met, a bond forms with the caregiver, which permits other social relationships to emerge and more complex emotions to evolve. Children gain social skills through many interactive experiences in their daily lives. This strengthens their perception of self-esteem, self-confidence, and self-competence.

Other factors influence the proper development of this domain. The cognitive and language domains affect and are affected by the development of the social-emotional domain. The establishment of an effective and age-appropriate environment is also a critical component to a child's developmental stages.

Theories related to the social-emotional domain include Maslow's Humanism Theory, Skinner's Behaviorism Theory, Erikson's Psychosocial Theory, Bandura's Social Learning Theory, and Gardner's Multiple Intelligences Theory.

Self-Help/Adaptive Behavior Domain

Adaptive behaviors, self-help, or personal skills necessary throughout a lifetime are generally acquired during daily routines influenced by parental involvement. Adaptive behaviors are based on the child's age and level of development, as well as the cultural mores of the family (preferences, beliefs, and values). When children master these competencies, they strengthen their self-esteem and develop a sense of independence.

Pedagogy/Learning Theories

Educational pedagogy is the academic or scholarly influence on the act of learning. Theories are the foundation of educational principles and help to define educational practices and instructional delivery models. Understanding how individuals learn will aid educators in their development of unit and lesson plans that address all learners. Numerous theories are related to learning, but only a few broad-based theories have been selected for description in this section. Examinees most likely studied many pedagogical aspects of education and instruction in their coursework. It is not important whether an individual agrees with all the possible theories, but rather that the individual understands and can apply those approaches that are most appropriate for the students being served.

Educators should evaluate their personal philosophy about how children learn, and this philosophy is generally based on existing learning theories. Learning theories can be guidelines on how to deliver instruction to students. Educators know that not every theory works for or relates to every student and his needs. Students are uniquely individual, so the approaches used to address their learning needs should be based on researched information.

Cognitive

Based on Piaget's work and Gestalt psychology, this theory reflects the internal mental processes that are used to acquire knowledge. These processes include problem solving, memory, and language. This theory describes how people understand, analyze, and solve problems.

Cognitive theorists believe that students acquire new information and skills based on prior knowledge. Instruction under this theory must be delivered at the appropriate level or stage of student development and guided in the environment so students may develop an application of the learned skills. Motivational activities will enhance and encourage learning. Instructional application includes learning styles, metacognition, peer tutoring, scaffolded instruction, and behavioral temperaments.

Behavioral

The behavioral theory describes a systematic approach to learning and instruction and is based on the work of Skinner. He believed that learning is a function of the changes in behaviors and the responses to these events. The primary components emphasize the effectiveness of explicit teaching and direct instruction and incorporate the ABC model of instruction (A = antecedent or stimulus; B = target behavior or response; C = consequences or reinforcement). The focus is on measurable learning behaviors that can be observed and documented.

Developmental Theory

This theory emphasizes the natural progression of growth, focusing on the sequence of the developmental stages of cognitive abilities. According to this approach, the key concept to learning suggests that a level of maturity or *readiness* must be reached; when children mature, they naturally begin to learn.

Psychodynamic

This pedagogical approach is based on the premise that human behavior and human relationships are shaped by conscious and unconscious influences. It has been determined that an individual's personality and his reactions to situations are the result of interactions in the mind, the genetic constitution, emotions, and the environment. These factors affect a person's behavior and mental state. Therefore, the psychodynamic theory is the study of human behavior based on motivation and the functional significance of emotions created through the research of Brucke, Jung, and Freud.

Sociological

The social learning theory was constructed by Bandura, who discovered that children learn through their observations of others. According to this approach, educators would be wise to model and demonstrate learning activities and key concepts, so children may observe what they need to learn.

Ecological

This theory focuses on the social experiences and family background and culture that impact a student's development and future academic success. Individuals develop within their personal environments, facing various situations and interactions. These influences from the home, the school, and the community affect how well the student will achieve, and his academic success is related to these past and present experiences.

Eclectic

The eclectic approach to learning promotes the combination of various pedagogical practices to better meet the academic needs of the students. Professionals may select components from the different theoretical approaches to design instruction. Some approaches work better for certain types of students in different environments for various age groups. This type of approach offers the educator a theoretical approach based on his personal philosophy and the ability to change the approach based on the evolving needs of students.

Multiple Intelligences Theory

Howard Gardner introduced this theory of multiple intelligences, each comprised of distinguishing features. This theory has impact on the instructional presentation in classrooms, as individuals possess a range of intelligences, which include not only academic aspects, but other talents and skills. He believed that individuals possess all of the intelligences, yet some are at a higher and more noticeable level. He emphasized that educators should teach to the set of intelligences in order to address the needs and capabilities of all students in a classroom. This theory offers a method of diverse instruction. The nine intelligences are as follows:

- **verbal**—The ability to express oneself orally or in writing and may have the ability to master other languages. The most emphasized intelligence in classrooms, verbal intelligence includes instruction through lecture and textbooks.
- **logical**—The intelligence of logic, reasoning, and problem solving, logical intelligence promotes sequential and orderly instruction and structured environments. Instruction conforms to teacher-directed activities.
- **visual**—The intelligence that enables individuals to use spatial reasoning (use of charts, maps, illustrations, puzzles, and so on) to grasp ideas and solutions to problems prior to explaining them or applying them.
- **musical**—The ability to use patterns, sounds, and rhythms to make sense of the environment. Musical intelligence is not a sole auditory intelligence and includes the study and instruction of mathematics.
- **intrapersonal**—This intelligence focuses on the affective reasoning, which includes feelings, values, and attitudes and promotes meaningful learning.

- **interpersonal**—This area supports interactions with other individuals in the learning process, such as cooperative groups, and interactive whole group instruction, in order to make more sense of the information.
- **kinesthetic**—Interacting with the physical environment defines this area of intelligence, and it encourages activities that utilize fine and gross motor skills, such as learning centers, science experiments, drama-based lessons, and hands-on learning experiences.
- **naturalist**—This intelligence includes skills such as classification and categorization, which are used in the fields of biology, anatomy, zoology, and geology.
- **existential**—A broad-based intelligence, the existential intelligence encompasses aesthetics, philosophy, and religion and permits students to understand their relationship to the world with skills such as summarization and synthesizing.

Theories of learning styles include the following:

- Visual, auditory, kinesthetic (Bandler-Grinder)
- Left-right cerebral, left-right limbic brain dominance (Herrmann)
- Physical, psychological, sociological, emotional, environmental (Dunn and Dunn)
- Concrete random and sequential, abstract random and sequential (Gregorc-Butler)
- 4-MAT system that includes “if, why, how, what”

Curriculum

Curriculum is a designed plan for learning that requires purposeful preparation by the teacher who will organize and manage the learning situation, impart the core content knowledge, and promote the development of skills expected for the learners. Planning, effectiveness, and addressing learner differences all affect the quality of the curriculum.

Curriculum is a process that includes the knowledge that is to be transmitted to the students and the outcomes or products to be assessed.

Curriculum is influenced by several factors, and these must be considered when planning and implementing a curriculum at the elementary level. These factors include society values, content standards, accountability systems, research studies, community expectations, culture and language of learners, and the diversity of learning styles.

Components

The framework of curriculum is according to individual states and the standards that are presented for each grade level. These standards encompass the knowledge and skills to guide implementation of the curriculum.

Every curriculum is designed with a set of critical components that should include

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| ■ Vision statement/introduction | ■ Goals and objectives |
| ■ Content expectations/standards | ■ Grouping and pacing plans |
| ■ Pedagogy/teaching practices | ■ Products and materials |
| ■ Assessment | ■ Resources/technology use |
| ■ Instructional strategies/learning activities | ■ Extension activities |
| ■ Differentiated instruction techniques | ■ Closure and follow-up |

Purpose

A curriculum should meet the needs of the learners and provide

- Varied opportunities to gain core knowledge
- Assorted activities to apply the learned knowledge
- Methods to integrate the various subjects and disciplines
- Strategies for addressing diverse learners
- Activities that are motivating and challenging
- Assessments that promote continued learning

Design

A curriculum plan, usually created in a chart format encompassing a range of academic goals, instructional objectives, specific skills, and so on, is organized according to the successive levels at which each are taught. The instructional plan can be established when the teacher considers the content of the subject, the levels of the students, and the curriculum goals. The teacher designs the plan and develops the educational activities that are meaningful to the students to enhance their success.

Scope and sequence is a vital design component of the curriculum and essential to the whole school plan as well as the planning of individual teachers in developing learning sequences. The scope and sequence is an outline of the topics and skills to be taught at each grade level. **Scope** includes those decisions about what information and activities are significant and manageable. Consideration of **sequence** includes decisions about what is necessary to include for the sequential development of skills and concepts of the content.

Instructional Objectives

Objectives should identify a learning outcome and be consistent with the overall broad-based goals of the curriculum or subject area. The purpose of an objective is to provide individuals an understanding of the desired instructional outcomes and to identify what an educator intends for the learner to know at the end of the unit or lesson. Each objective should be stated in measurable, precise terms and include three components: targeted audience, the behavior that is expected of the learner, and the conditions under which the learner must demonstrate knowledge.

Implementing Standards

Under the federal law, No Child Left Behind (NCLB), schools were required to reflect standards-based instruction in their educational programs. Each state has now established a set of standards for the subject areas taught at each grade level. National organizations have also developed standards they believe are critical to the effective learning of all children across the country.

When educators use and apply standards, they should ensure that the standards are

- Rigorous, manageable, and developmentally appropriate
- Focused on the academic subjects and core curriculum
- Leveled so students may complete work and perform in diverse ways
- Written clearly for all parties to understand

Integrated Curriculum

An integrated or interdisciplinary curriculum is one that builds upon knowledge across various subjects. It allows learners to explore a common theme that incorporates more than one area of study. Teachers may present more meaningful experiences and link concepts in unique and creative ways. Students may pursue the study of a specific topic that provides learning activities related to mathematics, art, social studies, science, language arts, music, and so on, thus offering skill development and knowledge acquisition by linking subjects in a more authentic manner. An integrated

curriculum includes a combination of topics and subjects, varied resources, thematic units, flexible schedules, a multitude of instructional activities that link concepts, and variations in assessments. This approach has been determined to improve academic achievement, instill motivation and interest, and promote lifelong learning for students.

Types of Planning

Teachers plan in different manners and according to the requirements set forth by their state, their district, and their school. Some teachers must provide comprehensive, detailed plans that align with the school curriculum, the district competencies, and the state standards. Some teachers may be able to provide general plans with broad objectives and abbreviated activities. Either way, educators must become efficient and effective planners in order to meet the goals of the institution and the goals for the learner. Three types of planning are used: long-range planning, daily planning, and individual planning.

- **Long-range planning** includes those plans necessary for the year, the semester, the quarter, or the month. Teachers must be aware of the expectations and competencies created in the district and incorporate the standards in these plans, predicting where the students should be by the end of the selected time period. In long-range planning, the plans are generally broken into units or themes, and teachers must also consider the standardized testing needs that will arise.
- **Daily planning** comprises the regular everyday plans used in the classroom. For elementary teachers, this means covering the standards and objectives outlined in the unit plan for all subjects and may require that the teacher create plans for certain electives (art, physical education, music, and so on) or develop an integrated instructional approach.
- **Individual planning** is necessary when teachers are faced with diverse student needs, such as students who are gifted or talented, or those placed in special education. Special accommodations or curriculum modifications may be necessary for all of these students, and teachers must make plans for including these students in the general education plans.

Materials

Curriculum materials are educational resources, selected according to the subject, content, and grade level, which provide students with instructional experiences and activities to meet curriculum objectives and learner goals. They are essential to instruction and meeting the academic needs of all students. Curriculum materials may be commercially made, teacher made, or student created, or found on the Internet, in libraries, museums, or other community institutions.

Materials should be provided for all curricular areas taught and, whenever possible, cross over multiple subjects for integration of topics and content. Several points should be considered when teachers select curriculum materials.

- Examine the instructional situation to determine the best use and type.
- Choose materials that are appropriate for both the learners and the subject/topic.
- Keep materials in working order, safe, and easy to handle or manage.
- Make all materials accessible to learners or in close proximity to the classroom.
- Train learners on guidelines for the use and for return to specific locations.

Examples of curriculum materials include games, posters, collections, models, transparencies, kits, textbooks, computer programs, manipulatives, art supplies, music materials, video or sound recordings, puppets, and educational toys.

Environments

Creating a viable environment conducive to active learning takes planning and preparation, but when done well, it is a positive preventive strategy. The classroom climate fosters student achievement, and teachers should collaborate with their students to adopt a code of conduct, create classroom procedures, and improve room arrangements to include them in the learning process.

Instruction

Effective classroom instruction depends on planning, which is a systematic and organized way to develop lessons and activities for the learners. Designing instruction supports the teacher in the classroom and helps the teacher visualize the whole picture. Educators must know themselves, their philosophy, their teaching style, and the learners in order to plan the appropriate instruction.

Three purposes for the process of instructional design are as follows:

1. Identifies the outcomes of the instruction and for the learners
2. Guides the development of content through a scope and sequence
3. Establishes the assessment plan to gauge instructional effectiveness

The process of designing and preparing for instruction includes

1. Define the instructional goals (general statements of expectations and outcomes)
2. Perform an instructional analysis (identification of the learning steps to reach goals)
3. Distinguish present knowledge, skill, and behavior levels of students (the focus of instruction)
4. Identify performance objectives (specific statements of learner outcomes)
5. Choose instructional methods (strategies and techniques to impart knowledge and content based on objectives and outcomes)
6. Gather instructional materials (based on methodologies and learners but may be changed as instruction occurs)
7. Conduct formative evaluation (ongoing assessment to alter instruction based on learner needs)
8. Conduct summative evaluation (at the end of instruction to verify effectiveness of teaching and how well learner achieved objectives)

Principles

Research studies collaboratively identify the fundamentals of effective instruction as

- High expectations for learners
- Active engagement of students
- Thematic unit instruction
- Interactive cross-age tutors
- Cooperative learning activities
- Teacher effectiveness

General Models of Instruction

The type of model selected for instruction should be based on the learners, the content to be delivered, and the teacher's abilities. The following are some of the models known, and each may have select variations. Specific models, which are more commonly used, are further defined in this section.

Model	Creator	Benefits	Limitations
Brain-based	Brooks	<ul style="list-style-type: none">• Allows natural flow of learning according to function of the brain• Promotes environment, content lessons, and student involvement as factors of learning	<ul style="list-style-type: none">• Takes time to manage and implement for diverse learners• Teachers should be familiar with brain research and human development, including stages of learning

Model	Creator	Benefits	Limitations
Cognitive-constructivist	Piaget	<ul style="list-style-type: none"> • Stimulates critical thinking skills • Allows students' independent learning 	<ul style="list-style-type: none"> • Requires teacher to be knowledgeable about subject and proper modeling
Cooperative learning	Johnson	<ul style="list-style-type: none"> • Easy integration of multiple intelligence and learning style theories • Focuses on social and academic goals • Useful for any content or subject • Improves academic achievement 	<ul style="list-style-type: none"> • Difficult for some types of students • Additional time needed for planning and monitoring • May need to instruct on social skills
Conceptual-expository learning	Ausubel	<ul style="list-style-type: none"> • Helps when presenting abstract concepts • Emphasizes deductive reasoning • Higher level of thinking 	<ul style="list-style-type: none"> • Teacher directed • Concepts may be too advanced for learners
Delineator approach	Gregorc	<ul style="list-style-type: none"> • Teaches students using both concrete and abstract perceptual qualities • Helps students learn to create sequential order 	<ul style="list-style-type: none"> • Some students may have difficulty with concrete level
Direct instruction	Hunter	<ul style="list-style-type: none"> • Improves academic achievement • Supports learners with varied needs • Structured for sequential learners 	<ul style="list-style-type: none"> • Some teachers may not follow the steps carefully or review information or monitor students accurately
Discovery learning	Bruner	<ul style="list-style-type: none"> • Improves learners' interest/motivation • Promotes inductive reasoning, intuitive thinking, and critical thinking skills • Allows students to be actively, independently engaged 	<ul style="list-style-type: none"> • May not offer benefits to lower- or higher-level learners • Questions the effect on achievement
Inquiry learning (inductive)	Taba	<ul style="list-style-type: none"> • Motivational and meaningful for learners • Develops problem-solving and critical-thinking skills • Encourages use of scientific methods • Acknowledges that learning requires interaction between the learner and the data 	<ul style="list-style-type: none"> • Takes more time than most models • Limited effect on academic achievement • Some students have problems with the step of application of information
Mastery learning ("all children can learn")	Bloom	<ul style="list-style-type: none"> • Allows individual time for acquiring knowledge • Process continues after assessment • Remediation implemented as needed 	<ul style="list-style-type: none"> • Students may feel intimidated or overwhelmed by repeated concepts • Students may be at uniquely different levels of learning • Requires time and patience of teacher and ability to monitor all students effectively
Multiple intelligences	Gardner	<ul style="list-style-type: none"> • Addresses the various types of intelligence • Allows students to be successful in all lessons 	<ul style="list-style-type: none"> • Requires time of teacher to identify strengths of individuals
Traditional approach		<ul style="list-style-type: none"> • Follows standardized scope and sequence in textbook, written assignments, and exams • Sets milestones and accomplishments • Grading rubric established 	<ul style="list-style-type: none"> • Does not address individual learning styles or specific teaching style • Promotes artificial learning of information and concepts • Teacher-directed without much active learner involvement

Constructivist Approach

A child-centered approach in which a student is actively involved in directing her own learning. It bases the new concepts and delivery of information on a learner's previous knowledge. A student is motivated by the process and learns through inquiry and practice. It is the experiential learning that promotes a thorough understanding and an application of what is learned.

Cooperative Learning

In the Cooperative Learning Model, Johnson and Johnson identified five elements:

- **Positive interdependence**—Students understand that success is linked to other students and their success, knowing that each must contribute effort for the entire group to be successful.
- **Promotive interaction**—Students support one another by sharing resources, encouraging one another's efforts and contributions, solving problems together, and checking for understanding.
- **Accountability**—Students realize that each member in the group is responsible for learning the material so the group may achieve the final goal.
- **Interaction**—Students know that interpersonal skills must be used to be successful, which include effective communication, problem solving, decision making, building rapport, compromise, and cooperation.
- **Group processing**—The group assesses their ability to function and acquisition of knowledge, which may include on-task behaviors, goals met, cooperative efforts, and feedback on data.

Madeline Hunter's Direct Instruction

Hunter's model includes instructional sequence steps for any subject area and any grade level. Her model focuses on direct instruction and a systematic instructional method requiring the educator to have a grasp of the subject at a level of mastery. It places instructional theory into practice.

Direct instruction is the technique used when the teacher very specifically provides support for curricular topics. Use of this approach demonstrates instruction that proceeds in steps to accommodate students' understanding of the information and materials with the primary outcome being successful participation of students as active learners. Review of previous concepts and monitoring of student learning are important components in this approach.

Hunter's Essential Elements of Instruction

Standards-expectations objectives	Identifies what students will be able to do as a result of this lesson
Anticipatory set	Opening activity that prepares students for the upcoming lesson—a "hook"
Instruction <ul style="list-style-type: none">• Input• Modeling• Check for understanding	What the teacher must do to present lesson—deliver concepts, provide information, knowledge, or develop skills
Guided practice	How the teacher helps students to do the work of new tasks
Closure	How the teacher helps students to summarize new information and gain skills
Independent practice	Student opportunities to practice new learning or apply skills

Teaching Practice of Explicit Instruction

Explicit instruction is a well-developed and designed systematic instructional approach used for all elementary school content areas: reading, mathematics, language arts, social studies, sciences, physical education, and the fine arts. Explicit instruction is synonymous with direct instruction (Madeline Hunter Model), which is based on the behavior theory.

This approach promotes the use of materials and activities that give students structure and support in the learning process with a focus on the academic tasks to be learned. Each step toward goal attainment is taught to students and includes modeling, positive feedback, and practice opportunities. The environment must accommodate learning and be organized so students may work toward predetermined skills. The teacher is in control of the lessons, the environment, and the materials, while allowing proper time for instruction, student practice, and performance. Students are provided feedback and are expected to gain mastery before moving to the next skill level.

Bloom’s Taxonomy

Benjamin Bloom and John Carroll created the Mastery Teaching Model in 1971 with a focus on defining objectives in terms of measurable outcomes. After instruction occurs, students are assessed, and the areas of concern are readdressed. They believed this process had a positive effect on student achievement and self-concept. Bloom then developed a taxonomy for categorizing learning structures in educational settings, which incorporated specific questions to obtain the various levels. This is a well-known process used in elementary education programs to guide instruction.

Level	Skill	Verbs	Questions
Knowledge (find out) (remember)	<ul style="list-style-type: none"> Observe and recall information Know dates, events, places Know major ideas/concepts Remember previous material 	Define List Show Identify Describe Name Label Collect Match Observe Locate Listen	Who? What? When? Where?
Comprehension (understand)	<ul style="list-style-type: none"> Understand information Interpret facts, contrast, compare Grasp the meaning of material Explain and summarize Predict outcomes and effects (trends) 	Discuss Define Restate Explain Predict Reports Give Review Associate Estimate Express Chart Summarize	Why? How?
Application (use)	<ul style="list-style-type: none"> Use information Ability to use methods, concepts, theories, in new situations Apply rules, laws, methods, theories Solve problems using appropriate techniques 	Apply Relate Demonstrate Classify Illustrate Compute Show Operate Solve Use Examine Employ Modify Interpret	Apply
Analysis (take apart)	<ul style="list-style-type: none"> Recognize patterns Organize parts Implications Identify components Conclude and clarify 	Analyze Explain Order Distinguish Connect Sort Arrange Test Divide Criticize Infer Calculate Compare	Diagram How? What?

(continued)

Level	Skill	Verbs		Questions
Synthesis (create new)	<ul style="list-style-type: none"> • Arrange things in a new way • Generalize from given facts • Relate knowledge from various areas • Predict and draw conclusions 	Compile Combine Create Design Invent Compose	Produce Collect Manage Assemble Develop Formulate	What if?
Evaluation (judge)	<ul style="list-style-type: none"> • Assess the validity and value of ideas/theories • Make choices based upon reasoning and valid arguments • Verify the value of data and evidence • Recognize bias and subjectivity 	Evaluate Value Measure Decide Justify Criticize	Contrast Debate Support Rank Convince Select	Why? Why not?

Differentiated Instruction

Differentiated instruction is an educational strategy used to ensure that all students will acquire information and learn regardless of their individual abilities, strengths, interests, and needs. It incorporates student-centered instruction, and a variety of strategies to achieve outcomes for all learners. Using the approach of differentiated instruction focuses on the various learning styles of all students to ensure that instruction is appropriate for individuals through educational activities, class tasks, student groupings, and assessment.

When using differentiated instruction, educators vary the content offered, the process of presentation, and the product that is the end result of the instruction. Instruction may be delivered using various learning formats: whole class, small groups, and individuals. Acquiring the skills of using differentiated instruction takes time and practice, as it is a learned skill. Effectively and efficiently being able to address various learners, plan for the appropriate instructional practices, monitor the goals and outcomes, utilize consistent assessment of instruction, and implement proper delivery is considered mastery of this strategy.

Guided Instruction

This approach to instruction is a combination of the teacher-centered and student-centered approaches, which allows the teacher to balance these based on the students' needs. Teachers can guide the direction of the instruction, facilitating the learning process while students are then provided with time for practice and application of what is learned.

Instructional Formats

Instructional formats, which describe the manner in which instruction is delivered, vary according to the type of students and their needs, the teacher preferences, and the subjects or content to be learned. These formats may include the use of motivational acts, modeling, drill and practice, demonstration, corrective feedback, and reinforcements. These formats may be used with either individual students or small groups of students.

Some of the formats that are most often used include

- **Co-teaching**—when two teachers actively share the teaching of all students
- **Peer tutoring**—when educators employ strategies that include same-age and cross-age peers to tutor other students
- **Collaboration**—when teachers with diverse expertise work together to enhance the education of students
- **Cooperative learning**—when educators implement classroom situations that promote learning among students through cooperation, not competition

Methods/Strategies

The strategies and methods selected for the classroom must support the learners and their needs, while encouraging independence, generalization of skills, and application of knowledge. Most strategies are backed by empirical research, although some strategies will work with certain groups of individuals, and some are better for particular subject areas.

Strategies are the skills or techniques used to assist a student in accessing and learning through the curriculum. Empirical evidence suggests that all students benefit from good quality strategies implemented daily. Educators must ensure that the strategies are well-designed and chosen with emphasis on the learners' needs and abilities so knowledge will be transferred and applied.

Many proven instructional practices are effective at the elementary level. Educators should turn to the research-based methods/strategies that demonstrate proven effectiveness for elementary age students. The principles to consider when choosing a strategy include structured instruction, opportunities for practice, comprehensiveness, and whether it fosters independence.

Some of the beneficial instructional strategies/methods are explained in this section.

Developmentally Appropriate Practices

Utilizing developmentally appropriate practices is to consider the level at which a student is presently functioning when creating curriculum, addressing standards, and developing instructional activities. Classroom teachers who follow the concept of developmentally appropriate practices take into account the various stages of human development and sequentially follow the ability levels of the students in order to progressively develop those skills at a higher level. The activities and practices evolve according to student developmental levels.

The purpose of using developmentally appropriate practices is to meet the needs of all learners in a suitable environment in the best possible manner. Educators must consider the age of the students, ability and skill levels, interests, cultural backgrounds, and social behaviors when creating curriculum activities and then build upon these various events to enhance learning according to each student's development.

Sometimes state standards are not at the appropriate level to impose developmentally appropriate practices, so the educator must work at establishing suitable activities and addressing the instructional needs of the students. In order to create an environment that promotes developmentally appropriate practices, teachers should integrate the standards in the curriculum, provide adequate materials and equipment, participate in ongoing training, and use effective communication with parents.

Integration Strategies

There are many ways to integrate across the curriculum as well as many reasons why this is so beneficial to students. Strategic integration is an instructional design component, which combines essential information in ways that result in new and more complex knowledge. The strategic integration of curriculum content aids students in learning to use and apply specific knowledge beyond the classroom. Characteristics of strategic instruction include the following:

- Design offers opportunities to integrate several big ideas.
- Content learned must be applicable to multiple contexts.
- Complex concepts and facts should be integrated once mastered.

Scaffolded Instruction

Scaffolding is a teaching strategy that provides a temporary support or guidance to the learner who is not ready to perform a task independently. This strategy may be in the form of steps, tasks, materials, and personal support during initial learning that reduces the task complexity by structuring it into manageable chunks to increase successful task completion. It allows needed support in the beginning, then gradually decreases the teacher participation as the student becomes more competent, and ends with independent practice as the student masters the skill. The degree of

scaffolding changes with the abilities of the learner, the goals of instruction, and the complexities of the task. Gradual and planned removal of the scaffolds occur as the learner becomes more successful and independent in task completion. Thus, the purpose of scaffolding is to allow all students to become successful in independent activities.

Two types of scaffolded instruction are verbal and procedural.

In **verbal instruction**, the teacher uses prompting, questioning, and further explanations to encourage students to move into higher levels. For example, paraphrasing, think alouds, reinforcement, modeling, and appropriate speech.

In **procedural instruction**, specific instructional techniques such as the following are used:

- Instructional framework-specific teaching, modeling, and practice of the skill with others as well as expectations for independent application
- One-on-one teaching and modeling
- Small group instruction in which a more experienced student practices or models a newly learned skill with a less experienced one
- Grouping or partnering in which teachers place students who are more experienced in a topic with those who are less experienced

Scaffolding

Apply



Practice



Model



Teach

An example of scaffolded instruction is **reciprocal teaching**. Through dialogue between the teacher and student, learning is guided with the teacher helping to shape learning opportunities and conducting ongoing assessments. (Especially effective in teaching reading comprehension skills such as: summarizing, asking questions, clarifying, and predicting.)

Cooperative Learning

This is a technique of grouping students used to assist them with learning activities in a student-centered environment to keep them actively engaged. Students must utilize positive interdependence, individual accountability, interactions with others, and equal participation. Cooperative teaming includes partnering, triads, small grouping, and whole group.

Following are examples of pairing strategy:

- **Think-Pair-Share**—Teacher poses a question or topic to the students and allows them time to think before discussion; partners talk about the question or topic and then share their answers and discussions with the class.
- **Round Robin Recall**—Students are divided into small groups, and each member must recall all they know about a topic or subject presented in a set amount of time.

Grouping Model

Independent Work



Partners



Small Group



Whole Class

Questioning Strategies

An important skill that teachers should develop is the technique of asking a question and waiting for an answer. When referring to Bloom's taxonomy, questions to students may begin at the **knowledge** level and proceed through to the higher order of thinking skills at the **evaluation** level to better assess student gains. At the first level, the questions are based on the information just learned, while at the final level, questions are based on critical thinking and application of content. For example,

Knowledge: Define the ...

Application: How would you use the ...?

Evaluation: Decide which method ... and compare ...

Task Analysis

Using the method of **task analysis** helps a student learn a specific skill by breaking down the assignment or activity into sequential steps. The student learns each step of the task as he moves toward the preferred level of skill achievement.

Content Enhancements

This approach allows teachers to use various techniques that enhance more complex information in the curriculum so students may remember and utilize it more efficiently. Types of content enhancements include guided notes, graphic organizers, and mnemonic strategies.

Graphic Organizers

Graphic organizers are effective instructional tools that help organize information in a more concrete manner. They provide a visual, holistic representation of facts and concepts, depict the relationship of facts within an organized framework, and relate new information to prior knowledge. Graphic organizers may be used before instructional activities to activate prior knowledge and to encourage student prediction. They can be used during instruction to help students process and reorganize information. And, after instruction, graphic organizers help summarize learning, support the organization of ideas, provide a structure for review, and assess the degree of student understanding. Types of graphic organizers include the concept map, sequence chain, story map, main idea table, flowchart, matrix, and Venn diagram.

Wait Time

Wait time (adequate processing time) is the amount of time between the moment a task is presented or a question is asked and when the learner is asked to respond. Research shows that when teachers provide a pause period between a question and student response, students tend to reply with more thoughtful answers as they have time to process the request. Often, students are given only a few seconds to answer a question posed by the teacher, and it results in brief responses or no answers at all.

The amount of response (wait) time will vary based on students' ages and cognitive levels, as well as the complexity of the task, topic, or question. If a task or topic is considerably new, the amount of time allocated to think and formulate a response should be greater than that provided for a task that is more familiar. Some studies showed that at the elementary level, a decrease in achievement was attributed to waiting too long for responses to low-level questions.

Peer Tutoring

Peer tutoring is an effective strategy when used appropriately under the guidance of a teacher. The teacher selects a student with demonstrated mastery and competencies in a particular subject or topic and groups him with a student who needs assistance to gain mastery or access content knowledge. The students work together periodically so the student needing assistance can learn from modeling and practice the observed skills.

Student Responses

Students who are actively engaged in learning achieve greater success. Interactive learning activities keep students involved and provide them with adequate practice. Educators should elicit student responses several times per minute, whether through question/answer periods, student writings, or an activity.

Instructional Pacing

Pacing is the rate at which the instruction is delivered through presentations and in response solicitations. Pacing may be influenced by variables such as the complexity of a task, the newness of a task, and the range of student differences. Research suggests that instruction should be presented at a brisk and consistent pace as the benefits include

- More information may be provided.
- Learners are more engaged in the activity.
- Behavior problems are limited.

Feedback for Correct and Incorrect Responses

Immediate feedback should be provided in the classroom for both correct and incorrect responses. Corrective feedback should be instructional, not accommodating, and the feedback delivered to reinforce correct responses should be consistent and specific. Feedback should be subtle and part of the learning process, while not interfering with the timing of the next question, content, or interaction, or learners may suffer from learning disruptions and have problems with memory and recall.

Important terms regarding instruction include the following:

- **ability grouping**—Placing students together according to performance and academic achievement levels
- **adaptation**—A change made to the environment or curriculum
- **accommodation**—An adjustment that does not change the curriculum, but enables a student to participate in educational activities he might not otherwise be able to do
- **active student response**—The measure of the engagement of a student in tasks and activities
- **chained response**—Breaking down a task into smaller component parts so a person may complete the task, starting with the first step in the sequence and performing each component progressively until the task is final
- **chaining**—A technique in which student performance is reinforced so the student will continue to perform more complex tasks in the sequence
- **choral responding**—Oral response of students (in unison) to a question or problem presented by the teacher
- **chunking**—A strategy that helps a student learn, remember, and organize large amounts of information
- **cloze procedure**—The use of semantic and syntactic clues that aid in completing a sentence
- **cooperative learning**—Students are divided into groups to work together to complete a task, participate in an activity, or create a project
- **concept generalization**—The ability of a student to demonstrate content knowledge by applying the information to other settings without prompts from teacher
- **contingent teaching**—A strategy for helping a student and eventually fading out the support as he gains mastery of the skill or task
- **corrective feedback**—Aids students in understanding correct and incorrect responses while informing them of their progress
- **cues and prompts**—Provides assistance to ensure adequate support of instruction
- **demonstration**—Student observes the teacher or another student completing a task and then makes the attempt at task completion
- **drill and practice**—Use of consistent repetition and rehearsal

- **facilitated groups**—Students engage in active learning with lessons designed and overseen by the teacher but managed by the students
- **fluency building**—A measure that encourages practice of skills to improve the accuracy and rate of use
- **generalization**—The ability to use skills learned across various settings
- **guided practice**—Providing opportunities to gain knowledge by offering cues, prompts, or added sequential information
- **learning centers**—Specific areas or activities that enhance the curricular content and allow independent or small group instruction
- **mnemonics**—Enhances memory through key words, acronyms, or acrostics
- **modeling**—Helps make connections between the material to be learned and the process to learn it by acting out sequences so students may imitate the task
- **naturalistic teaching**—Procedures that involve activities interesting to students with naturally occurring consequences
- **prompting**—A technique in which a visual, auditory, or tactile cue is presented to facilitate the completion of a task or to perform a behavior
- **reinforcement**—The provision of a positive contact or object in order to strengthen the possibility that the student will make a similar response to a similar situation in the future
- **remediation**—A program technique to teach students to reach competency through training and education
- **repetition**—Continual work on a specific skill or content concept to help build rote memory skills
- **response cards**—A method that allows all students to answer simultaneously by using signs, cards, or items held up to demonstrate responses
- **skill drill**—Repetition and practice of new skills until the learner performs without cues and prompts
- **strategic instruction**—A planned, sequential instruction to show similarities and differences between acquired and new knowledge
- **systematic feedback**—Providing positive reinforcement and confirmation to improve learning
- **time trial**—A procedure that improves the fluency of new skills through time limits
- **universal design**—The concept that everything in the environment, in learning and in products, should be accessible to everyone

Motivation

Motivation is the reason students engage in certain behaviors, which may be to satisfy their basic needs, complete projects, or participate in activities. Motivation is a critical component in the academic success of students as it allows them to attain goals and reach accomplishments. Students need to feel motivated to learn and achieve. Educators should naturally want to motivate students and include methods of motivation in their daily and unit plans, which include interesting lessons, various materials, and unique activities.

To assist students in becoming motivated, teachers should develop healthy, trusting relationships and positive rapport with students. Students who are motivated become actively involved in the educational process and responsible for their individual achievements, gain self-confidence and pride in their work which instills enthusiasm for academics. Various rewards and strategies, both extrinsic and intrinsic, may be used to improve motivation in classrooms of diverse learners.

Extrinsic Motivators

Extrinsic motivators are those that come from outside the individual; these may be small tangible items (money, prizes, stickers), grades, special privileges, or verbal or written praise. The motivating factor is an external reward that can provide satisfaction that the completion of the task or activity itself may not provide to the student. Some students need to have something for their efforts, and some students need an extrinsic motivator only for a short period of time, until they feel capable and satisfied with their own efforts. Educators determine which students need this support.

Intrinsic Motivators

Intrinsic motivators are those that come from within the individual; students do not need to receive anything for their efforts as they have their own drive or internal need to be successful. Intrinsic motivators may include the feelings of satisfaction, accomplishment, or enjoyment. Many students are intrinsically motivated to learn for the pure joy of it, and they complete work and projects or activities because they want to succeed and master a subject. Teachers may capitalize on this form of motivation in students by including a sense of curiosity and excitement in the lessons they deliver.

Classroom Management

Effective classroom organization and structure are essential to maximizing student academic success. This management determines the learning environment, the teacher's attitude and behaviors, and the impact on students, their achievement, and behaviors. The basic classroom management components include an appropriate curriculum and motivating instruction, responsible and engaged students, and a teacher who models a positive attitude toward education. Positive classroom management creates an environment that allows students to flourish.

To create an appropriate educational environment for students, teachers must plan and implement the proper design and structure for the classroom, create efficient procedures, plan appropriate lessons, maintain order, use effective communication strategies, manage varying situations, consider proper behavior management strategies, and meet the diverse needs of all learners. A positive environment with effective management, in which students understand the expectations, will result in increased instructional time, reinforce the learning process, promote desired behaviors, and improve student-teacher relationships.

Teachers should use proactive strategies that model and teach students to effectively self-manage their behaviors and encourage them to be actively engaged in their own learning process. Students should be involved in creating the instructional environment, which will stimulate their interest in education, promoting life-long learning. Effective classroom management includes some of these strategies and procedures:

- Use appropriate lessons and materials.
- Vary tasks, assignments, and activities.
- Remove visual and auditory distractions.
- Give directions in concise, repetitive manners.
- Use modeling and demonstration for new tasks.
- Supply appropriate materials with easy access.
- Provide feedback/rewards for desired behavior.
- Reflect positive attitude for learning.
- Be clear about expectations.
- Minimize interruptions and transitions.
- Utilize positive and effective communication.
- Allow adequate time for learning.
- Help students organize work and work area.
- Implement effective transition periods.
- Establish special areas for enrichment.
- Support students when they make mistakes.
- Monitor progress and maintain accountability.
- Listen to the learners.

There are three recognized styles of classroom management:

- **Authoritarian**—restrictive and punitive with the main focus on maintaining order instead of emphasizing instruction and educational activities
- **Authoritative**—encourages students to become independent under an effective management program, with guidelines, expectations, and verbal support appropriate for the learners
- **Permissive**—promotes independence of learners, but offers them limited support for academic skills or managing their behaviors

Interventions

Interventions are the steps teachers take to address student needs when situations arise that imply the student is having difficulty either managing his own behavior or completing academic tasks. Deciding when and how to intervene is an essential classroom management skill.

Teachers should attempt to address issues with students prior to seeking assistance from others, yet knowing the resources available is also important. If students are having behavior issues, the teacher should attempt various interventions suitable to the student, the grade level, and the situation for a reasonable amount of time. If the problems are not resolved, then seeking the assistance of the school social worker, the psychologist, a peer teacher, or the student assistance team should be considered. For students who have problems with academic tasks, setting up structured study times, accessing additional help (such as a tutor), finding more one-to-one time with the student, or contacting the student’s family for help should be typical interventions. However, if these are not successful, it may be necessary for the teacher to work with the school assistance team to begin the process of evaluation to determine academic needs.

Behavior Management

Classroom management and response to behaviors are a reflection of the teacher’s attitudes about teaching and about students. In order to maintain effective classroom management, student behaviors must be adequate, whether controlled by the teacher or self-regulated by the student. The classroom environment influences behaviors, and behaviors have a significant impact on learning.

Behavior management requires knowledge about human development and the availability of a designed program that integrates the needs of individuals into the environment. Setting standard guidelines and establishing expectations for students’ behaviors in a classroom helps to establish a foundation for learning. A system of rewards and consequences helps manage the typical behaviors demonstrated in elementary classrooms.

General strategies of behavior management techniques include the following:

- Create a comfortable and safe environment.
- Involve students in creating rules and procedures.
- Develop expectations and model appropriate behaviors.
- Use immediate feedback and provide consistent reinforcements.

Behavior and Classroom Management Models

Many models of behavior intervention may be used with elementary aged students, and maintaining behaviors is primary to creating an effective learning environment. Establishing rapport, getting to know the learners, and being respectful and trusting helps both the learners and the teacher. Some educators combine models and individualize their approach to address behaviors.

Theorist	Approach	Definition	Concepts
Glasser	Glasser Model	When an individual makes good choices, good behavior results.	Implement consequences for good and bad behavior. Establish class-wide discipline.
Kounin	With-It-Ness	Teacher is able to manage the learners, as he is “with it” and alert to the group.	Address off-task behaviors. Use effective instructional pace. Instill motivation.
Kyle, Kagan, and Scott	Kyle, Kagan, and Scott Approach	Utilizes Win-Win discipline and three pillars: a. no adversaries b. shared responsibility c. long-term learned behavior	Identify disruptive behaviors and create structures. Incorporate Win-Win solutions for preventive results.
Canter	Canter Model	Educator is in charge of the class and manages learners.	Expectations are stated clearly and concisely. Desired behaviors are insisted upon. Educator is calm, but firm.

Theorist	Approach	Definition	Concepts
Jones	Fred Jones Model	Learner motivation and desired behaviors are stressed.	Non-verbal actions are used to prevent undesirable behaviors. Classroom structure and rules are identified early.
Skinner	Neo-Skinnerian Model	The desired behaviors can be obtained by shaping and modeling.	Behavior is shaped by implementing consequences and rewards. Consistency is the key.

Behavior management terms include the following:

- **antecedent**—Stimulus used in behavior management and behavior modification that occurs prior to the behavior and establishes the reason for the behavior
- **behavior intervention**—Strategies or actions used to extinguish, change, or redirect an inappropriate behavior
- **consequences**—Stimulus that follows a behavior action used in behavior management or behavior modification to increase or decrease the behavior
- **contingency contract**—Written agreement between the student and the teacher that outlines the expected performance and the reinforcers to be used
- **modeling**—Use of imitation to set in place the desired behaviors
- **negative reinforcement**—Used in behavior modification in which the student is motivated to use a desired behavior in order to avoid a negative consequence
- **positive reinforcement**—Used in behavior modification in which the student is motivated to use a desired behavior because of the reward to be obtained
- **response generalization**—Application of a learned behavior or skill to another setting
- **target behavior**—The behavior most often to be extinguished or changed, although may be a positive behavior that should be used in other school situations

Cultural and Linguistic Diversity

Since the 1960s, there has been a shift in immigration patterns from non-European countries. The number of English language learners entering public schools has increased in the past 25 years. Hispanic enrollment increased 48 percent and Asian-American enrollment increased 85 percent in the years between 1980 and 1990. More than 3.5 million students whose primary language was not English attended school in the United States in the year 2000.

Language and culture are two factors that influence how children learn. A growing number of students' first languages are not English. Different labels have identified these students, but the current term used is **English Language Learner** (ELL). To aid ELL students in their learning, teachers should remember to

- Use spoken and written language patterns and structure above the learner's abilities.
- Repeat key words, phrases, and concepts.
- Slow the speech rate and clearly articulate sounds.
- Avoid using difficult words and unnecessary vocabulary.
- Simplify instructional materials.

In addition to the numerous languages represented in elementary populations, classes also appear to be culturally diverse. Research on the various cultural groups resulted in generalizations about how these groups interact and communicate. Another form of diversity represented in elementary classrooms is students who present with learning differences, such as those with disabilities.

Due to the range of diversity in schools educators must exercise cultural sensitivity and cultural awareness toward their students. A way to promote this is to create an attitude or environment of cultural appreciation. Children's literature can provide valuable classroom resources that support multicultural education.

Enrichment

Enrichment is a method for extending a lesson or unit for those students who are capable of participating in more instruction or gaining additional information. This list offers suggestions to aid elementary education teachers in planning instruction that addresses enrichment. These strategies are often used with students who are considered gifted or talented.

- Self-paced instruction
- Mentoring programs
- Summer programs
- Ability grouping
- Extracurricular programs
- Compacting or telescoping curriculum
- Tiered lessons
- Additional special focus courses
- Advanced placement courses
- Skipping grade levels

Assessment

A major factor in identifying student success in any academic area is the evaluation of learning. Assessment is part of the educational process in which a teacher may gather, examine, and share information about the skills, abilities, and achievements of individual students. The teacher may use this information to set new goals for learning, create expectations, and determine future outcomes.

The primary purpose of assessment is to evaluate student achievement, make decisions pertaining to instruction, and review the program. An assessment helps to gather data that will allow students to understand their own learning process and aid the teacher in designing activities and selecting strategies appropriate for the students. Whether using daily informal assessment techniques or standardized testing, the results provide valuable information.

Effective instruction can be evaluated through formative and summative assessments, both of which provide educators with valuable information.

Formative assessment is the collection of data through on-going daily lessons or units of study in order to analyze student achievement and assist students in the learning process.

Summative assessment is the collection of data at a specific completion point in order to identify needs and make decisions to support student learning. This type of evaluation is most often used at the end of a unit of study to analyze a particular concept or skill.

Formal Assessment

Formal assessments are systematic with strict procedures for administration and scoring. These are often used to comply with issues of accountability, report card or progress reports, and curriculum effectiveness. Formal, standardized tests

- Provide information on student progress.
- Deliver information on the placement of students.
- Help in planning educational activities for all students.
- Improve instruction.
- Evaluate programs and classrooms.
- Meet the accountability requirements.

Standardized testing has a set of uniform procedures for the administration and scoring, and these must be followed to ensure standard, valid conditions. Standardized testing includes a set of norms, compares students to others at the same age, and evaluates for reliability and validity. At the elementary level, testing includes the very basic skills. Standardized assessments include achievement tests, aptitude tests, competency tests, and performance exams.

High-stakes testing is used to comply with the accountability requirement under education reform and the No Child Left Behind mandate. It is used to measure how schools are educating youth by assessing student achievement levels. Since this is such a new process with very little research on the effect of the tests or the procedures for administration, professionals are unsure of the type of information best gathered through high-stakes testing or how to use the information.

Pros	Cons
Instills higher expectations	Promotes rote memory instead of more complex cognitive skills
Focuses on instruction in specific subject/content area	Focuses the instruction on the content that is on the test
Improves student performance in testing	Lacks funds and guidelines for remediation of learners
Identifies under-performing schools and educators	Discriminates against culturally and linguistically diverse groups

Informal Assessment

Informal assessments are periodic checks that help professionals gather pertinent information about a student in the natural environment. These informal measures may be used to support a more formal assessment or for continued and on-going progress evaluations. Informal assessments may include anecdotal records, running records, portfolio assessments, and dynamic assessments.

Interpretation of Data

Instructional decisions are made based on the information gathered through an assessment. Assessment data helps to identify student achievement during instructional periods and should not only be gathered at the end of an instructional unit but throughout the studies. The data may be collected informally on a daily basis and periodically when using more formal testing. The use of this information helps the teacher adjust instruction for the students and supports the learning process for all individuals. Knowledge of test terms, procedures, and statistics/scoring will help educators understand outcomes related to student tests and learn how to deliver information to other professionals or parents at conferences.

Procedures

Appropriate assessment procedures are necessary to obtain valid and accurate data about students and instruction. The assessment must have a clearly stated purpose and be closely related to the outcomes it seeks. It is best when the assessment is on-going so the information may be used to change the content or alter the situation for the learner to better meet needs. The assessment tools must be appropriate for the student in order to gather relevant academic information.

Education reform has focused on accountability through assessment and how this occurs continues to be a debated issue. Teachers must be knowledgeable about the assessment process and the various techniques, as well as the options that are available for use in their classrooms. Standardized tests, district tests, and high-stakes state tests are best administered in a child's primary language, free from racial or cultural bias.

Types of Assessment Strategies

Assessment in the classroom should not always be separated from the instruction. Creating an environment in which daily instruction and assessment are integrated provides regular and effective information to the teacher. Many different strategies may be implemented to meet the assessment needs of particular situations, and these can be described according to two different categories: authentic and traditional assessment. Traditional assessments are reflected by "paper and pencil" tasks and authentic assessments are those that are alternatives to traditional exams.

Examples of authentic assessments include the following:

- **performance tasks**—Require that students complete a problem or project, which includes an explanation for the answer and addresses a particular skill.
- **observation**—A simple method of assessment to identify the performance of students completing various activities and tasks, using anecdotal records, and checklists for recording documentation.
- **journal writing**—Written reflections allow teachers to informally gauge student learning through their thinking processes, formation of ideas, and development of skills in creative and factual writing.
- **portfolios**—A collection of completed student work selected by the student and the teacher to demonstrate strengths, progress, and skills.

Terms

There are several types of measurement tools that may be utilized in elementary education:

- **achievement test**—Formal tool used to measure student proficiency of a subject area already learned
- **alternative assessment**—Provides more options to students to apply knowledge and use learned skills by solving realistic problems and completing projects using close to real-life situations
- **anecdotal record**—Informal measurement based on observation of student work or performance
- **aptitude test**—Formal measure of standardized or norm-referenced tests to evaluate student ability to acquire skills or gain knowledge
- **authentic assessment**—Method that is less concrete, more subjective to determine a student's understanding and performance of specific criteria (write a story, create a project, give a presentation)
- **criterion-referenced test**—Formal measure that evaluates a student on certain subject area information by answering specific questions, while not comparing one student to another
- **curriculum-based measure**—Helps determine student progress and performance based on the lessons presented in the curriculum, so a teacher may better assist student
- **dynamic assessment**—Determines a student's ability to learn in a certain situation rather than documenting what the student has actually learned
- **diagnostic assessment**—A way to collect information about a student to use in assessment throughout the period of instruction
- **direct daily measurement**—Classroom form of daily assessment of a student's performance on the skills that are taught each day and may be used to modify instruction for particular students
- **ecological-based assessment**—Informal observation of a student interacting with the environment during a regular schedule
- **intelligence test (IQ test)**—Norm-referenced test used to measure cognitive behaviors in order to assess student learning abilities or intellectual capacity
- **norm-referenced test**—Formal standardized evaluation used to compare a student to other peers in the same age group and aids in developing curriculum options
- **observation**—Teacher or other professional watch a student in different settings to obtain information regarding performance and behaviors
- **performance based assessment**—Informal measure used to assess a student's ability to complete a task that is specific to a topic or subject area
- **portfolio assessment**—Informal method of gathering information and samples of completed student work over a period of time (art, projects, reports) and useful to track progress
- **rubric**—A set standard rating scale used to determine performance abilities on a single task
- **standards-based assessment**—Formal evaluation such as a criterion-referenced or norm-referenced test that measures student progress toward meeting goals or standards previously established

General Topics

Teaching involves more than just providing new concepts and content to students. Teaching requires that educators be actively involved in their careers through membership in organizations, seeking training opportunities, working with parents, and collaborating with peers. Teachers should be reflective practitioners who continue to improve professionally, by assessing their knowledge, evaluating their instructional abilities, and using creative new ideas and techniques to address learners' needs.

Professional Development

Education reform over the past several years has focused more on the training of teachers to enhance student academic success. Teacher preparation is an on-going process as standards are refined, high-stakes test are promoted, technology changes, and students evolve. Educators must be realistic in their abilities to utilize state standards, manage accountability factors, and deliver consistent curriculum activities.

Teachers play a key role in the development of students, and in order to be effective, teachers must also develop their own professional repertoire. Teachers need time to work with colleagues both for training and planning. Educators should avoid isolation and support a shared vision and team efforts.

Teaching Styles

Educators often develop a style of teaching early in their career, which is based on their beliefs about teaching, their personal preferences, and their abilities. Some educators believe they should use a style that is teacher-centered, as the information authority, while others prefer a student-centered approach, as a facilitator of learning. Individual teachers cultivate a preferred teaching style, but they may mix elements of various other styles to create something quite unique and effective.

Teaching styles can be described in five ways according to Grasha (1994, 1996):

<i>Teaching Style</i>	<i>Description</i>
Expert	Possesses knowledge of subject and challenges students' competence and skill development in the content
Formal authority	Prefers standard and acceptable procedures, clear expectations and structure; often rigid and nonflexible
Personal model (demonstrator)	Leads by example, models, guides, and directs students; considers various learning styles
Facilitator	Promotes independence, initiative, and responsibility; consults, supports, and encourages students
Delegator	Encourages autonomy in learners and is available as a consultative resource

Collaboration

Working with other teachers and professionals enhances your career as an educator, but these relationships are built on trust and respect, which must be earned and reciprocated. Involving the community in the classroom is another way to collaborate with other adults who have interests in promoting education. Include community mentors and experts and use the community as a resource for culturally and linguistically diverse students. The collaboration of education, recreation, and health services all enhance the well-being of students.

Technology

Technology has impacted education and classroom activities in multiple ways, as it changes students' experiences and the educational environment. Technology provides increased access and refined practices in such areas as communication, research, and record keeping. It offers visual and auditory input, such as access to historical archives and artifacts, research on collections from other libraries or scientists, photographs and visual images, and virtual tours of museums. Elementary educators can offer students a supplemental resource through the use of such technology as television, computers, DVD, video or CDs, Internet, and smart boards.

Parents

Educators should acknowledge the role that parents play in a child's life. Professionals are encouraged to include parents and families as partners in the education process and to involve them in the classroom and school activities. Gain parent support through positive actions and responses. Create an alliance and work together to guide and enhance the student's education.

This partnership is a meaningful component to the education programs. Research shows that actively involved parents can have a positive influence on their child's performance at school resulting in a higher, more successful academic level. Parents may provide continued support to their child and offer resources to the class, which adds opportunities for learning situations.

Communication with parents is necessary for developing a positive partnership and may include class newsletters or websites, parent-teacher conferences, handwritten or emailed messages, telephone calls, home visits, and specific homework activities.

Working With and Supporting Parents

<i>Approach</i>	<i>Theorist</i>	<i>Description</i>
Active parenting	Popkin	Parents must establish leadership roles in the family, so they can effectively train, support, and encourage their children, teaching them to make proper choices and use appropriate behaviors.
Step approach	Dinkmeyer/McCay	Parents should implement a system of goals, giving choices, setting limits, and using logical consequences. The use of I-messages, reflective listening, and teaching values are critical to child development.
	Baker	Improving parent involvement programs and providing training and support will enhance learning.
	McCormack-Larkin	Ongoing communication with parents is a critical element in successful school achievement.

Content Area Exercises (0012)

The Praxis II exam for Content Area Exercises (0012) is comprised of questions that cover the topics of curriculum, instruction, and assessment at the elementary school level. The responses to these essays are written by the examinee based on personal knowledge and experience in the content areas of reading/language arts, mathematics, science, social studies, and integrated subjects; however, physical education and fine arts are not included on this exam.

This test was designed to evaluate and measure how well an examinee can respond to specific situations, which require a thoughtful, well-written response. The essays encompass all four subject areas as well as interdisciplinary instruction. The scenarios are meant to be viewed as an event or situation that occurs in an elementary classroom setting. An examinee may be required to discuss instructional approaches, develop instructional goals, solve instructional problems, or outline procedures necessary to achieve a desired academic outcome.

Many different situations arise within an elementary classroom, and the examinee must be prepared to handle each in a competent and thorough manner. Part of the fun of teaching is being consistently challenged and having new experiences surface each day. Some possible scenarios and situations are included in the individual sections of this study guide. Examinees should become familiar with these and practice writing lengthy and complete exercises to prepare for this examination.

Examination Information

Time restriction: 2 hours

Format: 4 essay questions

Scoring: Since this test is in an essay format, a rubric has been created as a standard scoring guide used by examination readers to determine the competence of the examinee's knowledge as evidenced in the answers. A sample has been included here.

Rubric: This scoring format is used consistently across the states and based on levels from 0 to 6, with 6 being the highest, or representative of a well-constructed narrative answer. A brief summary of the expectations at each level in the scoring guide are outlined here.

6—Essay is answered clearly and concisely, with all portions of the questions addressed. Examinee demonstrates **superior** knowledge of the topic, writing an answer that includes well-organized key ideas and supportive details.

5—Examinee provides answers to the important parts of the essay showing a **strong** understanding of the topic. The answer is well organized, and key ideas are explained clearly with examples to support the ideas.

4—The question is answered accurately, suggesting the examinee has **adequate** knowledge. The essay provides a clear description of the main ideas and relevant supportive materials, although the answer is limited in content and in illustrating key points.

3—Examinees demonstrate **some** knowledge and understanding of the topic providing basic explanations of the key ideas. The answer lacks clarity and only a few relevant details are given to support the answers.

2—The answer is written giving unclear or underdeveloped explanations that include inaccuracies and lack details or support examples. The essay shows **limited** content knowledge and deficiencies in the understanding of the topic.

1—The question is inadequately addressed, demonstrating a **serious lack** of understanding. The essay is poorly written, providing no appropriate examples or details, and may be considered incoherent and unorganized.

0—The essay is unwritten, illegible, or completely **inappropriate** to the topic given.

It is recommended that examinees carefully study the examples of situations provided in the individual content sections of this study guide and practice writing answers to them. These questions may be answered in many different ways, but the primary factor in being successful on this exam is to write answers that are clear, concise, and demonstrate a superior or strong knowledge base. As a study tool, examinees are encouraged to ask an experienced teacher or mentor to review their written answers using this scoring guide and share feedback prior to taking the actual examination.