EACHING STRATEGIES

GRADES 4 & UP

SCHOLASTIC

Differentiation in Action

A Complete Resource With Research-Supported Strategies to Help You Plan and Organize Differentiated Instruction—and Achieve Success With All Learners

JUDITH DODGE

- Applying brain research findings
- Designing appropriate assessments
- Scaffolding learning & increasing challenges
- Fostering intrinsic motivation
- Responding to diverse learning styles

Foreword by David A. Sousa

- ❍ **provide enough multiple intelligence–based "choice" opportunities** so my students can choose to learn and show-what-they-know in the ways they prefer?
- ❍ **recognize gender-based differences** in my students and plan a variety of learning opportunities and environments to accommodate those differences?
- ❍ **build the culture of my classroom to reflect a character-centered view of intelligence** in which students are encouraged to persist, resolve conflicts positively, and choose thoughtful, intelligent actions when faced with new situations?
- ❍ **stretch beyond my own teaching style comfort zone** and teach beyond the way I remember being taught?

CHAPTER 2

Differentiating Instruction During the Three Phases of Learning

PRINCIPLES OF EFFECTIVE INSTRUCTION EXPLORED IN THIS CHAPTER:

Multiple pathways to learning
•
Ongoing and frequent assessments
•
Respect for all types of learners
•
The use of brain research
•
Learning styles/Multiple modalities
•
Multiple Intelligences
•
Self-directed learning

As teachers we are sometimes so eager to begin a new unit of study that we dive into the topic without keeping in mind how the brain responds before, during, or after a learning experience. We might ask students, for example, to read ahead for a few pages in the new textbook chapter without remembering that activating prior knowledge *first* is critical to setting a purpose for reading and increasing comprehension. We might feel pressed for time during the unit, and in an effort to cover as much material as we can, we might skip providing time for students to find relevance and construct meaning through elaborative rehearsal with learning partners or cooperative groups, or checking for understanding. Or, when we have covered a topic, we might feel the need to move rapidly on to the next topic in an effort to complete the curriculum. What is lost in this headlong rush is a great deal of understanding, relevancy, and retention.

This chapter presents the research that supports certain types of activities at three different points in the learning process. It also provides examples of specific strategies that you can use to maximize learning at each stage along the way.

KEY IDEA

Student achievement can be enhanced by strategically planning a unit that employs specific strategies before, during, and after the unit.

(MARZANO ET. AL, 2001).

Show Me the Research!

One of the most important things I've learned over the years as a teacher and curriculum designer is the need to plan lessons strategically, using specific methods to elicit critical thinking during three phases of learning: *before*, *during*, and *after* the learning. Brain-based learning is organized around the principles of how our brain learns best. The more teachers know about how the brain learns and the more research-based instructional strategies we employ, the greater the likelihood that successful learning will occur (Sousa, 2001).

Many researchers have proposed a three-phase learning model. Buehl, Costa, and Garmston identified three phases of cognitive processing. They describe a *preactive phase*, in which the learner is prepared to focus on what is to come, an *interactive phase*, in which the learner selects and organizes the information, and a *reflective phase*, in which the learner integrates and consolidates what has been learned, by applying the knowledge in new situations (Buehl, 1995; Costa and Garmston, 1994, as cited in Billmeyer, 1996).

The PAR teaching model (Preparation, Assistance, and Reflection) described by Richardson and Morgan also shares the before, during, and after framework. Instruction during the *preparation phase* is designed to arouse students' curiosity and their need to know more about the topic. During the *assistance phase*, instruction guides students to make connections and helps them to monitor their understanding. Finally, during the *reflection phase*, opportunities are provided for students to think, talk, and write about the key ideas they've learned, applying and extending new knowledge (Richardson and Morgan, as cited in Billmeyer, 1996).

Additionally, a three-step learning cycle model put forth by Atkin and Karplus (cited by Brooks & Brooks, 1999) describes a first step of *discovery* (working on open-ended exploration with purposefully selected materials), a second step of *concept introduction* (presentation of unfamiliar concepts), and a third step of *concept application* (working on new problems with a new perspective). This constructivist approach to learning places discovery *before* introduction and application. The traditional model of teaching often places discovery at the end of the cycle.

There is a great deal of research to support the three-phase learning model. The more you plan with this model in mind, the more students you will engage in the learning process, and the more effective your lessons will be.

RELATED LITERATURE

To learn more about constructivism, read Jacqueline G. Brooks and Martin G. Brooks's *In search of understanding: The case for constructivist classrooms*. (Alexandria, VA: ASCD, 1999).

Putting Research Into Practice

What can we learn from research on the three phases of learning to make our lessons more effective? By keeping in mind what the brain does during each phase, we can maximize the learning that takes place. By planning multiple activities for each phase and addressing the varied interests, skills, and talents of students, we can apply the principles of differentiation throughout the unit and address the needs of our diverse learners. Here are five guiding points for classroom practice:

- **Pay attention to the critical pre-learning phase.**
- **Provide frequent opportunities throughout a lesson or unit of study for students to make sense of learning.**
- **Allow adequate time for students to process their learning.**
- **Provide closure during the learning process.**
- **Plan time in each lesson for students to reflect upon their learning.**

During the critical, pre-learning phase, schemata (background knowledge structures) are activated, enabling students to use past experiences to interact with new information. A first-step, "discovery" opportunity to interact with purposefully selected materials is the best way for students to construct meaning as they use their prior knowledge. If in our assessment students have no prior experience to which they can easily relate, then we must create a learning experience or provide a model for students to interact with, personalize, and store. In this way, the new, unfamiliar concept can be linked to something they already know. For example, if students have never traveled outside their own community and they are going to be learning about another country or region of the world, it would be helpful to read students a story about that country's cultural heritage or to show them a vivid poster or educational video depicting that country. The story or visual would help them place the learning in context and help them develop a schema for future information to attach itself to.

KEY IDEA

Provide time and plenty of opportunities for students to participate in **pre-learning** activities. This phase is critical in preparing the learner for all that will follow.

Telling students what they need to know and be able to do by the end of a learning experience will help them attend to what is important and reduce their focus on less important details. This is especially helpful for struggling learners (Wolfe, 2001) who have difficulty with focusing and picking out main ideas. Front-loading information through a variety of strategies (like presenting an advance organizer, introductory summary, or list of helpful terms) is a good way to establish a purpose for learning (Buehl, 1995).

When you provide frequent opportunities throughout a lesson or unit of study for students to make sense of the learning, the learning "sticks." Students require several exposures to content, with different types of expe-

KEY IDEA

During learning allow adequate "wait time" for students to think, process, and note relationships among ideas and concepts.

riences each time, to integrate it into their existing knowledge. For example, Neuthall's research on different types of instruction (1999) shows that students benefit from a variety of instructional types including *dramatic instruction* (role-playing, simulation, storytelling), *verbal instruction* (having students discuss or read about a topic), and *visual instruction* (using forms of graphic representation), with dramatic instruction producing the most learning. Having students listen to or create metaphors and "stories" about the learning enhances their ability to absorb information and provides a needed context for retention. By providing students with multiple exposures to the content over the course of a unit, we create a "spiral" learning model through which we can offer different types of instruction and learning experiences that help meet the needs of diverse learners—and deepen their understanding.

Since the best learning takes place when students make their own connections to the material we teach, we must allow "wait time" (Rowe, 1972) during lessons so that students can think, process, and note relationships among ideas and concepts. Research conducted by J. A. Hobson suggests a "pulse" style of learning is best for the brain (1989). Due to normal fluctuations in brain chemistry, learning attentiveness varies and there is a predictable attention cycle. Eric Jensen notes additional research that suggests taking the age of the student and adding two minutes to determine the amount of time the student can focus on an activity like a lecture (1996). A brief break of about two to five minutes should follow. The break should consist of a "diffusion" activity, a total break from the content, or an alternative form of learning the content.

In addition to allowing wait time, we can facilitate students' ability to process and retain information by providing closure during the learning process. David Sousa describes closure as the process in which the student summarizes for him- or herself what has been learned and attaches sense and meaning to the new learning (2001). He points out that closure increases the likelihood that students retain information in long-term storage and reminds us that closure should take place not only at the end of a lesson or unit, but before a teacher moves from one idea or concept to another *during* a lesson or unit.

KEY IDEA

Post-learning activities should include opportunities for students to form opinions, judge importance, note relationships, take a position, and use the information in new ways.

Finally, students need an opportunity to personalize their learning by reorganizing the information and applying the new knowledge to new situations. Post-learning activities should include opportunities for forming opinions, determining importance, noting relationships, taking a position and providing evidence for that position, creating metaphors and analogies, comparing and contrasting concepts, participating in simulations, and using the new knowledge in different linguistic and nonlinguistic ways. By providing these reflective and summative closure opportunities, we help students to enhance the transfer of information into long-term memory.

Figure 2.1

Three Stages of Learning

Pre-Learning Stage (preactive)
Instruction arouses curiosity, activates and assesses prior knowledge, prepares and focuses students, and provides a first step of "discovery."

During-Learning Stage (interactive)
Teaching guides students to select information, make connections, note relationships, and seek meaning.

Post-Learning Stage (reflective)
Students synthesize what has been learned, reorganize the information, and apply it in new ways.

Strategies

There are dozens of pre-learning, during-learning, and post-learning strategies to choose from when differentiating your instruction to meet the needs of diverse learners. On the lists that follow (pages 33–35), you'll find multiple intelligence–based activities suggested at each stage of learning. Rather than prescribe a set of instructional strategies to use with your class, I have offered a plethora of ideas to allow for your own creativity, teaching style, and the motivation of your very diverse learners. Keep in mind, however, that you will need to stretch beyond your own comfort zone if you are truly going to meet the needs of individual students. Providing an activity that you normally wouldn't think of using might be just the ticket to arousing the interest of that quiet, unmotivated student in the back of your classroom.

As you keep in mind the importance of thoughtfully planning for pre-, during-, and post-learning activities, use the Unit Planner on page 36 to help you vary your lessons and maximize learner success. It provides you with a visual tool for assessing your own instruction and determining whether you are, in fact, addressing the needs of a wide range of learners. Each time you begin a new unit, use the planner to help you choose a variety of multiple intelligence–based strategies for each stage of learning. (See Figure 2.2, which shows a teacher's plan for a unit on the Great Depression.) The planner reminds you to appeal to the talents, interests, and strengths of different kinds of learners and different kinds of minds. (See Chapter 5 for more background on using multiple intelligences theory to inform differentiated instruction.)

Figure 2.2

UNIT PLANNER

PRE-, DURING-, AND POST-LEARNING ACTIVITIES

Topic/Unit: The Great Depression

Essential Ideas/Key Concepts/Focus Questions:

- Causes
- Hoover's Response
- Impact: life in cities, culture (changes in society)
- FDR & The New Deal

Key to Multiple Intelligences:

V	Verbal-linguistic	M	Musical
L	Logical-mathematical	I	Interpersonal
S	Spatial	A	Intrapersonal
B	Bodily-kinesthetic	N	Naturalist

Pre-Learning Activities: (Activities to hook and focus the learner)

- ☐ B — Present an Artifact Box containing items related to the
- ☐ V-L — Present a Concept Map - A graphic organizer of depression key terms. Ask "what can you tell me about this topic?")
- ☐ S — Show posters & pictures from the time period. Dust bowl, food lines, California migrant worker

During-Learning Activities: (Activities to help the learner select, organize, and make sense of the information)

- ☐ A — Imagine: Read a student's description of a child living in the dust bowl.
- ☐ V — Stop & Process Activities - QuickWrite / Jot-Pair-Share
- ☐ V-L-A — Note-taking strategies - Interactive Bookmark, Dialectical Journals
- ☐ _____

Post-Learning Activities: (Activities to help the learner reflect and use the information in new ways)

- ☐ A — My Opinions Log (all students)
- ☐ V-S — Write & illustrate a book to teach a younger child about the depression
- ☐ I — With a study group, create a graphic organizer (choice)
- ☐ B-S — Create a Web Page - include images, quotes, sites, key concepts

A Unit Planner incorporates multiple intelligence–based strategies for each stage of learning.

Activities for the **Pre-Learning** Phase

The following activities and hooks help students prepare, focus, and establish a purpose for learning.

Key to Multiple Intelligences:

A Intrapersonal	**B** Bodily-kinesthetic	**I** Interpersonal
L Logical-mathematical	**M** Musical	**N** Naturalist
S Spatial	**V** Verbal-linguistic	

B V I **Present a dramatization or read a story** about the new content to provide context. (For example, have a colleague unexpectedly come into your classroom and read a list of unreasonable school rules and additional lunch taxes that have suddenly been put into place. After the reader warns students to comply or face no lunch, detention, or worse and abruptly leaves, have students discuss their reactions. This can lead into a lesson about dictators, tyranny, revolution, etc.)

B N **Let students engage in an open-ended exploration with selected materials to discover concepts and relationships.** Encourage discovery through observation (How do the ants survive in this colony?) and manipulation (What forces are involved as my toy car goes down a ramp?).

N **Show the phenomenon!** Ask students to describe what is happening as you perform a science demonstration.

S M N **Show a video clip or PowerPoint presentation, play an audiotape or piece of music, present posters or models.** Have students record observations, predictions, or inferences. Ask them to describe, note relationships, or compare and contrast.

B A N **Present an Artifact Box** (social studies/science/math/foreign language) or **Treasure Chest** (English). Ask students to rearrange the artifacts and tell you about the topic, time period, culture, region, event, story, or character from the items, photos, pictures, quotes, etc., in front of them. (See pages 37–39 for teaching ideas and an example of an Artifact Box.)

V L **Present a Concept Map (a web of key terms) about the new topic/reading.** Ask students what they can tell you about the topic or upcoming reading and set it in a visual format for reference.

V I **Have students brainstorm what they already know** using a K-W-L Chart, a WordSplash!, or a class web.

V L **Model a Text Walk.** Teach students how to read a textbook by modeling how to skim and thinking aloud for them. Point out nonfiction text elements, such as chapter subheadings, charts, graphs, maps, pictures with captions, timelines, summaries, and lists of terms.

V L B **Have students engage in a Text Scavenger Hunt.** After modeling a Text Walk for several chapters, provide sticky notes and have students tab answers to five questions you pose about the upcoming reading. Without reading the text, have students skim and search for the answers in the subheadings, charts, graphs, maps, pictures with captions, timelines, summaries, lists of terms, etc.

V L B **Have students engage in a Chapter Prediction.** After having students practice for several chapters how to skim a textbook (see Text Scavenger Hunt above), ask students to predict what a new chapter will be about without reading it. Provide sticky notes for students to tab and record five important ideas they believe will be presented in the upcoming chapter.

Activities for the **During-Learning** Phase

The following activities help students select and organize information. They engage the learner in making sense and meaning (seeking understanding and relevance) throughout the learning.

S **Picture This!** Have students close their eyes and picture in their minds any scene, event, object, situation, or scientific principle that you describe or read to them. The image they envision will help the brain retain the information. After they open their eyes, let them write or draw a summary of what they've heard.

A **Imagine!** Ask students to imagine they are part of an event, scene, or situation that you are studying. Have them write point-of-view journal entries. By personalizing the information, it becomes more relevant to the learner and, therefore, more likely to be remembered.

V I **Use Stop-and-Process activities many times throughout your lessons to provide wait time for student thinking and to check for understanding.** (See descriptions in this chapter for elaboration about Stop-and-Process activities.)

- **Stop and Jot:** a two- to five-minute check for understanding in which the student records his or her perception of key ideas and concepts or answers a question in a boldly colored "stop box"
- **Jot-Pair-Share:** an opportunity for each student to record her *own* thoughts *before* moving into pairs to discuss ideas with others
- **QuickWrite or Non-Stop!:** a *timed* piece of writing (90 seconds to two minutes) on a specific topic. It can be a "freewrite" ("Write everything you know about fractions"), a response to a given question or statement ("Which side do you believe had the greatest advantages during the Civil War, the North or the South?"), or a summary about a topic using specific terms ("Using the following terms, describe what impact geography had on the development of Greek civilization").

V **Use metaphors for key concepts.** Metaphors promote the transfer of information by helping to convey meaning. ("Imperialism is like a bully on the playground.")

I **Provide frequent opportunities for students to engage in Partner Talks.** Partner Talks encourage students to explain or describe to a peer in their own words what they are learning. This promotes students' abilities to process, store, and use information. (See Chapter 6 for further discussion about learning in partnerships.)

A V S **Use Interactive Bookmarks with textbooks and/or novels.** Interactive Bookmarks allow students to "chunk" their reading and respond in ways that personally engage them. (See pages 41 and 42 for teaching ideas and an example of Interactive Bookmarks.)

V L A **Provide students with a variety of note-taking strategies including Dialectical Journals and Noting What I've Learned to help them organize their thoughts.** (See Chapter 3 for teaching ideas and examples of Choice Note-Taking.)

B **Provide opportunities for students to engage in kinesthetic activities.** Using instructional materials with which students can physically interact, such as rulers, lab equipment, tiles, blocks, sentence strips, flashcards, props, pictures, news articles, rocks, and collections of things, allow students to build, sort, group, organize, hypothesize, and otherwise make sense of the world around them.

V L B **Have students Post-a-Point!** Using sticky notes, students identify key elements in their reading. They use the notes for writing and communicating ideas based in text. (See pages 39 and 40 for teaching ideas and an example for Language Arts.)

Activities for the **Post-Learning** Phase

The following activities help students reflect upon new knowledge and make personal links and connections in order to facilitate transfer into long-term memory.

V S L **Have students complete a Sum-It-Up!** to show what they've learned at the end of a lesson or unit. (See pages 45 and 46 for teaching ideas and a Sum-It-Up! example.)

V A **Assign an ongoing My Opinions Journal:** At the end of each unit, have students generate at least three opinions about a topic or theme they've studied. Note the key concepts learned. Ask them to determine the importance of each, note relationships, compare and contrast new information with other things they've learned, support their opinions with evidence (facts, examples, quotes, etc.). Also, have them predict how the information learned in this unit can be used in the future. (See Chapter 6 for more teaching ideas.)

L S I **Have students gather data or research something new** about the topic and present the new information in a chart or graph to the class. Encourage them to draw at least two conclusions from their own research.

I L **Organize study groups and have the groups create a graphic organizer** that organizes ideas from this unit.

V B M **Make creative presentations an option:** Let students choose whether they want to

- write and/or act out a story that dramatizes the information in the unit or
- write and/or present a song or poem that summarizes the information in this unit.

V S **Have students write and illustrate a book to teach a younger child** about the key concepts of this unit.

S **Make a class Unit Collage** (see Chapter 5 for teaching ideas) to synthesize and summarize the unit.

I **Create a Newscast** and let students choose different roles to play (eyewitness reporter, anchor, etc.) to teach about multiple perspectives of important events, key figures and their contributions, and other important ideas from this unit.

B L **Show students how to make their own Artifact Box** (see Pre-Learning Activities) that includes items such as photos, quotes, pictures, and symbols that represent the main concepts and themes studied. Include a written description of each item's significance.

B S **Let students create a Web page** that brings together information, images, quotes, and Web sites on this topic.

PRE-, DURING-, AND POST-LEARNING ACTIVITIES

Topic/Unit: _____

Essential Ideas/Key Concepts/Focus Questions:

- _____
- _____
- _____
- _____

Key to Multiple Intelligences:

V	Verbal-linguistic	M	Musical
L	Logical-mathematical	I	Interpersonal
S	Spatial	A	Intrapersonal
B	Bodily-kinesthetic	N	Naturalist

Pre-Learning Activities: (Activities to hook and focus the learner)

- ☐ _____ _____
- ☐ _____ _____
- ☐ _____ _____

During-Learning Activities: (Activities to help the learner select, organize, and make sense of the information)

- ☐ _____ _____
- ☐ _____ _____
- ☐ _____ _____
- ☐ _____ _____

Post-Learning Activities: (Activities to help the learner reflect and use the information in new ways)

- ☐ _____ _____
- ☐ _____ _____
- ☐ _____ _____
- ☐ _____ _____

Strategies

I've selected several activities from each learning phase and described in detail how you can use them to engage different types of learners. The Artifact Box and Post-a-Point! activities are designed to appeal to kinesthetic students who like to use their hands when learning. The Interactive Bookmark and Stop-and-Process activities (including Stop and Jot, Jot-Pair-Share, QuickWrite, Sum-It-Up!, and Exit Cards) may appeal to students who need time to process information in chunks before moving on to something new. The opportunity to write down or draw about what they have been listening to helps visual learners to be more successful in their typically auditory classrooms.

Artifact Box **(Pre-Learning)**

The kinesthetic learner in your classroom will love the opportunity to create an **Artifact Box**. Placed in a shoebox or large plastic container, an Artifact Box (or Treasure Chest) is a collection of items—such as symbols, photos, charts, graphs, quotes, audiotapes, drawings, and sketches—that represent key ideas about a topic. It can be presented by the teacher to *introduce* a unit, or gathered by students to show-what-they-know *at the end* of a unit. Alternatively, students can gather symbolic representations of each subtopic learned *throughout* the unit of study, creating an *ongoing* class Artifact Box.

To present this as a pre-learning activity, ask students to examine, group, and rearrange the collection of items that you have provided in order to make sense of what the collection represents. For example, having gathered a collection of items that reflect immigration during the eighteenth and nineteenth centuries—a photo of a starving family on a farm in Ireland, a poster of a pogrom (organized massacre) in Russia, a model of the Statue of Liberty, a picture of a crowded tenement apartment in New York City, a potato, a gold coin, a photo of sick children dying from typhoid and cholera in a slum in Chicago, and photos of garment workers in New York City, Chinese immigrants working on the railroads, and coal miners in the Midwest—you could ask students to examine the items to discover why millions of people came to America and what life was like when they first arrived. By observing, manipulating, and grouping a collection of items, students can discover much about a topic. Through sensory exploration they become engaged, begin to make predictions, and develop schema to enhance further learning.

Once you have modeled what can go into an Artifact Box, you and your students can gather one together over the course of a new unit. For example, as you read a novel, you and your students can place items in a box that represent the main characters (a sketch of the character or an important quote copied onto an index card), the setting (a map or sketch of a location), the conflict (a symbolic drawing), and the themes (a heart-

TEACHER REFLECTION

My students are eager to think of items to place in our Artifact Boxes. They really get creative as they search for symbols on the Internet or draw pictures to be included. Some students like to write diary entries and quotes for the characters, some draw the settings and pivotal scenes, some audiotape important passages or find music on the Internet to reflect our topic or theme. Almost every student gets eagerly involved in some way.

—MIDDLE-SCHOOL TEACHER

shaped box to represent love or a water canteen to represent survival). Students can draw the items or bring them in from home throughout the reading of the novel. This during-learning activity will give students an opportunity to stop and process concepts in symbolic, more abstract ways, increasing the likelihood of retention. By the end of the reading, the box of items can be displayed to help students vividly see and conceptualize important ideas and lessons learned from the reading.

As an end-of-unit project, individual students or small groups of students can gather their own collection of items to demonstrate their analysis of the topic. For example, after studying the different biomes in the world, groups can be organized to gather items representing the landforms, the plant and animal life, the natural resources, the climate, and the occupations associated with each biome. After each group presents its collection to the class, other students can be asked to choose the five most important or representative artifacts from the group's display to include in a biome museum exhibit and to write a brief description about the significance of each item. This will help students to pick out key ideas and make connections, noting relationships among climate, natural resources, and occupations, for example.

Be sure to save your Artifact Boxes so that next year you can use them as advance organizers (introductions to a unit as part of the pre-learning stage). You may also want to be able to mix the items from two or more different Artifact Boxes and have students group and classify the items for comparison and contrast. Since the brain is a category seeker, this activity will help students remember what they've learned. It will help them compare information and note patterns and then encode the information more easily for future retrieval.

An Artifact Box or Treasure Chest can be gathered for any content area. See Figures 2.3 and 2.4 for examples of Artifact Boxes for Math and Social Studies.

Figure 2.3

A Fractions Artifact Box (Math)

This artifact box might include:

- ✔ pictures drawn to name a part of one thing *(two slices of pizza, eight slices of pizza in all; 2/8)*
- ✔ pictures from a magazine labeled to name part of a collection of things *(four children in the picture, eight people in total in the picture; 4/8)*
- ✔ measuring cups
- ✔ recipe cards
- ✔ measuring spoons
- ✔ a ruler
- ✔ linking cubes
- ✔ a calculator
- ✔ drawings of equivalent fractions
- ✔ a number line ordering the numbers from least to greatest

Figure 2.4

A Civil War Artifact Box (Social Studies)

This artifact box might include:

- ✔ A book cover from *Uncle Tom's Cabin*
- ✔ Color printouts of flags of the Union and of the Confederacy
- ✔ An 1850s map showing free states and slave states
- ✔ A sketch of the bombardment of Fort Sumter
- ✔ A timeline of the Civil War
- ✔ A poster to warn slaves about kidnappers and slave catchers
- ✔ An audiotape of the Lincoln–Douglas Debates reenacted
- ✔ A photo of Harriet Tubman and Sojourner Truth
- ✔ A set of headlines—one from a Southern paper, one from a Northern paper—about two important Civil War incidents
- ✔ A toy suitcase covered in "carpet" (representing the "carpetbaggers")

Post-a-Point! (During-Learning)

The biggest problem students have with reading their textbooks is staying awake. There is too much information for them to process in one continuous reading.

Post-a-Point! is a kinesthetic strategy that "chunks" the reading, engaging readers to interact with text and helping them to focus on important elements.

Students strategically place sticky notes on the pages they are reading and record abbreviations for key concepts (and make other notes or drawings) to help make the text memorable. With a partner, they discuss what they've found, and through this conversation and others with the teacher and the whole class, they come to know and understand the ideas found in the text. This kinesthetic and visual strategy helps students become more active readers and ultimately improves their comprehension. The partner and group discussions help them to make sense of the information.

Used in a social studies class, this strategy helps students to focus on the concepts and themes that serve as content organizers for the vast amount of information to be learned. Used in an English class with literature, this strategy allows students to note story elements and figurative language. By posting these elements, students can later find important information or evidence from text when speaking or writing in response to the literature. They can quickly find textual material to support their ideas, make connections, or note relationships. The identification of key concepts helps students who need more time sorting learning into important and nonimportant categories focus on what really matters. By focusing on the big ideas and paying less attention to irrelevant details, these students can

now think more critically and move up Bloom's Taxonomy with greater success. (See Chapter 4 for more on Bloom's Taxonomy and effective instruction.)

To introduce this strategy to students, brainstorm with your class a list of abbreviations for key concepts within the subject area in focus (see Figure 2.5). The abbreviations make note-taking on the sticky notes quick, easy, and identifiable. Choosing just a few of these abbreviations, model through shared reading how you would identify key concepts and strategically place sticky notes in the text. Show students how you might add brief notes or draw a symbol to help you remember what you are reading.

Next, have partners read silently, post their notes on the passage individually, and then come together to share what they have learned. Through discussion and meeting with different partners, students will learn more about how best to use the strategy. Finally, they will be ready to use it on their own during independent reading assignments. Slowly, over time, add to the list of abbreviations to be used for independent reading. Have students partner the day after homework to discuss what they learned.

Figure 2.5

Post-a-Point! (Language Arts)

The following terms are standards-based language that students must understand to master concepts in English. When responding to literature in class or on state or federal assessments, students must be able to locate evidence from text to support their ideas. In this kinesthetic activity, students practice taking note of important literary elements as they read.

Encourage students to interact with text as they read by having them place sticky notes on pages where they find examples of the following terms. Show them how to record on the sticky notes brief notes and/or symbols that will help them make an association that they'll remember.

Literary terms and abbreviations or symbols:

- Setting (time or place) (clock)
- Character attributes (important traits, key quotes and actions, and what others say about the character) (C)
- Plot (events in the story) PL
- Conflict (internal or external conflicts; man vs. himself, man vs. man, man vs. society, man vs. nature) →←
- Motive (the impulse, reason, or desire that leads to action) M?
- Theme (the central message) (T)
- Symbolism (emotions expressed through symbols) (heart)
- Figurative Language/Figures of Speech (metaphor, simile, irony, imagery, etc.) (Fig.)
- Connections (personal connections, connections between this text and another, connections between this text and something in the real world) (two circles)

The Interactive Bookmark (During-Learning)

The **Interactive Bookmark** is a note-taking tool for students to use as they read independently. Designed to help students stop and process at different points throughout their reading, the Interactive Bookmark is an open-ended activity that includes both linguistic and nonlinguistic elements. In fact, the two different templates on reproducible page 42 provide a choice for students to just use words or to include symbols and nonlinguistic elements for note-taking. The bookmark invites readers at different levels of proficiency to choose the way they respond to text. You can expand students' abilities to respond when they use the bookmark by providing mini-lessons on specific strategies that target areas in which students need support, such as identifying cause-and-effect relationships, recognizing text structure, paraphrasing, inferring, and summarizing. The bookmark can be a practice tool students use to become strategic readers.

As always, introduce the activity by modeling it. Provide students with copies of the Interactive Bookmark (have these precut or ask students to cut out their own). Read aloud an engaging book and stop at key points in the text (e.g., the middle of a heated dialogue or the end of an extended description). At each stopping point ask students to respond on their bookmarks to what they have read, filling in the boxes on their bookmark and labeling the box with the chapter and page or paragraph number. Share several student responses with the whole class.

When students are ready to use the bookmark independently, assign students a few "stop points" in their reading and give them the choice of only a few options for response at each stop point. Add options as students learn what a quality response looks like in each case. Figure 2.6 lists a variety of ways students can respond to what they are reading.

Students respond in many different ways to literature by writing and/or drawing on their Interactive Bookmarks.

Figure 2.6

WAYS FOR STUDENTS TO RESPOND TO TEXTS

- Jot down a key idea expressed by the author.
- Paraphrase what you have read.
- Draw a symbol or picture to help you remember an important part.
- Make note of something important (a quotation, a theme).
- Make a connection between this text and your own experiences.
- Make a connection between this text and another.
- Make a connection between this text and something in the real world.
- Write two questions that can be answered by the reading.
- Predict what will happen next.
- Note evidence of text structure.
- Identify a confusing part.
- Pose a question you want answered.
- Give your opinion of what you read.
- Create a metaphor or simile to help you remember an important word or idea (___ *is like* ___).

_____'s

INTERACTIVE BOOKMARK

BOOK TITLE OR TEXTBOOK PAGES

_____

STOP point #1 _____

_____

_____

_____

STOP point #2 _____

_____

_____

_____

STOP point #3 _____

_____

_____

_____

STOP point #4 _____

_____

_____

_____

Notes: _____

_____

_____

_____'s

INTERACTIVE BOOKMARK

BOOK TITLE OR TEXTBOOK PAGES

_____

STOP point #1

_____

STOP point #2

_____

STOP point #3

_____

STOP point #4

_____

Notes: _____

_____

_____

Stop-and-Process Activities

When I work with teachers to improve student comprehension and retention during learning, I always focus their attention on Stop-and-Process activities. These quick checks for understanding help *all* students make sense of what they are learning, but they are particularly helpful to struggling learners. These students often need more time to process what they hear. They need to see something in writing in order to make the information more memorable. They need a few moments to catch up. Too often, we have quickly moved on.

The Stop-and-Process strategies I recommend are easy to use. Stop and Jots, Jot-Pair-Share, QuickWrites, Sum-It-Up!'s, and Exit Cards give students time to pause, reflect, and write or draw to help make information memorable. The variety of strategies appeals to a range of learners because some activities involve writing, others drawing, and still others involve interacting with peers. Because the strategies are generally open-ended, students can respond to these Stop-and-Process activities at their own level of readiness.

Most of the activities can be used at the beginning of a lesson (as a formative assessment) to help students activate prior knowledge and to help teachers assess what students already know. They can also be used during the middle of a lesson (as a medial assessment) to provide students with adequate opportunity to make sense of information and provide teachers with a tool to check for understanding. Finally, they can be used at the end of a lesson (as a summative assessment) to provide an opportunity for closure and a quick check, once again, for understanding and/or misconceptions. Embedded in daily teaching and learning, these thinking strategies engage our learners in deeper processing and provide us with quick and ongoing assessments of our students, informing our instruction each step of the way (Figure 2.7).

Figure 2.7

WHEN TO USE STOP-AND-PROCESS ACTIVITIES

As a Formative Assessment

- To activate prior knowledge (what background knowledge, structures, or schemata are already in place?)
- To assess prior knowledge (what do they already know?)
- To inform instruction (what can you learn about students and their knowledge to plan lessons thoughtfully and purposefully?)

As a Medial Assessment

- To provide "wait time" for processing
- To provide time for students to create a written summary of an auditory lesson
- To provide closure before moving from one sub-topic or skill to another during a lesson
- To inform instruction

As a Summative Assessment

- To check for understanding and/or misconceptions
- To see student thinking about the key ideas of the lesson or unit
- To provide an opportunity for students to respond to the essential questions of the lesson or unit
- To provide time for students to find personal relevance in the learning, to make connections, and to note relationships

TEACHER REFLECTION

Frequent Stop-and-Jots are the perfect solution to keeping some very distractible students on task!

— FOURTH-GRADE TEACHER

Stop and Jot **(During- & Post-Learning)**

A **Stop and Jot** is a two- to five-minute check for understanding. Students each record their perception of a key idea or concept about a topic or reading in a boldly colored rectangle that they have drawn on their paper or in their notebook. At least once during a lesson, stop and pose an important question for students to respond to in their quickly drawn "stop box." Have volunteers share one or two responses with the whole class, or model your own response on the chalkboard or overhead. These boxes serve to aid students later as a study tool, standing out with their bright colors and highlighting important information from the reading or about the topic.

Jot-Pair-Share **(During- & Post-Learning)**

A **Jot-Pair-Share** is adapted from the Think-Pair-Share activity (Lyman, 1981) in which students are provided time to think and then talk about a topic in pairs before speaking in front of the whole class. I prefer that each student not just think, but record, or jot down, his or her thoughts *before* pairing with a partner. This can significantly change what takes place during the pairing. In the original activity, the partner who is more verbal, more outgoing, and quicker to process information will likely present his or her ideas first. The other partner may shut down, agreeing with the points just made and making no original contribution of his or her own. By having both partners jot first, each one is more likely to have something to share. Through this brief conversation in which students "do the explaining," we address the need for learners to articulate concepts in their own words and to learn from one another, but we also keep them focused by providing a specific task to complete or question to answer.

Whoever explains learns.

DAVID SOUSA

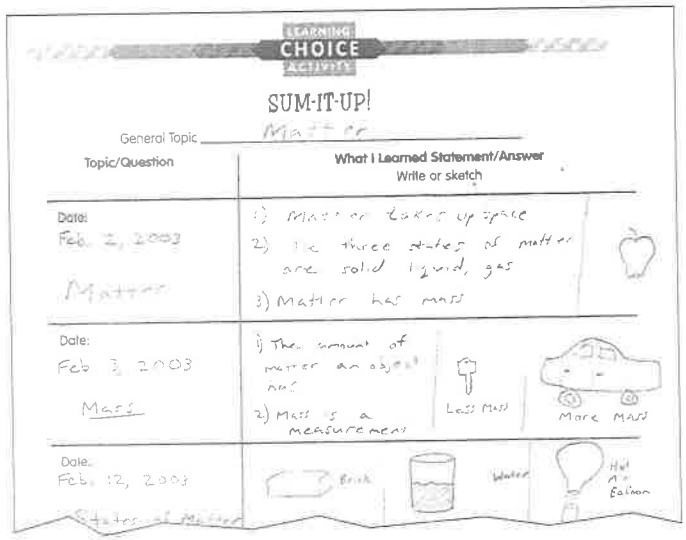
QuickWrite **(During- & Post-Learning)**

A **QuickWrite** is a timed piece of writing on a topic posed by the teacher. Students are given between 90 seconds and two minutes to write freely or respond to a given question or statement ("Tell me how decimals and fractions are related." "How does geography affect the occupations of people in different parts of the world?"). This activity gives students time to process auditory information, and it frees the teacher up to go over to struggling learners who might need additional guidance in thinking about the topic. QuickWrites invite students to use the vocabulary of a discipline to express their knowledge. In fact, you can provide students with important terms and ask them to use several of those terms in their writing. Because the activity is limited to a short amount of time, even reluctant writers are willing to communicate their ideas in this way.

Sum-It-Up! **(Post-Learning)**

I developed **Sum-It-Up!** a number of years ago when I was creating activities for closure and for improving study skills. This quick assessment tool addresses the need for visual learners to record and draw their ideas in order to make sense of them. Although teachers have used them in countless ways since, the original intent was to provide a format for students to record a summary of a particular lesson each day. If you choose to use the reproducible form, make copies of page 46 for each student. On Monday at the end of a lesson, select a topic or question to which students will respond. Have them copy this information in the top left box and set aside five to seven minutes for students to fill in the What I Learned box with a written description or descriptive sketch of the material they've learned. By Friday, each student will have a one-page overview of what they've learned about the topic. More important, students can use the form as a study tool by folding the page to cover up their What I Learned Statement and testing themselves on the material.

Over the course of many workshops, teacher-participants have taught me many ways to refine the use of this tool, including creating three-hole-punched Sum-It-Up! forms on a different color paper for each subject, having students attach three weeks of Sum-It-Up! forms to their unit exam in order to receive bonus points, and placing the lesson objective in the left column and having students respond or reflect upon it in the right column as an immediate and quick assessment during closure. Of all the strategies I have shared with teachers over the years, this has been one of the most widely used by teachers of every grade level.



TEACHER REFLECTION

Using Stop-and-Process strategies has made a big difference. Instead of moving like an express train from minute one to minute 42, I now move more like a local train making stops throughout my class session—I find I pick up more passengers along the way!

—CINDY STERN
LONG BEACH SCHOOLS

CHOICE

SUM-IT-UP!

General Topic _____

Topic/Question	What I Learned Statement/Answer (Write or sketch)
Date:	
Date:	
Date:	
Date:	
Date:	

Exit Card **(During- & Post-Learning)**

An **Exit Card** is a tool that you can use at the end of a lesson to inform your instruction. As students leave the classroom, they hand you an index card with their response to a question you've asked (about the lesson, for example) or with a self-assessment describing how well they applied a new rule or principle, such as solving a problem using a newly learned math formula. Students tend to pay very close attention when teachers make Exit Cards a frequent part of closure.

Using this student-generated data, you can quickly assess your students' knowledge and categorize learners into three groups, those who are uncertain or confused, those who need a little more practice, and those who have mastered the concept. In five minutes, you can determine which students need your special attention before going on. You can provide struggling learners with five to ten minutes of scaffolding the next day during a warm-up time or you can challenge advanced learners through a targeted conversation.

This sorting of students by need might also lead you to a tiered lesson tomorrow. With Exit Card responses, you can easily group students *fairly* and *appropriately* for leveled activities. (See Figure 2.8 for examples of Exit Cards. See Chapter 7 for a discussion of how to use tiered assignments with flexible groupings.)

Figure 2.8

Examples of Exit Cards

Using the map on page 216 and what you know about geography, describe what life must be like in the city of Seattle, Washington.

(Social Studies)

You have a shelf that is 4½ feet long. How many ½-foot-long boxes can you store on the shelf?

(Math)

Having read and analyzed Langston Hughes's poem *Mother to Son*, in which a mother compares life to a staircase, create your own metaphor for life. (Include at least two comparisons.)

(Language Arts)

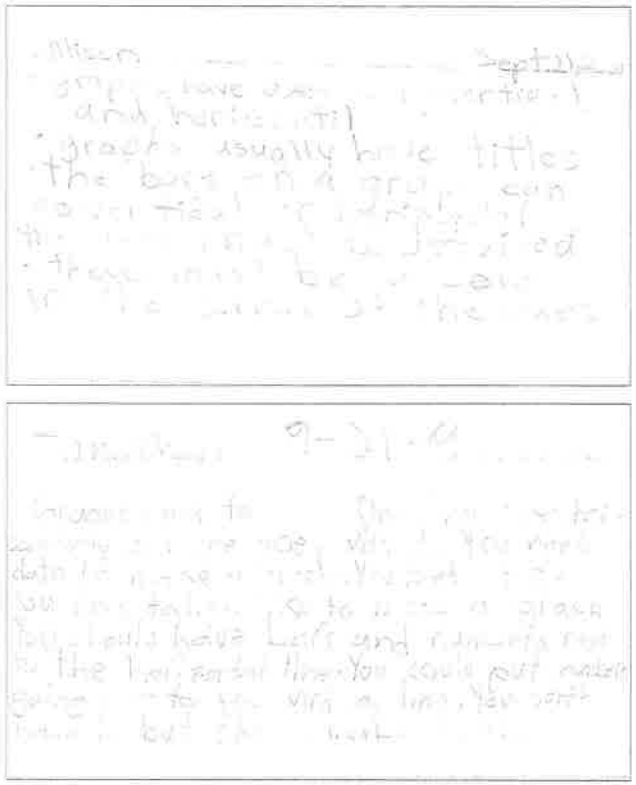
Using the two food labels provided, decide whether these foods are healthy to eat. Give your opinion and support it with evidence.

(Health)

TEACHER REFLECTION

I have used Exit Cards as a quick assessment tool to help me decide whether or not I need to give more time to a particular topic. From the information I gather, I put students into groups for review, practice, or challenge activities. I have used the cards with math and writing concepts, story comprehension, and social studies terms. Because of my regular use of Exit Cards, my students have come to understand that they are accountable for their learning at all times, whether they are engaged in whole-group lessons, small groups, partner work, or individual activities.

—JANE WHEARTY
MINEOLA SCHOOLS



Students' Exit Card responses to a teacher's prompt: "Tell me everything you've learned about graphs."

By integrating different types of activities at each of the three stages of learning, you increase the likelihood that learning is taking place throughout a lesson. In Chapter 3 you'll learn ways to help students find meaning or personal relevance in the learning process. As David Sousa reminds us, when students find both sense and meaning in what you teach, they will be more likely to remember it.

CHAPTER 3

Providing Choice During Instruction

PRINCIPLES OF EFFECTIVE INSTRUCTION EXPLORED IN THIS CHAPTER:

- Multiple pathways to learning
- Respect for all types of learners
- Reducing anxiety
- The use of brain research
- Multiple intelligences
- Intrinsic motivation
- Choice
- Constructivist practices
- Self-directed learning
- A student-centered classroom

I often begin my differentiating instruction workshops by asking teachers to tell me what it's like to manage a multilevel classroom. Inevitably they report frustrations about the difficulties of keeping interest high for advanced students while tending to the needs of struggling learners. The theme I hear most often in these conversations is the lack of motivation on the part of students of all readiness levels.

Many teachers argue that if they had all advanced learners, motivation would not be an issue. If motivation is defined in terms of a student's inclination to complete the task assigned, in a sense, the teachers would be correct. Most advanced learners, those who perform well, will often do what is needed to get their A's and give their teachers exactly what has been asked for, but nothing more.

Other teachers point out that they have many students who can but won't do what is asked of them, choosing instead to just get by in class. Finally, teachers talk about their students who are unable to complete the assigned task because the task requires a particular skill they may not have developed yet.

Certainly, this presents a dilemma for teachers. But it is not insurmountable. One of the easiest ways to change student attitudes toward completing homework, class work, and research, is to provide choices. When choice is given to students about the way they can show-what-they-know, struggling learners find a way to demonstrate their understanding,

If a student has the mindset not to comply, nothing you do can make him. We cannot use external motivation to force, bully, or coerce a student to learn. Internal motivation, however, guides all human behavior. We can create the conditions where students choose to learn.

J.C. ERWIN

average students choose tasks that intrigue them, and more advanced learners take off in ways we could never have imagined. Choice is a key to motivation in your classroom.

Show Me the Research!

Eric Jensen claims there is no such thing as an unmotivated learner (1996). There are, however, times when students experience low motivation in response to a particular learning situation, and these times can be a daily source of frustration for teachers. When they are unmotivated, students usually do little or no work and often act out in class. Motivated students, on the other hand, usually turn in high-quality work, learn well, and behave responsibly (Erwin, 2003).

To understand how we can motivate our students, we must turn to William Glasser's Choice Theory (1998), which explains the benefits of intrinsic motivation over extrinsic motivation. When teachers use *external motivation*, they rely heavily on rewards and punishments, and they assume the full responsibility for motivating their students. External motivation can come in the form of test grades, bonus points, points lost, and pizza parties, all within the teacher's control. When teachers use *internal motivation*, they inspire the natural drives within the learner, thus creating the conditions for their students to be motivated and assume some of the responsibility for that motivation (Erwin, 2003). Internal motivation feeds a student's sense of curiosity, love of fun, and desire for power and freedom. With a little creativity, you can create the kind of environment in which students want to take more responsibility for their learning.

As teachers, from time to time we all wonder, "What am I doing wrong with this class?" Nothing seems to inspire active involvement. Students are fidgety or less engaged than we had hoped. Motivation seems minimal. *We* seem to be doing all of the work.

At these times, we need to take a close look at what we're doing and honestly appraise whether we are creating any of the conditions that Jensen (1996) suggests demotivate learners:

- repetitive, rote learning
- top-down management
- boring, single-media presentations
- reward systems of any kind
- teaching to just one or two of the multiple intelligences

We need to consider the conditions that we can establish in our classrooms to foster intrinsic motivation. The following section outlines some practical ways to apply the research on motivation to classroom settings. Our goal is to engage students in ways that ensure they are both excited about and invested in their work.

Putting Research Into Practice

Glasser's Choice Theory suggests that warm, supportive human relationships are extremely important to student success in school. By showing students that we care enough about them to learn about their interests and to give them choices in their learning, we create the environment where students *want* to behave responsibly and *want* to learn. Glasser points out that in addition to the need for survival, there are four psychological needs that drive all human endeavors: the need to belong, the need for power, the need for freedom, and the need for fun.

In a differentiated classroom we address these needs by creating opportunities for students to express themselves individually or to work with others, by allowing students to choose activities of interest that are playful yet challenging and by empowering students through active learning and decision making. When you allow students the choice of working alone or working with others, you address their need for belonging. When you put students in charge of choosing which activity to complete, you address their need for power and freedom. When you offer students creative ways to show-what-they-know, you address their need for fun. The more we address these needs, the more we foster intrinsic motivation in learners.

Things to Consider: Intrinsic Motivation

How can I foster intrinsic motivation in learners? Do I

- ❍ teach students to work cooperatively with others?
- ❍ give students a voice in classroom decision making?
- ❍ provide opportunities for students' personal growth?
- ❍ teach to a variety of learning styles?
- ❍ recognize and address different readiness levels?
- ❍ provide students with choices?
- ❍ use a variety of instructional strategies?
- ❍ offer fun activities that inspire creativity and reduce stress?

Finding times for choice opportunities throughout your instructional routine helps you differentiate your content, your learning activities, and your assessments (content, process, and product). By offering different reading selections based on readiness rather than assigning all students the same chapter in a textbook or providing different research topics based on interest, you accommodate students with a choice of content. By presenting different homework options, class activities, or note-taking strategies, you

TEACHER REFLECTION

I have been amazed by the quality of work handed in when I have allowed my students to show-what-they-know in ways they prefer. Students who rarely speak in class have made oral presentations of more than five minutes. The pride they felt in their work was quite obvious. Because it appealed to the interests of my inclusion students while simultaneously addressing the issue of their readiness, the work they produced was comparable to the strongest of students. I now can't imagine teaching without differentiating my instruction.

—RYAN TORMEY
SEVENTH-GRADE ENGLISH TEACHER

Information is most likely to get stored if it makes sense and has meaning. Imagine the many hours that go into planning and teaching lessons, and it all comes down to these two questions: "Does this make *sense*?" (does it fit into what the learner knows) and "Does this have *meaning*?" (is it relevant to the learner).

DAVID SOUSA

help students to choose their most comfortable way to process, or make sense of, the information. By suggesting different research methods, resources, presentation strategies, and reporting formats, you allow for diversity in end-of-unit products or assessments.

The goal of these choice opportunities is to engage each learner in relevant activities that are personally meaningful and appropriately challenging. Such opportunities can also foster independence and provide practice for self-directed learning. By creating a more responsive classroom where students are given a voice and provided options that match their needs, talents, and interest, we differentiate our classrooms and show respect for all types of learners. We provide an environment in which our students will find ways to connect to the learning and find a purpose for learning it.

The teacher benefits from choice opportunities, as well. Instead of assessing 30 (or 130!) essay reports on the same topic, he or she now accepts multiple products that allow students to explore, debate, design, and experiment in various ways they've chosen to demonstrate their understanding of a topic.

By providing choice, we do much to create an environment in which students are intrinsically motivated to learn. When we offer choice to students, we are saying "we care about you." When students feel teachers care about them, they come to our classrooms more eagerly; they are more willing to become engaged in our lessons. As Erwin concludes, appealing to students' needs for belonging, power, freedom, and fun will dramatically increase the likelihood that students will behave responsibly and want to learn what we want to teach.

A Dr. Seuss game board is the logical-mathematical option one student chose to show-what-she-knows about the author and his work.

Strategies

Following are some motivating strategies to support you as you find ways to provide students with choices in their learning on a regular basis. Offering Choice Homework on a weekly or biweekly schedule, presenting multiple options for students to record key ideas with Choice Note-Taking, allowing students to select independent learning tasks from activity Choice Boards, and supporting interest-based research mini-projects with Spin-Offs are all ways to help students become more engaged and invested in their work—and take responsibility for their own learning.

CHOICE HOMEWORK

Many teachers find, as I have, that students in the middle to upper grades frequently resist doing homework. While most students are capable of doing the work, some simply choose not to do it. They report lack of interest in doing what they perceive to be "busy work." Homework seems repetitive and boring to them. There is little motivation to complete the assignment other than to get credit for doing it. To combat this lack of interest, I have used **Choice Homework** with great success. Teachers report a marked increase in the turn-in rate. Students exhibit great enthusiasm on Choice Homework nights.

Ideally, you should offer a balance between types of homework that require left-hemispheric processing (focusing on analytical and sequential activities, including reading and writing) and types that require right-hemispheric processing (focusing on problem solving and unstructured and creative activities, including visual and spatial processing) (Contine, 1995). Over time, such a balance reinforces preferred learning styles and strengthens less-preferred learning styles for all students. In fact, when you make choices about which activities to present, consider activities that engage both hemispheres (writing about a political cartoon or writing a summary of conclusions after looking at a graph), which help the brain integrate information more easily.

While it's tempting to just give students a list of homework choices, it is very important to model each choice, one at a time. Discuss "what quality looks like" by identifying with your students the attributes of a well-done assignment. Your list might include neatness, completeness, details to support ideas, accuracy, and creativity.

When you're convinced that students understand what quality looks like in a particular homework choice, you can add an extra choice and begin the modeling process once again. Over subsequent weeks, you should continue to model and provide guided practice for new activities, slowly adding to the list of independent choices.

Choice Homework night becomes something that most students look

TEACHER REFLECTION

When we were studying fractions, I decided to try Choice Homework. I based the choices on different multiple intelligences. The response from the kids was terrific. I'll definitely offer Choice Homework again!

Here are some homework choices that worked for us:

- Use manipulatives, fraction pieces, or fraction strips to solve the fraction problems. (bodily-kinesthetic)
- Draw pictures to solve the problems. (spatial)
- Use paper and pencil to solve the problems. (logical-mathematical)
- Use the computer. Visit a teacher-selected Web site. Solve the fraction problems. (logical-mathematical)

—CAROLE KREISBERG
FIFTH-GRADE TEACHER

KEY IDEA

When presenting students with Choice Homework options, it's important to include a cross-section of multiple intelligence–based choices in order to address their diverse learning styles. Also consider including both logical/analytical activities, as well as creative, open-ended activities.

forward to. For that reason, I recommend keeping it novel by offering it once every week or two. As so many teachers have reported, the enthusiasm for doing homework is never higher than when students are offered homework options that appeal to their interests and strengths.

Figure 3.1 provides options for Choice Homework night that offer students a variety of multiple intelligence–based activities for making sense of the key ideas in their reading assignments.

Figure 3.1

CHOICE HOMEWORK OPTIONS
for finding key ideas in a reading assignment

Along with tonight's reading assignment, choose one of the following:

- **Complete a set of notes/make an outline** of the key ideas.
- **Create a set of five newspaper headlines** representing key ideas.
- **Draw three pictures (with captions)** that illustrate three important ideas.
- **Create a visual timeline (with captions)** to highlight key events.
- **Find 25 to 30 important words or phrases** in the reading. Group the terms and create your own Concept Map or graphic organizer to illustrate your understanding of the reading.
- **Rewrite the reading as a newspaper article.** Using the 5 W's, include details to support your main ideas.
- **Create a top-ten list** of things you should understand about the reading. Prepare the list on an overhead transparency to present to your peers.
- **Visit a teacher-recommended Web site** and summarize your findings.
- **Opt for a Spin-Off** (an independent, mini-research project based on your particular interest in the topic). Include main ideas and details.
- **Create a Net-Knowledge Page** by using the Internet to gather hyperlinks for URLs of Web sites related to the topic, key ideas, and images to support your reading.

Don't feel you have to grade or go over every student's homework on Choice Homework night. Instead, allow students to share in groups for a few minutes and use a simple assessment for self-evaluation or peer-evaluation. This assessment may take the form of a checklist enumerating each task required or a rubric with a work quality rating and a cooperation rating (see Figure 3.2.). Over the course of the week, you might invite a few students to share their homework with the whole class. Remember, the purpose of this activity is motivation and the opportunity for students to do something they might not get to do during class.

CHOICE HOMEWORK NIGHT ASSESSMENT

SELF-EVALUATION / PEER-EVALUATION

Your Name: Mandy Partner's Name Carmen

Circle **I** for self-evaluation/Circle **my partner** for peer-evaluation:

It was evident that I / (my partner) completed the task carefully. **Comment:** Her poster "British Actions" was neat + creative. She put a tea bag on it to show Americans couldn't import tea accept from England.

On a scale of 1 to 4 (4 is the highest), how would you rate the following:

I / (My partner) **identified key ideas** in the homework. Circle one: 1 2 3 (4)

I / (My partner) **gave details** to support the key ideas. Circle one: 1 2 (3) (4)

One thing I / (my partner) could have done better was: include the Quartering Act

Choice Activity: Newspaper Headlines

One of my favorite social studies Choice Homework activities is writing newspaper headlines. This activity helps students to summarize key ideas. Here's how to make it work: Bring in several newspapers with headlines you've highlighted to illustrate how headlines convey important information in a succinct manner. For independent practice, select appropriately leveled articles from a newspaper or magazine for kids, put students into small groups, hand each group an article without a headline, and ask them to come up with a headline for the article. When students grasp how to cull information to create short, informative headlines, read aloud one section from a social studies or science textbook, and model how you would write newspaper headlines to demonstrate your understanding of the key ideas. Encourage the class to brainstorm on the board as many headlines for the chapter section as possible. Finally, discuss which five headlines would be most important to keep and which ones might be eliminated if you were trying to highlight the key understandings of the reading. This discussion

TIP

Be sure to provide linguistic formats of note-taking (Column Note-Taking, Noting What I've Learned, and Dialectical Journals) as well as graphic formats (Visual Text Notes), to appeal to a broad range of learners.

also helps build note-taking skills as students decide which information is most important to remember (or record), and which is less important.

For class practice, ask students to read another section of the textbook, and individually, or in pairs, have them write two or three new headlines. For homework, assign new readings, once again, with the goal of creating effective headlines to highlight key understandings. Depending upon the age and readiness of your students, you might continue to offer guided practice with this homework option, before adding it to your list of independent homework choices.

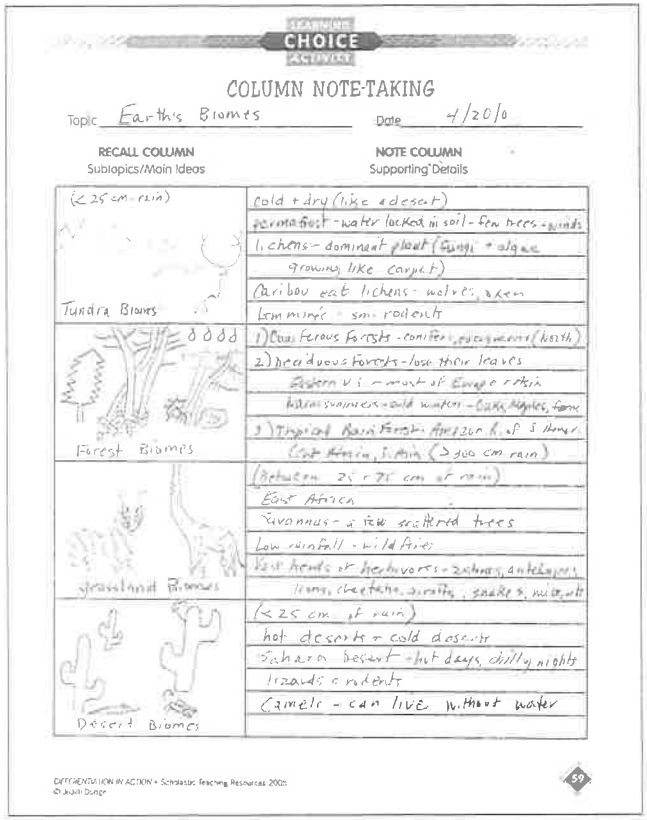
CHOICE NOTE-TAKING

Most teachers agree that taking notes is a critical skill that students must master to be successful in school. Since most students are visual learners, their need to write down summaries, key ideas, and symbols in a notebook is critical to retaining information. Too often, however, the only practice students get with note-taking is copying their teachers' notes off the board. Since students' organizational skills and ability to function independently vary greatly in a mixed-readiness classroom, you need to begin note-taking instruction with a very basic note-taking format and provide multiple guided-practice opportunities for using it, in class and with partners, before assigning independent practice. Begin to offer alternative strategies and less-structured formats as you notice that some students can take notes more independently.

Since no two students are alike, it is essential to provide options for note-taking that will appeal to different types of learners. I have seen teachers struggle to teach traditional outlining to students who are not yet developmentally ready to use a strategy requiring such complex organizational skills. Most of these students, while providing organized notes when under their teachers' structured guidance, never make the transfer to independent note-taking using traditional outlining. Instead, I offer several alternatives that are easy to use with students in elementary and middle school and beyond. Column Note-Taking and Noting What I've Learned are structured formats for beginning note-taking. Dialectical Journals and Visual Note-Taking are open-ended strategies that will appeal to more independent learners and divergent thinkers.

My favorite note-taking strategy is **Column Note-Taking**, which I adapted from the Cornell note-taking system, developed at Cornell University more than 40 years ago (Pauk, 1997). This system was originally developed for college students, but I have modified it for younger students. When you use this activity with students, have them read or listen to a short passage or brief lecture and ask them to record details in the right-hand Note Column of the two-column page (see Figure 3.3).

Figure 3.3


LEARNING CHOICE ACTIVITY

COLUMN NOTE-TAKING

Topic Earth's Biomes Date 4/20/0

RECALL COLUMN Sublopics/Main Ideas	NOTE COLUMN Supporting Details
(< 25 cm rain)	cold + dry (like a desert)
	permafrost - water locked in soil - few trees - winds
	lichens - dominant plant (fungi + algae growing like carpet)
	caribou eat lichens - wolves, bears
Tundra Biomes	Lemmings - small rodents
	1) Coniferous forests - conifers, evergreens (North)
	2) Deciduous forests - lose their leaves
	Eastern U.S. - most of Europe + Asia
	Mild summers - cold winters - Oaks, Maples, Beech
	3) Tropical Rain Forests - Amazon R. of S. America
Forest Biomes	Central Africa, S. Asia (> 400 cm rain)
	(Between 25 + 75 cm of rain)
	East Africa
	Savannas - a few scattered trees
	Low rainfall - wild fires
	Vast herds of herbivores - zebras, antelopes,
Grassland Biomes	lions, cheetahs, giraffes, snakes, wildcats
	(< 25 cm of rain)
	hot deserts + cold deserts
	Sahara Desert - hot days, chilly nights
	lizards + rodents
	Camels - can live without water
Desert Biomes	

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59

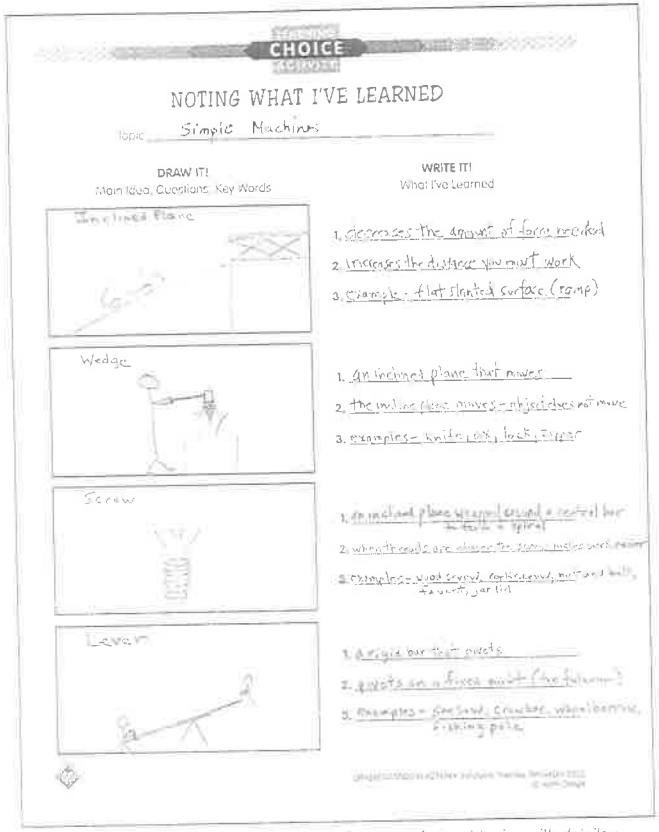
Students using Column Note-Taking record details in the Note Column and a main idea and drawing in the Recall Column.

Then, provide a few minutes for students to reread their notes, reflect, and form questions, write comments, or note key ideas in the left-hand Recall Column. Encourage them, also, to draw symbols and pictures in the left-column boxes to help make the information memorable. You might want to introduce this strategy by having students fill out copies of the reproducible Column Note-Taking form on page 59. Once they're familiar with the activity, students can simply draw columns and rows in their notebooks or on a blank sheet of paper to recreate this note-taking format.

Used with students in younger grades, struggling learners, or students new to note-taking, **Noting What I've Learned** provides a simplified version of Column Note-Taking (Dodge, 1994). It offers greater structure by

prompting students to provide three details for every main idea noted. As they draw the main idea in each box and write its three details, they create pre-writing material for an essay. Following this structured, visual format guides students to develop logical, coherent writing (see Figure 3.4). You can make copies of this format using the reproducible form on page 60 or have students create their own copy by drawing lines (or folding the paper) to create two columns and four rows.

Figure 3.4


LEARNING CHOICE ACTIVITY

NOTING WHAT I'VE LEARNED

Topic: Simple Machines

DRAW IT! Main Idea, Questions, Key Words | WRITE IT! What I've Learned

Inclined Plane
1. decreases the amount of force needed
2. increases the distance you must work
3. example - flat slanted surface (ramp)

Wedge
1. an inclined plane that moves
2. the inclined plane moves - objects does not move
3. examples - knife, axe, hook, fixer

Screw
1. an inclined plane wrapped around a central bar
2. when threads are closer together, more work needed
3. examples - wood screw, corkscrew, nut and bolt, faucet, jar lid

Lever
1. A rigid bar that pivots
2. pivots on a fixed point (the fulcrum)
3. examples - seesaw, crowbar, wheelbarrow, fishing pole

Students break down the topic "Simple Machines" into four subtopics with details.

Both strategies provide excellent study tools for students. Folding the page to cover the right column, students can quiz themselves by reciting information triggered by questions or notes in the left column. Uncovering their notes, they can get immediate feedback about the accuracy and completeness of their answers.

LEARNING CHOICE ACTIVITY

COLUMN NOTE-TAKING

Topic _____ Date _____

RECALL COLUMN Subtopics/Main Ideas	**NOTE COLUMN** Supporting Details

LEARNING CHOICE ACTIVITY

NOTING WHAT I'VE LEARNED

Topic _____

DRAW IT!
Main Idea, Questions, Key Words

WRITE IT!
What I've Learned

1. _____
2. _____
3. _____

1. _____
2. _____
3. _____

1. _____
2. _____
3. _____

1. _____
2. _____
3. _____

Another excellent note-taking strategy is the **Dialectical Journal.** Designed to engage students as active readers, this two-column format promotes students' critical thinking. It encourages students to pick out important phrases, quotes, and key ideas from their reading and asks them to reflect on and react to these selections from the text. This interaction helps students to make sense of what they read and to find personal relevance in the selection—responses that in turn promote comprehension and retention of information.

Because of the open-ended nature of the task (students can choose to respond in any way they want), students of all readiness levels in reading can complete a Dialectical Journal. With struggling readers, you might provide or highlight particular sections of text and offer a prompt (*I agree with the author because. . . . I think this quote means . . .*) to help start them off with a response.

Introduce this strategy while you are reading an information-rich passage with your class. Distribute copies of the reproducible form on page 63 or simply have students fold a page in half lengthwise to create a two-column format. Draw your own format on the chalkboard or use a copy on an overhead transparency. Do a Think Aloud with students as you choose a fact, statement, phrase, or quote to record in the left column. Show students how you reflect, react, or comment upon what you have recorded by noting a connection, giving an opinion with supporting evidence, or making a prediction in the right column. Continue reading with students and pausing to let them make their own notes. Provide guided independent practice in class so students can see the variety of reactions, connections, and responses that are possible. Then, give students independent practice with the strategy by assigning the Dialectical Journal with readings for homework. For ideas and prompts, see Figure 3.5, Using Dialectical Journals to Take Notes, on page 62.

You can provide repeated opportunities for practicing this type of note-taking by assigning it for each section of a given chapter in a novel or a social studies or science textbook. You may want to offer students a choice of Column Note-Taking or Dialectical Journals for a subsequent chapter. Then, return to multiple opportunities for Dialectical Journaling in the following chapter. This variation will provide an appropriate balance between teacher direction and student choice for learners in processing activities.

Moving from linguistic formats of note-taking to a more graphic format, you can introduce your students to **Visual Text Notes.** Your visual and spatial learners will appreciate this choice of note-taking—it allows and encourages them to draw pictures and symbols to help make information memorable.

Figure 3.5

Using Dialectical Journals to Take Notes

Dialectical Journals promote critical thinking while engaging students to interact with fiction or nonfiction text.

Student records:	Student reflects on and reacts to the selected part of the text:
(FICTION OR NONFICTION) • A key passage • A phrase from text or poem	*This reminds me of. . .* (Make a personal connection, a connection to another text, or a connection to the real world. Explain.) *I think this means. . .* *I think this is significant because. . .* *This is mostly about. . .*
(FICTION OR NONFICTION) • What the author says	*I believe. . . because. . . (support with evidence)* *I agree/disagree because. . .* *The author's viewpoint. . .* *The purpose of this reading is to. . .*
(FICTION) • A character's words/quotes • An action taken by a character • What others say about the character	Describe what the words or actions tell you about the character. How do you feel about what the character says or does? *I predict that. . .* *This makes me feel that the character. . .*
(NONFICTION) • Notes • Main ideas • Key concepts • Important events • Key facts • Sequence of steps	Write a reaction or comment that analyzes, compares or contrasts, evaluates, or judges the information. Create a metaphor for the information. (____ is like ____.) *This is like/This is different from. . . because. . .* *The sequence is important because. . .* *It would be better if. . .* *A different solution might have been. . .* *This is important to know/remember because. . .*
(NONFICTION) • Descriptive notes on a *primary source* document (For example: *Political cartoon, speech, song, diary entry, chart, table, graph, map*)	What does it refers to/What does it mean? What does it tell you about the time period, culture, people, or event? What outside information can you relate through prior knowledge?

LEARNING CHOICE ACTIVITY

USING DIALECTICAL JOURNALS TO TAKE NOTES

In this column, record...

- a passage
- a phrase
- a quote
- a main idea
- an important event
- a key fact
- a name of document
- anything you feel is important

In this column...

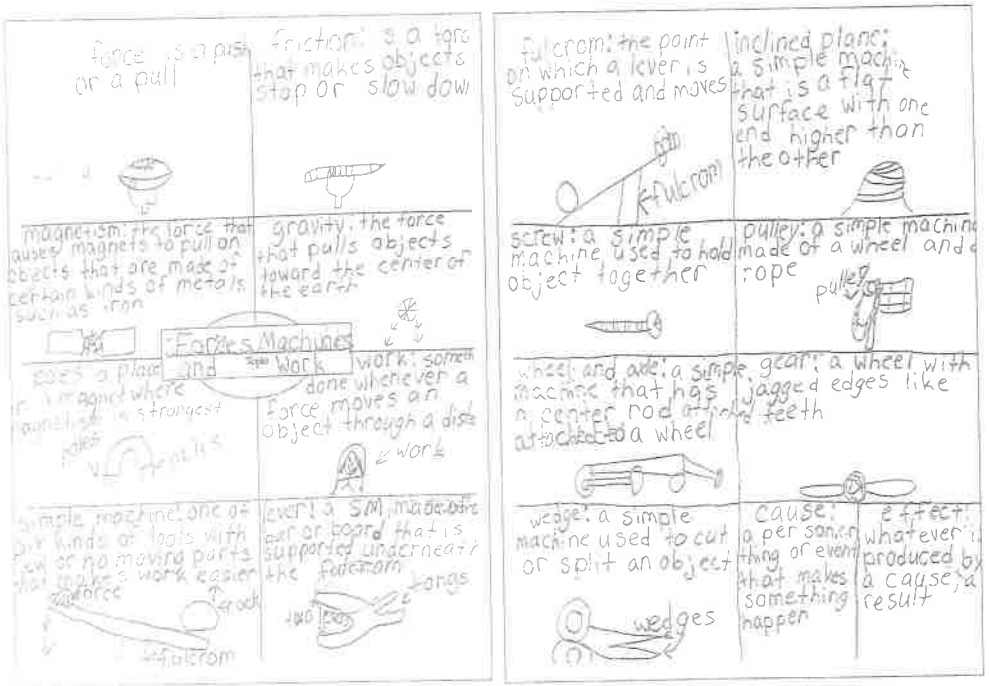
- Write a reaction
- Discuss the significance
- Make a connection
- Make a comparison
- Evaluate/Judge an idea
- Predict a future outcome
- Reflect in any other way that is meaningful to you

KEY IDEA

Alternating between left- and right-brain activities by providing different kinds of note-taking formats will help students integrate information more readily and retain it longer.

Provide students with a note-taking page divided into eight boxes and ask them to use each box to highlight a key understanding or concept they learned from the reading. Encourage them to sketch pictures and create nonlinguistic representations to help make the information memorable. Tell them to include key vocabulary and necessary terms to add meaning to the drawings. At first, you will want to remain very structured, and you may even provide students with the eight concepts to take notes on. You could write key terms on the board or fill in the note-taking page with terms and then photocopy it. To challenge individual students, you could allow them to read and take notes without this support. Eventually, however, you will want to make this activity more open-ended for all students, letting them decide independently which concepts should be noted. The resulting notes with images will serve as an excellent study tool later on.

Be sure to spend enough time modeling each of the strategies above before moving on to a new note-taking method. Once students are comfortable with more than one strategy, allow them many opportunities to choose



Students make Visual Text Notes for vocabulary terms from their science textbook.

which note-taking strategy they would like to use during a particular class discussion or homework reading assignment.

CHOICE BOARDS

After reading a novel with the entire class, teachers will frequently assign one project for all students to complete in order to synthesize their learning. They might assign all students to write an epilogue to a story, using what they know and understand to predict the future of the characters.

Imagine the excitement you would feel as a student if, instead, you were given several follow-up options to choose from. If you love to write creatively, you may choose the epilogue. If you excel at drawing, you may choose to write a PhotoJournal combining your love of drawing with the task of writing about change over time in the main character. If you are a tactile learner, you may prefer to create a PowerPoint presentation showing evidence of the character's attributes from his actions in the story.

Choice Boards are menus of learning tasks that provide multiple options for student learning or assessment. Like Choice Homework, they generate enthusiasm for learning and intrinsic motivation. Keep in mind that there are as many ways to use Choice Boards as there are ways to design them. I have worked with teachers to develop Choice Boards organized around learning styles to allow students to work in the way they learn best (see Figure 3.6: A Learning Styles Choice Board), around multiple intelligences to motivate learners (see Figure 3.7: A Multiple Intelligence–Based Choice Board) and around levels of Bloom's Taxonomy to challenge levels of thinking (see Figure 3.8: A Bloom Choice Board). They can be used for homework, class activities, or end-of-unit products.

You can also design Choice Boards around any aspect of the curriculum from developing skills (writing, spelling, vocabulary, and math) to processing information (making meaning and improving comprehension) to synthesizing and reflecting upon key understandings about a topic or novel at the end of a unit (the Industrial Revolution, *Tales of a Fourth Grade Nothing*, the planets, taking a trip to Mexico). They can be generic to a discipline or specific to a topic or concept (see Figure 3.9: Immigration Choice Board [Social Studies]).

If you choose to design a Choice Board on a specific topic, novel, or unit, it is important to first consider and list key concepts for understanding. Then, as you plan the choices, you can make sure that the essential understandings drive the options you develop—that the assessment is aligned with the curriculum.

With thoughtful planning, you can tier some of the activities, providing for multiple levels of challenge within one option. For example, instead of having a student write a postcard back home to a friend describing the new life he or she found as an immigrant to America, an advanced learner could be asked to compare and contrast in at least three ways the life in the

TEACHER REFLECTION

One of the ways I like to use the Choice Boards is to give each child a copy to put in his homework folder. Then, on a particular night, if a student finds the homework is too easy, or too hard, he can choose an alternative homework task to complete for credit. I also offer the Choice Board as extra credit and to challenge advanced learners.

—C. SANTOMAURO
MANHASSET SCHOOLS

A teacher who is attempting to teach without inspiring the pupil with a desire to learn is hammering on a cold iron.
HORACE MANN

country he or she left behind with the new life found in America. The comparison makes the activity more complex, engaging higher levels of thinking. (For a more detailed discussion of tiering assignments, see Chapter 7.)

You can individualize learning tasks for students with different levels of readiness by assigning them tasks related to their needs. You may want to assign some tasks that all students complete and allow students to choose from one or more other options on the board. Or you can assign students to choose options from a particular row of leveled options on the board. Invite students to occasionally create their own activity, helping them to integrate information or use it in new and original ways.

The trick is not to overwhelm your students with too many choices. Depending upon the age, readiness, and independence of your students, you can choose to use a Four-Box, Six-Box, or Nine-Box Choice Board. The complexity of the tasks and the time needed to complete them will determine how many you assign. A reproducible Nine-Box Choice Board template is provided on page 70.

When you assign activities in the Choice Board format, you can place the options on index cards in pockets on a bulletin board. By doing so, you create a permanent center for Choice Boards, and you can change the option cards within the pockets for every unit or topic. Sometimes I like to hand out a menu of choices to each student at the beginning or middle of a unit, providing students with multiple opportunities for using them over time. At other times, I have given the Choice Board out at the end of the unit for a one-time choice of synthesis activity or alternative assessment.

Don't be overly concerned if you notice that some students tend to do the same type of activity whenever they are given a choice (for example, a student who loves to draw will frequently choose that same option). This is not surprising, when we consider that one of the purposes of providing options is to give learners exactly what they prefer so they are intrinsically motivated to show-what-they-know in the best way they can. You can, however, set a goal with kids to try different options from the Choice Board, from time to time, to strengthen weaker areas of development.

Still, if you're not comfortable with students frequently choosing the same option, you can allow students to choose and repeat their favorite option once and then require they try something new. You can provide students with a checklist to keep track of their choices over time.

However they are used, Choice Boards are a sure way to engage learners in sense-making tasks that address their individual strengths, talents, and needs.

Figure 3.6

A Learning Styles Choice Board

CHOICES TO ADDRESS PREFERENCES IN LEARNING STYLES

Choose an activity below to help you make sense of the information we are studying.

Topic/Concept: _____

Auditory Activities	Visual Activities	Tactile-Kinesthetic Activities
• Teach a lesson	• Create a Web site	• Gather an Artifact Box
• Give a speech	• Create a PhotoJournal	• Give a demonstration
• Prepare/gather recordings	• Prepare a PowerPoint presentation	• Present a TV newscast
• Conduct an interview	• Design an advertisement or poster	• Make a videotape
• Listen to a tape	• Design a graphic organizer	• Play or create a game
• Be part of a panel	• Create/gather a gallery of pictures	• Sort, group, and categorize a collection
• Engage in a debate	• Chart a visual timeline	• Role-play with props

Figure 3.7

A Multiple Intelligence–Based Choice Board

CHOICES FOR MAKING SENSE OF INFORMATION

Choose an activity below to help you make sense of the information we are studying.

Topic/Concept: _____

Select key ideas in this lesson to present in a NewsFlash! (Interpersonal)	**Organize this information in a chart or graphic organizer.** (Logical-Mathematical)
Draw or illustrate the main ideas. (Spatial)	**Summarize the key ideas by creating two headlines you might see in the newspaper.** (Verbal-Linguistic)

Figure 3.8

A Bloom Choice Board

CHOICES AT SIX LEVELS OF BLOOM'S TAXONOMY

Choose one activity from each level below to help you make sense of the information we are studying.

Topic/Concept: _____

Knowledge Level: • *Recall* the story/events. • *List* the facts. • *Define* the terms. • *Label* the parts. • *Name* the locations/types of. . .	**Analysis Level:** • *Sequence* steps or events. • *Organize* the information into a chart or graphic organizer. • *Group, sort, and categorize* the information. • *Compare and contrast.* • *Differentiate or distinguish.*
Comprehension Level: • *Explain* the procedure, event, concept. • *Describe* what this is mostly about. (What is main idea?) • *Paraphrase* what you heard/read	**Synthesis Level:** • *Design/invent/compose/create* something new. • *Propose an alternative solution/ending.* • *Suggest* what would happen if. . . ? • *Combine ideas* to propose something new.
Application Level: • *Demonstrate or illustrate* this information. • *Give* some examples. • *Solve*. . . • *Use* the rule, formula, or principle learned. • *Construct* a model to show your understanding of. . .	**Evaluation Level:** • *Judge* the importance. • *Evaluate* which is the best/worst/most important/least important. • *Prioritize/rate in order.* • *Recommend.* • *Agree or disagree.*

Figure 3.9

Immigration Choice Board (Social Studies)

Key Understandings: • Where did American immigrants come from?
• Why did immigrants leave their countries?
• What obstacles did immigrants face when they arrived in America?

Put on a skit Dress up as an immigrant. Talk about the journey on the ship coming across the ocean. Be sure to talk about the reasons you left, the difficulties of your journey, and your excitement about the future. *(Bodily-Kinesthetic)*	**Draw a poster** Compare and contrast the geography and occupations of the country you came from with those of your new country. *(Spatial)*	**Write a Poem** Imagine you are an immigrant in America. Write a poem about why you left your old country or about your new life in America. Be sure to include adjectives and verbs. *(Musical)*
Pack a suitcase Put in items you would take with you to remember your old country. Include a diary with at least two entries about your journey and hopes for the future. *(Bodily-Kinesthetic)*	**Teach a game** Research games played in the country from which you emigrated. Choose one to teach to the class. *(Bodily-Kinesthetic/ Interpersonal)*	**Make a graph** Interview school staff and classmates to learn about where people emigrated from. Create a graph. Write at least two observations. *(Interpersonal/Logical-Mathematical)*
Write a postcard Write a postcard to a friend or family member who stayed behind. Tell about your journey, your new home, your father's new work, your present living conditions. *(Verbal-Linguistic/Intrapersonal)*	**Learn a song** Research a patriotic song either from the country you left or from your new country. Learn it and share it with the class. *(Musical)*	**Create a diorama** Create a diorama showing what you would see coming into New York harbor. Examples: Statue of Liberty, Ellis Island, harbor, American flag, New York skyline, other boats filled with immigrants. Include a caption describing the importance of each. *(Spatial)*

LONG BEACH TEACHERS

LEARNING ACTIVITY

NINE-BOX CHOICE BOARD

Topic: _____

Key Understandings:
- _____
- _____
- _____

MI:	MI:	MI:
MI:	**Your Choice** (check your idea with your teacher first) MI:	MI:
MI:	MI:	MI:

Key to Multiple Intelligences:

V	Verbal-linguistic	M	Musical
L	Logical-mathematical	I	Interpersonal
S	Spatial	A	Intrapersonal
B	Bodily-kinesthetic	N	Naturalist

SPIN-OFFS

I remember when my younger son was in third grade and his teacher declared him and his classmates to be "researchers" and "explorers." Each child received a clipboard and had access to an array of resources in the classroom, including tables of teacher-gathered materials, nonfiction books and magazines, and computers. When we visited his classroom, my son discussed with pride all the topics he had explored as a researcher. That was when I first recognized the benefits of short, mini-research explorations. He showed me around the room and shared with me what he had discovered. Instead of completing one major report requiring months of research, organization, and independence, he had learned how to find information about a range of topics by being given numerous brief opportunities to practice necessary skills. He had learned to search nonfiction text for key ideas and to take notes so he could present a brief written summary report on these topics.

Carol Ann Tomlinson, in *The Differentiated Classroom: Responding to the Needs of All Learners* (1999), discusses how important it is that teachers provide multiple opportunities for students to engage in independent study. She suggests that teachers should systematically aid students in developing curiosity, pursuing topics that interest them, developing plans to find answers to their intriguing questions, managing time, setting goals and criteria for work, assessing their progress, presenting new understandings to audiences who can appreciate them—and beginning the cycle again. By using Spin-Off projects wisely, teachers can address many of those goals.

Spin-Offs are projects based on student interest (Heacox, 2002). Because students choose their own topics, they become more fully engaged in the process of learning. When struggling learners choose topics of personal relevance, they often become surprisingly resourceful at locating information. Advanced learners finally have the opportunity to break away from the rest of the class and explore something in great depth that intrigues them.

Spin-Off projects can be done individually or with a partner. The next time one of your students raises a question about a subject you will never get to cover in class, encourage him or her to do a Spin-Off. The next time someone raises a topic that is tangential to your discussion, add it to a class list of potential Spin-Off topics to be studied independently. Instead of assigning the whole class a topic for a report or project at the end of a unit of study, allow each student to choose a Spin-Off that intrigues them.

RELATED LITERATURE

Read more about Spin-Offs in Diane Heacox's book: *Differentiating Instruction in the Regular Classroom* (Free Spirit Publishing, 2002).

I have no special talent. I am only passionately curious.

ALBERT EINSTEIN

DIFFERENTIATION IN ACTION • Scholastic Teaching Resources 2005
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KEY IDEA

Spin-Offs cultivate curiosity as students pursue topics of interest. They also provide opportunities for students to develop independent work skills.

TIP

You can provide Spin-Offs as a homework option on Choice Homework night, as an end-of-unit project to encourage pursuit of new knowledge, or as an extra-credit option for eager learners.

It is important to remember, however, that students vary in their readiness for independence. Therefore, Spin-Offs must be thoughtfully planned so that students move toward greater independence gradually. I recommend holding 10- to 15-minute mini-lesson workshops for the whole class to teach key research and independent-work skills: how to narrow down a topic, where to find information, how to use different resources, how to set appropriate work goals and manage time, and how to present information in different ways. Subsequently, you can gather students in flexible groups to work on areas of need as they arise. Periodically, set aside class time for students to work on their Spin-Offs. The length of time spent on a Spin-Off can vary, from one evening or class period to several. Allow students additional time at home, if needed, to finish their Spin-Off.

In addition to mini-lesson instruction, you can support students with a Project Planner that includes due dates, a self-evaluation, and a work log. Provide students with copies of the Project Planner on page 74 and review short-term due dates for choosing a topic, developing questions to explore, completing notes, visuals, a self-evaluation, and the presentation itself. Have students complete the self-evaluation before they present their information to judge how accurately they followed directions for this independent project.

As described by Diane Heacox, there are three types of Spin-Offs: a teacher-directed Spin-Off, a Spin-Off with a required product, and a student-directed Spin-Off. An example of a teacher-directed Spin-Off would be a class author study that allows each student to choose his or her own author, but requires all students to include certain content or key ideas (the author's childhood, factors affecting the author's writing, key people who influenced the author's writing, the author's style, examples of the author's books). Students also may choose how they want to present what they have learned. (See A Multiple Intelligence–Based Product List in Chapter 5 for ideas students can choose from.)

A Spin-Off with a required product could be a mini-project in which students choose their own topics and the content or key ideas they'll include, while you assign the product all students must deliver. A three-minute "how-to" oral report, for which each student chooses his or her own topic, would be such an example.

A student-directed Spin-Off provides the most independence, allowing students to choose their own topic, content, and product. Students who are used to doing independent work will find this open, flexible format easier to manage than students new to such research. Student-directed Spin-Offs may particularly appeal to those students who need more of a challenge, providing them with more open-endedness and independence.

When all of my students are engaged in Spin-Offs, I assess what they've learned through their oral presentation or the poster they present. When individuals work on a Spin-Off for extra credit or as a homework option, however, I need a quick way to check and assess their work. On these occasions, I use the Concept Summary handout on page 75. The "researchers" list key terms they've learned, draw a picture that visually summarizes their learning, and write a brief paragraph that does the same. The Concept Summary is easy for me to check (I can even take it home with me to grade), and I can quickly glean what my students have learned.

Alternating among the three Spin-Off options will contribute to the balance of teacher direction and student centeredness that you want to achieve in a differentiated classroom. These mini-projects provide structure as well as offering flexibility so you can reach a range of students' abilities.

◇◆◇

By now you're familiar with ways to ensure that intrinsic motivation is a driving force in your instruction. Granting students a variety of choices on a regular basis creates conditions under which students want to learn. By caring enough to offer students activities that make them comfortable, as well as appropriately challenge them, we are able to embrace the range of learners that sit every day in our multi-ability classrooms.

In the next chapter we take a closer look at the choices you provide for students and evaluate these choices based on their rigor and complexity. Providing choices is not enough, in itself, to produce powerful learning. Providing choices that *evoke critical thinking* makes all the difference.

LEARNING SPIN-OFF ACTIVITY

LONG-TERM PROJECT PLANNER

For each task you complete, put a check mark in the appropriate box.

❒ Due date for choosing topic and questions: _____

My topic: _____

Questions to explore:

_____

_____

_____

_____

❒ Due date for notes: _____

❒ Due date for visual(s): _____

❒ Due date for self-evaluation: _____

❒ Due date for presentation: _____

How will you share your information? Circle one:

Giving an oral presentation/Making a display or poster

Self-Evaluation

❒ My information is accurate.

❒ My information includes key ideas about my topic.

❒ My visual supports my new understandings.

❒ I have used **at least** three varied sources. They are:

_____

_____

_____

LEARNING SPIN-OFF ACTIVITY

CONCEPT SUMMARY

Topic _____

Draw a picture or write symbols in this box to summarize the topic.

List key words about the topic.

Paragraph: ***Summarize*** your learning by using as many of the key words as you can. Do not simply give definitions of the terms. Use them in sentences that show you understand their meanings. ***Check off*** terms above, as you use them. ***Circle*** terms below, in your writing.

_____

_____

_____

_____

_____

_____

_____

_____

_____

PRINCIPLES OF EFFECTIVE INSTRUCTION EXPLORED IN THIS CHAPTER:

Ongoing and frequent assessments

•

The use of brain research

•

Organizing learning around the "big ideas"

•

Scaffolding

•

Challenging Options

•

Tiering

CHAPTER 4

Differentiating Instruction Using Bloom's Taxonomy

Every teacher remembers having studied Bloom's Taxonomy in some education course. For many of us, that distant lesson sounds familiar but may not have greatly impacted our daily lesson planning. Somewhere in the back of our minds we know that Bloom identified six levels of complexity of human thought: *knowledge, comprehension, application, analysis, synthesis, evaluation* (Bloom, 1956). We briefly studied the critical thinking skills engaged at each level but then put aside the focus on process to concentrate on *covering* the great deal of content we each found in our curriculum.

This chapter suggests that Bloom's Taxonomy remains a user-friendly, familiar model that can help teachers of all grade levels and subject areas to ask questions and design tasks that engage critical thinking and appropriately challenge students. When used consistently, the taxonomy can help students make a "quantum leap to higher order thinking" (Sousa, 2001).

Show Me the Research!

Recently, brain research has refocused our attention on *how the brain learns* content and has reminded us that thinking is the process humans use to collect information about the world and organize it in a personally meaningful way. To learn content, we observe, find patterns and generalize, form conclusions based on patterns, and assess conclusions based on observations (Sousa, 2001). Content taught in isolation, as facts without personal meaning or connections to other ideas, has little chance of being deeply understood or remembered. When we engage thinking skills—the process skills of reasoning, comparing, relating, judging, and the like—we make the content meaningful and relevant. We increase the likelihood that students remember the information.

We should be aware of a few problems that new research has brought to our attention regarding the taxonomy. Bloom and his colleagues attempted to use *degree of difficulty* as the basis for the difference between the levels. But in fact, the higher levels are not always more difficult (Costa, 2001). You have probably seen evidence of this yourself when you have asked a special-needs child to judge the value of something or to rate the best or worst in a category (the highest level of the taxonomy: evaluation) Most likely, he or she was able to give an opinion and support it with reasons. On the other hand, the student may have had more difficulty reading a passage and using it to analyze a character's attributes (a lower level on the taxonomy: analysis).

Sousa refers to this problem as well when he suggests that we need to pay attention to the difference between *difficulty* and *complexity* when designing learning tasks (2001). Unintentionally, many of us assign more *arduous* tasks (tasks requiring more effort or time) when what we mean to do is challenge students with more *rigorous* tasks (tasks requiring more-complex thought at high levels of Bloom's Taxonomy). Assigning an advanced student *two* paragraphs to write about an author's style instead of one (*increasing difficulty*) is not the same as assigning that student to write one paragraph that compares the author's style in one story to the style of a different author from a previously read story (*increasing complexity*).

KEY IDEA

We must be careful not to assign more difficult tasks (tasks requiring more effort or time) when what we mean to do is challenge students with more rigorous tasks (tasks requiring more complex thought).

Putting Research Into Practice

As teachers, we need to revisit Bloom's Taxonomy and apply our understanding of the different levels to curriculum design on a *daily* basis. Keep in mind that linking content to any of the process skills (relating, comparing, defending, sequencing, etc.) will help students understand and remember the content better. (See Figure 4.1 for a list of thinking/process skills involved at each level of Bloom's Taxonomy.) When we use powerful questioning techniques informed by the taxonomy, we engage student thinking and communication at a more rigorous level. The associations generated by more-complex thinking help the brain encode information in ways that make retrieval easier later on.

The best thing we can do to help students improve their comprehension through critical thinking is to teach them how to generate their *own* questions and thoughts at different levels. Richard and Jo Anne Vacca call this "active comprehension" (1996). Several teachers I have worked with have engaged their students in higher-level thinking by introducing them to the

different levels of Bloom's Taxonomy. In one class, small groups worked to create questions and answers at each level for topics they had been studying. In another, the Bloom's Jeopardy games students designed helped them to review for tests in a way that assisted all levels of learners.

As we rediscover Bloom, we should keep a few things in mind. First, the levels are not necessarily sequential (Costa, 2001). In actual practice, constructing knowledge does not happen in a lockstep manner. In fact, constructivism often reverses the order of Bloom, beginning with an evaluative and analytical search for meaning and ending with comprehension and knowledge (Foote, Vermitte, & Battaglia, 2001). Second, the objectives at each level may overlap. It is not critical that students perform tasks at every level of the taxonomy. Many teachers in my workshops have struggled with deciding whether the questions and learning tasks they were creating were at a particular level. Through our exploration of the taxonomy, we've come to understand that instead of worrying about the exact level of a specific question or task, we should simply focus on making sure that the question or task elicits critical thinking (comparing, classifying, inferring, judging, and so forth). By asking students to identify assumptions and points of view, to examine and support their ideas, to demonstrate ideas in a new way, and to explore "what if" scenarios and alternative perspectives, we are assured of creating more-*complex* tasks that require higher-order thinking (Heacox, 2002; Wiggins, 2000). Any of those tasks would naturally elicit thought at higher levels of Bloom's Taxonomy and, certainly, prepare students for the rigors and type of thinking required on state assessments.

KEY IDEA

Slower learners can reach higher levels of Bloom's Taxonomy if we help them to focus on essential ideas and eliminate less important sublearnings.

(BLOOM, 1976; SOUSA, 2001)

I'm sure you have wondered at times whether or not you can bring students who are slower to process information up the taxonomy. In fact, slower learners can reach higher levels if we help them to focus on essential ideas and eliminate less important ones (Bloom, 1976; Sousa, 2001). While remembering all the details about a topic may be impossible for these learners, they do have the ability to compare and contrast, sort and distinguish, and judge and evaluate. Don't assume they are not capable of thinking critically because they take more time to master basic concepts. Instead, eliminate some of the details and focus on the big ideas and key concepts that all students must know and understand. By removing less important facts that would take these students more time to sort and classify, you allow them to concentrate on the main ideas. Under these scaffolded conditions, students often surprise us and perform at a higher level than we may expect.

Keeping in mind that students at all levels of cognitive ability can benefit from learning tasks leveled using Bloom's Taxonomy, what are some ways to use the taxonomy as a planning tool? I have compiled a few charts and activities that will help you examine, identify, and differentiate the challenge level of your questions and learning tasks.

Strategies

The following strategies employ Bloom's Taxonomy and can be integrated daily into your curriculum through discussion, guided practice, individual and group work, projects and homework assignments, and end-of-unit assessments. Using the Thinking in Bloom chart and the Question Starters will help you plan for activities and discussion questions with Bloom in mind. Assessments in Bloom will help you create alternative assessments based on a range of complexity and rigor. While all levels of the taxonomy are important, keep the focus on the higher levels of the taxonomy to ensure that students have the opportunity to process the content more deeply and more permanently. The questions and activities you provide at these levels will also help you differentiate by providing advanced learners opportunities for more divergent thinking.

THINKING IN BLOOM

The Thinking in Bloom chart (Figure 4.1) provides you with an overview of Bloom's Taxonomy, the thinking/process skills involved at each level of challenge, the action verbs used to describe tasks at each level, and several suggestions for designing show-what-you-know products. You'll notice that *synthesis*, rather that *evaluation*, is placed at the top of the taxonomy. Originally, Bloom presented *evaluation* as the level of his taxonomy that engages the most complex thinking. More recently, however, researchers have argued that synthesis (creating) involves more-complex thinking skills than does evaluation (critiquing) (Anderson & Krathwohl, 2001). I tend to agree with this interpretation, so I have reversed the highest two levels of the taxonomy in my chart. You can use this chart to help you design class activities, homework choices, and assessments that reflect rigorous thinking.

BLOOM QUESTION STARTERS

Bloom Question Starters are prompts for asking or writing questions at all levels of Bloom's Taxonomy. By asking students questions that move up the hierarchy, we invite them to examine information more deeply. Responding to questions at the higher levels requires making associations, noting relationships, and assessing conclusions. We differentiate our questioning in class when we ask learners who are at a more concrete stage questions at lower levels of the taxonomy, while we ask learners who are comfortable with abstract concepts questions at the higher levels. We must be sure not to ask questions in this way at all times, however, because we want to stretch the abilities of all students and invite them to demonstrate deeper understanding and to use the problem-solving skills at the higher levels. With this understanding in mind, we can use the Question Starters during class discussions to challenge students who have fully grasped a concept and, at the same time, begin to extend thinking for those students

Figure 4.1

THINKING IN BLOOM

Levels of Challenge	Thinking/Process Skills	Action Verbs	Products
Knowledge *Knowing*	Recalling, remembering, recognizing, identifying, defining	Tell, list, define, label, name, identify, match	Test, list, pictures, 5W's, newspaper article, map, content-area dictionary
Comprehension *Understanding*	Interpreting, summarizing, explaining, describing, rewording, paraphrasing	Describe, explain, retell, discuss, summarize, interpret, paraphrase	T.V. bulletin, NewsFlash!, show and tell, oral report, visual with captions, chart
Application *Using*	Applying, selecting, transferring, relating, solving	Use, illustrate, locate information, research, show, demonstrate, perform, apply, solve, construct, compute	Set of newspaper headlines, report, illustration, journal entries, news story, pamphlet, timeline, simulation, teach a lesson, give a demonstration
Analysis *Breaking apart*	Analyzing, reasoning, distinguishing, comparing, contrasting, sequencing, noting relationships	Sort, group, classify, sequence, order, compare, contrast, note (causes, effects/advantages, disadvantages, etc.), categorize, separate	Collection, survey, questionnaire, graph, letter to the editor, a PowerPoint, chart, checklist, PhotoJournal, Artifact Box
Evaluation *Judging*	Judging, supporting, defending, criticizing, arguing, rating, prioritizing	Choose, support, justify, recommend, estimate, predict, assess, decide, prioritize, evaluate, rate, judge, critique	Top-ten list, "List of the best/worst...," book review, survey, debate, speech, awareness campaign, list of trends, editorial
Synthesis *Putting together in a new way*	Combining, creating, developing, rearranging, inferring, supposing, reorganizing, hypothesizing	Create, invent, design, compose, rewrite, formulate, develop, hypothesize	Invention, classified ad, campaign, action plan, game, poem, song, rap, experiment, slogan, advertisement, political cartoon

Based on Bloom, 1956

still struggling with the concepts. The Question Starters can also serve as prompts for written "checks for understanding" and reflections in JournalWrites, and for practice with extended response writing on state assessments.

To encourage students to use higher-level questions *themselves* during inquiry-based class discussions, hand out copies of the Question Starters on pages 82 and 83 for students to place in their notebooks. Allow students time to work with partners before the discussion begins, to develop several questions for each of the higher levels of Bloom's hierarchy. Encourage students to ask their questions of one another during the discussion. By posting a chart of the Question Starters in your room, you can stimulate students to ask thought-provoking questions during future discussions in your classroom—acknowledge and celebrate their smart thinking when they do!

Consider using Question Starters to help revamp the typical, but often useless, homework assignment of "Read Chapter 5 and answer the questions." Instead, you may suggest, "Read Chapter 5 and *create your own questions and answers using Bloom's Taxonomy.*" When generating questions by themselves, students are taking more responsibility for thinking on their own. In addition, they have to pay more attention to their reading. Ultimately, you want to challenge students to write complex questions at high levels of Bloom. At first, however, students should practice writing questions at all levels. In this way, they will learn to recognize and distinguish levels of questions. They will begin to understand that to think deeply about something, they must ask themselves questions at high levels of the taxonomy—questions that evoke complex thought.

As mentioned earlier, the questions students create could be used for a Bloom's Jeopardy game or they could be included on a class assessment. As always, we must first model many times the quality of work we expect. We can teach students to ask meaningful questions that engage higher levels of thinking by having them use the Question Starters in daily discussions and writing tasks—and providing regular feedback on their efforts. (See Chapter 6 to learn another excellent strategy for teaching students to generate their own questions called the ReQuest strategy.)

■ ASSESSMENTS IN BLOOM

Designed as alternative assessments, Assessments in Bloom are end-of-unit activities or projects that you design at three levels of complexity. The first level is the most concrete, providing students a task at the knowledge, comprehension, or application levels of Bloom's Taxonomy. The middle level targets objectives at the application or analysis levels. The highest level requires students to engage in activities and thought processes at the analysis, evaluation, and/or synthesis levels of the hierarchy.

There are many ways you can use these multilevel activities in a differ-

BLOOM QUESTION STARTERS

Answering knowledge questions helps us recall previously learned material, facts, terms, and basic concepts.

Knowledge Questions:

- ❍ Can you define/name/list/recall/select/identify/match/locate...?
- ❍ How many ...? Who was ...? What ...? Which ...? When did ...?
- ❍ What do you know about ...?

Answering comprehension questions helps us show our understanding of facts and ideas by describing, explaining, and stating main ideas.

Comprehension Questions:

- ❍ How can you explain/outline the steps ...?
- ❍ Can you describe/discuss/elaborate ...?
- ❍ Can you retell/paraphrase/restate ...?
- ❍ Can you summarize ...?
- ❍ What is the main idea? What is this mostly about?

Answering application questions helps us to solve problems by using our knowledge in new situations.

Application Questions:

- ❍ How would you use...?
- ❍ What examples can you find...?
- ❍ How would you organize ___ to show ___?
- ❍ What approach/technique would you use to ...?
- ❍ How could you illustrate/demonstrate/show ...?
- ❍ What is another use for ...?
- ❍ What are some examples of ...?
- ❍ What else could ____ have done?
- ❍ What do you think ___ would have done if ___?

Answering analysis questions helps us to examine and break information into parts, identify motives/causes, note relationships, and organize our ideas.

Analysis Questions:

- ❍ What are the parts/features/properties/characteristics/functions of...?
- ❍ Why did ... happen?
- ❍ What is the relationship between ... and ...?
- ❍ Which is fact, opinion, or inference?
- ❍ What are the advantages/disadvantages/causes/effects of ...?
- ❍ How would you categorize/classify/group ...?
- ❍ How does ... compare to ...?
- ❍ How would you organize these ideas?
- ❍ What steps are important in the process of ...?

LEARNING ACTIVITY
BLOOM'S TAXONOMY

Answering evaluation questions helps us to defend and justify our beliefs, to make informed judgments, and to draw conclusions.

Evaluation Questions:

- ❍ Do you agree/disagree with...?
- ❍ What is your opinion...?
- ❍ How would you justify/defend/rate/evaluate/judge the value of...?
- ❍ Would it be better if...?
- ❍ Why was it better/worse that...?
- ❍ How would you prioritize/rank...?
- ❍ What choice would you have made...?
- ❍ Which is the best/worst...?
- ❍ What solution do you favor and why?
- ❍ Which is the better bargain?
- ❍ Why is it important...?
- ❍ Do you think... is a good example of...? Why or why not?
- ❍ What can we tell about the author's attitude toward...?
- ❍ What viewpoints can you identify?

Answering synthesis questions helps us put information together in a new way, to illustrate something from a different point of view, or to propose an alternative solution to a problem.

Synthesis Questions:

- ❍ Can you propose an alternative...?
- ❍ Can you design/invent/compose/create/arrange...?
- ❍ What changes would you make to solve...?
- ❍ How would you improve...?
- ❍ What do you think would happen if...?
- ❍ Can you predict the outcome if...?
- ❍ Can you think of an original way ...?
- ❍ What could be done to minimize/maximize...?
- ❍ Can you formulate a theory for...?
- ❍ How do you think ... would feel/react/respond...?
- ❍ Can you develop a new use for...?
- ❍ What solutions can you suggest for...?
- ❍ What could another title for this be?

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entiated classroom. You can choose to individually assign students tasks that are an appropriate challenge for them. (See Chapter 7 for a more in-depth look at tiering assignments.) Or you can allow students to choose one activity from each level, providing choice for everyone but making sure that all students climb the taxonomy. Some teachers in the upper grades like to give students a choice of tasks, tying a grade of A, B, or C to the three levels. They hope this will encourage all students to want to reach the highest level. Most teachers of younger students prefer, instead, to assign tasks to individuals, allowing everyone to achieve an A if he or she completes the task at that level of competency. See Figures 4.2, 4.3, and 4.4 for examples of Assessments in Bloom on the topics of electricity, Mexico, and biographies. Samples of student work on assessments for their electricity unit appear on page 85.

Figure 4.2

ASSESSMENTS IN BLOOM: ELECTRICITY

Red Task:

Knowledge/Comprehension/Application

- ○ Draw and label a diagram of a complete circuit.
- ○ Gather and label a collage of objects that are conductors and insulators.

Blue Task:

Application/Analysis

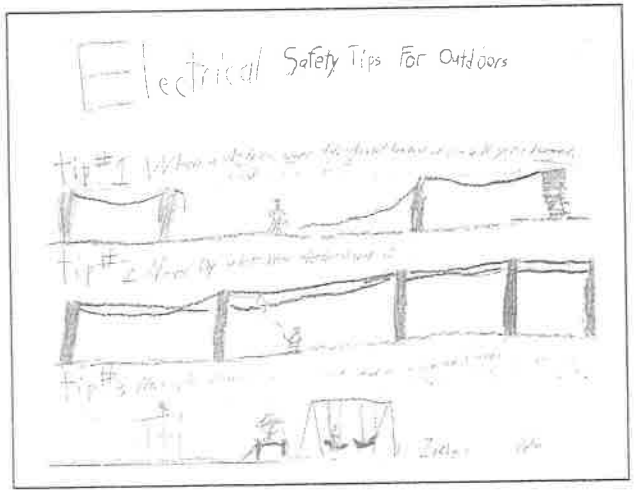
- ○ Use a graphic organizer (Venn diagram/T-chart) to explain how a parallel circuit compares with a series circuit.
- ○ Design a poster illustrating three electrical safety tips.

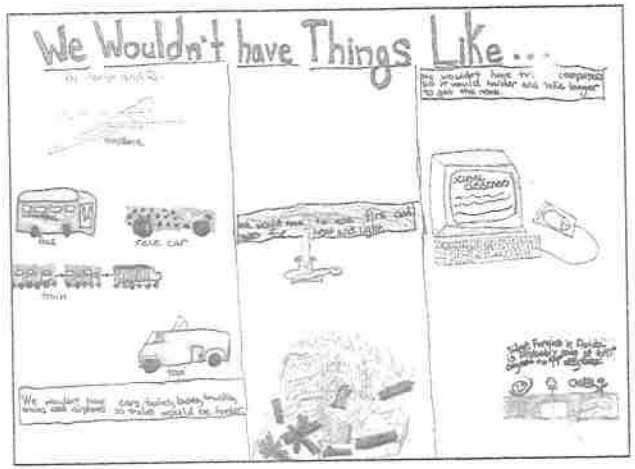
Yellow Task:

Analysis/Evaluation/Synthesis

- ○ Describe and illustrate at least two ways the world would be different if electricity had not been discovered.
- ○ Create a brochure advertising the benefits of a new product that uses electricity.

(Created by Luciana Fonseca, Rosemary Cappelle, and Nicole Bartone/Fourth-grade teachers)





One pair of students designs a poster illustrating three electrical safety tips (application/analysis) [top] while another pair describes and illustrates two ways the world would be different if electricity had not been discovered (analysis/evaluation/synthesis) [bottom].

TEACHER REFLECTION

In our fourth-grade classes we chose an alternate assessment for our Electricity Unit: having students design a poster to show-what-you-know about electricity. Based on the students' reading levels, we assigned partners of same-readiness, and distributed a red, blue, or green task card to each group. The tasks were designed at three levels of Bloom's Taxonomy, and a choice of activities was provided at each level. The students needed to use their notebooks, science books, and experiment packets as resources for their posters.

The children really enjoyed working independently with one another and choosing the activity they preferred. We feel this activity worked extremely well because the final products [posters] all resembled one another even though the thinking and process skills required to complete each task were different. The children were working at an appropriate level of challenge for themselves, but they each benefited from the discussions, questions, and presentations of others working at different levels.

—DIANE BIANCANIELLO AND MARGE BUTTGEREIT/FOURTH-GRADE TEACHERS

Figure 4.3

ASSESSMENTS IN BLOOM: MEXICO

Red Task:

Knowledge/Comprehension/Application

- ❍ Create a map showing at least five major political and/or geographic features.
- ❍ Create a "Culture of Mexico" concept map (web) including terms related to: religion, holidays, music, food, population diversity, language.

Blue Task:

Application/Analysis

- ❍ In a visual format (poster, PowerPoint, diorama), show how where you live in Mexico (mountainous region, coastal area, urban or rural community) affects how you live (culture, job, chores, hobbies, etc.).
- ❍ Write a travel guide comparing the advantages and disadvantages of living in a mountainous or a coastal region.

Yellow Task:

Analysis/Evaluation/Synthesis

- ❍ Create an Artifact Box of items pertaining to Mexican history, government, geography, and culture.
- ❍ Compare the incomes, literacy rates, and mortality rates of Mexican and American citizens. Using this information, write a newspaper article describing how income, literacy rates, and mortality rates affect immigration trends in the United States today.

(Created by Martha Bergman, Janice Killelea, Peggie Nordmann/Fifth-grade teachers)

Figure 4.4

ASSESSMENTS IN BLOOM: FAMOUS PEOPLE/BIOGRAPHIES

Red Task:

Knowledge/Comprehension/Application

- ❍ Draw a timeline of important events in the person's life.
- ❍ List four reasons the person is famous (include photos/drawings)

Blue Task:

Application/Analysis

- ❍ Write an article for *People* magazine describing how the person's contributions affected society.
- ❍ Compare and contrast two famous people we have studied. Describe how they were similar/how they were different.

Yellow Task:

Analysis/Evaluation/Synthesis

- ❍ Describe and illustrate at least two ways the world would be different if this person had not existed.
- ❍ Choose the person you believe has contributed the most to society and write a recommendation for him or her to be entered into the Hall of Fame. Support your opinion with at least two reasons.

(Created by Merrick, NY, teachers)

Now that you've focused on increasing the complexity of your questions and the rigor of your assessments, it is time to take a look at how to make engaging, multiple intelligence–based activities more rigorous and complex. The key to deciding whether any activity is worth the time it takes to do is determining whether or not it will help students think critically. Chapter 5 shows you how to tie Gardner's multiple intelligences theory to Bloom's hierarchy of thinking for increased rigor in all your learning activities.

PRINCIPLES OF EFFECTIVE INSTRUCTION EXPLORED IN THIS CHAPTER:

Multiple pathways to learning

•

Respect for all types of learners

•

Reducing anxiety

•

Multiple intelligences/learning styles

•

Fostering intrinsic motivation

•

Choice

•

Lessons organized around the "big ideas"

CHAPTER 5

Making Multiple Intelligences Work

In the previous chapter, we focused on Bloom's Taxonomy and how to help students practice higher-order thinking. Now we are ready to explore how Bloom's hierarchy can impact learning when combined with Gardner's Multiple Intelligences theory. Many of us already use multiple intelligence–based activities in our classrooms. When assigning projects, for example, we allow students to choose from a variety of engaging formats that appeal to visual, kinesthetic, musical, and other intelligences. What we often don't hold students accountable for, however, is employing a high level of thinking while using a specific intelligence to show-what-they-know. The aim of this chapter is to provide strategies that help you keep the fun in classroom activities and still address a rigorous curriculum with state and national assessments.

Show Me the Research!

A few years ago I attended a workshop with Roger Taylor, who described the great success he had had with inner-city students attending his AP American History course. His course was organized around the principles of multiple intelligences, and his students had used their strengths and talents to master complex curriculum at the very highest levels of achievement. I clearly remember his comment that he believed "the best high school curriculum was a gutsy, content-driven curriculum taught with a middle school approach." A middle school teacher at the time, I smiled to myself and thought about all the experiential, interactive learning that was going on in our classrooms—and how we could not only better tailor it to students' aptitudes, but also deliver complex content.

Taylor had modeled his course on the work of Howard Gardner, professor of education at Harvard University and codirector of Project Zero, who challenged the traditional notion that intelligence was one inborn, fixed trait, easily measured by a paper-and-pencil test. By 1990, Gardner had identified at least eight intelligences that recognize different ways people are "smart," including

- *verbal-linguistic*
- *logical-mathematical*
- *spatial*
- *bodily-kinesthetic*
- *musical*
- *interpersonal*
- *intrapersonal*
- *naturalist* (1993)

Gardner has recently added a ninth intelligence, the *existential* intelligence, which he describes as the proclivity to pose and ponder questions about life, death, and ultimate realities.

While many of us appreciate his identification of several intelligences and the choices they present for lesson planning, Howard Gardner cautions us against falling into a familiar trap of labeling students, this time using multiple intelligences. Instead, he suggests the importance of recognizing that students are an amalgam of all of the intelligences, interacting together, helping them to make meaning from the world (Nicholson-Nelson, 1998).

RELATED LITERATURE
Read Kristen Nicholson-Nelson's *Developing Students' Multiple Intelligences* (Scholastic, 1998) for many practical ideas that can help you integrate the theory of multiple intelligences into your instruction.

The enthusiasm that greeted Howard Gardner's work in educational circles when he first presented his findings on multiple intelligences was not shared by the psychological community. George A. Miller wrote in the *New York Times Book Review* in December 1983 that Gardner's "catalogue of intelligences is wrong" and "since nobody knows whether the educator

Although they are not necessarily dependent on each other, these intelligences seldom operate in isolation. Every normal individual possesses varying degrees of each of these intelligences, but the ways in which intelligences combine and blend are as varied as the faces and the personalities of individuals.
HOWARD GARDNER

should play to the student's strengths or bolster the student's weaknesses (or both), the new psychometrics does not seem to advance practical matters." E. D. Hirsch, in *The Schools We Need* (1996), argued that schools are not competent to classify and rank children on these "highly speculative psychological measures" and that the goals of a school should be developing students' competencies in the traditional curriculum: literacy, numeracy, and general knowledge. Once those common goals are agreed upon, he added, psychological classifications would seem to have "little function beyond the encouragement of respect and egalitarianism."

In a paper he presented at the American Educational Research Association in 2003, Gardner reveals that he never expected such an overwhelming response to his theory from the educational community. He maintains that he is a psychologist, not an educator, and that he does not presume to know how to teach a class of young students. His interest, he maintains, lies in trying to understand the organization of human abilities in the brain.

People who lean on logic and philosophy and rational exposition end by starving the best part of the mind.
WILLIAM BUTLER YEATS

Still, educators continue to cite his theory in support of a different kind of teaching, one that recognizes a different kind of intelligence. Among educators today who continue to praise his work is Thomas Armstrong, award-winning author and speaker on issues related to learning and human development. He believes that teachers should be trained to present their lessons in a wide variety of ways, using music, cooperative learning, art, role play, multimedia, inner reflection, and much more (1998, 2000). By addressing multiple intelligences, he suggests, we can reach many more of our learners.

In "Variations on a Theme: How Teachers Interpret MI Theory" (1997), Linda Campbell describes five approaches to curriculum change that schools, informed by Gardner's theory, are making:

- Lesson design (team-teaching and teachers focusing on their own intelligence strength; using all or several of the intelligences in lessons; asking students their opinions on how best to learn)
- Interdisciplinary units
- Student projects
- Assessments (that allow students to show-what-they-know in their preferred way while meeting the teacher's criteria for quality)
- Apprenticeships (that allow students to gain mastery over a valued skill gradually, with effort and discipline over time)

(You will be able to use the information in this chapter to address the first four of these approaches in your own classroom.)

David Lazear, an author, trainer, and authority on the practical application of multiple intelligences in business and education, believes we have been given inaccurate and misleading information about intelligence and

what makes us smart. In his book *OutSmart Yourself* (2004), he suggests that our IQ measures a small range of our human intellectual capacities, and that, in fact, we are smart in a number of ways. His Eight Kinds of Smart are labeled in a language that even our primary learners can understand. They include: ImageSmart (spatial intelligence), LogicSmart (logical-mathematical intelligence), WordSmart (verbal-linguistic intelligence), BodySmart (bodily-kinesthetic intelligence), SoundSmart (musical intelligence), NatureSmart (naturalist intelligence), PeopleSmart (interpersonal intelligence), and SelfSmart (intrapersonal intelligence). He argues that we are born with all these intelligences and that once we awaken them within ourselves, we will think, work, and learn smarter.

So, what does all this mean for our classrooms? Does it matter whether or not we address multiple intelligences in our classes? How can we apply multiple intelligences theory and still have time for our entire curriculum with all its content?

Putting Research Into Action

When I talk to my own children about memories of meaningful experiences they had when they were in school, they report vivid recollections of certain classroom activities. Their fondest memories include a time capsule of gathered artifacts buried in fifth grade and opened upon graduation from high school; a newscast performed in costume to demonstrate what they understood about life in the Colonial period; a group project preparing Egyptian mummies and tombs; a four-season fashion show performed with props in their foreign language classroom; a PowerPoint presentation (accompanied by theme music from the *Rocky* soundtrack) designed and delivered in health class to convince peers about the need to maintain a healthy lifestyle; and the construction of a rotating fork made of battery-powered Legos to spin spaghetti, an invention that met a perceived need. As you can see, my sons preferred interpersonal, bodily-kinesthetic, musical, and logical-mathematical activities to the more traditional verbal-linguistic activities of most classrooms. Clearly, for them the most meaningful school activities were ones that incorporated several intelligences working together to help them improve their understanding of the world around them.

Now don't get me wrong. The line in the sand has been drawn regarding the measure of student success in most states. And to that end, all students need to be able to do well on the verbal-linguistic and logical-mathematical components of the state assessments. But to ignore the power that the other intelligences play in motivating students in school is to miss the point. To be certain, Gardner has had his detractors, but there are hundreds of schools in this country that are organized primarily around learning

TEACHER REFLECTION

When I give my students options during a learning activity to use one of several multiple intelligences, I can feel palpable enthusiasm in my classroom. The attention, interest, and motivation generated by addressing their preferences lead to teaching and learning that becomes so much more meaningful and long-lasting. I can't imagine not using multiple intelligences, even if there continues to be controversy over their use. The reason I embrace MI is the zeal it evokes in my students.
—MIDDLE-SCHOOL TEACHER

KEY IDEA

By "hooking" students through their strengths and talents, we invite them to stick with us when writing, math, or history gets too difficult for them in school.

through multiple intelligences and that report great success on local as well as state assessments. When students are intrinsically motivated to learn, as they are when provided with choice and the ability to use their strengths and talents in the classroom, their learning is much greater. When our students are encouraged to reach their fullest potential through individual dispositions and preferences, the likelihood of their success on assessments increases.

Unfortunately, teachers have often been taught that multiple intelligence–based activities are "fun," "extra" activities requiring little, if any, critical thinking to complete. Although most teachers appreciate products, projects, and presentations that are multiple intelligence–based, many now refuse to assign activities that seem to offer little educational value, even if they are motivating and engaging. I would argue that they have thrown the baby out with the bathwater.

To make these activities worthy of the time spent in class sharing the products and equal to the rigor required of the assessments, we must link multiple intelligence–based activities to higher levels of thinking, a guiding principle I call "Gardner in Bloom." It *is* possible to create complex and rigorous learning opportunities that link the curriculum, standards, and assessment with multiple intelligences—and in doing so, invite students to be fully engaged in personally appealing, sense-making activities that require higher-order thinking. The more we create such opportunities for our students, the more likely they will eagerly engage in and benefit from the learning experiences we provide.

RELATED LITERATURE

Diane Heacox's Integration Matrix is another tool for designing activities with multiple challenge levels, as well as multiple intelligences. Read her book *Differentiating Instruction in the Regular Classroom* (Free Spirit Publishing, 2002).

Strategies

The strategies that follow show you how to integrate multiple intelligence–based activities as you design your curriculum and simultaneously create rigorous tasks that challenge each student appropriately. The How I Am Smart checklist (page 94) gives students a way to assess their own strengths and preferences with regards to multiple intelligences. The Multiple Intelligence–Based Product List (Figure 5.1 on page 95) provides you with a variety of activities from which to choose when designing alternative assessments that appeal to students' unique talents and interests. Planning With Gardner in Bloom (Figure 5.2, page 96) offers helpful examples of multiple intelligence–based activities that are both engaging and

complex. Finally, the Gardner in Bloom practice worksheet and planning template (pages 98 and 101) provide you with practice designing your own activities that stimulate critical thinking. You'll also find examples of Gardner in Bloom activities that are both assessment-driven and fun to do.

HOW I AM SMART CHECKLIST

Use the How I Am Smart checklist on page 94 to help students assess their strengths at the beginning of the year. Provide students with a copy of the checklist and ask them to check any of the statements that apply to themselves. Have students share their intelligence strengths (any intelligence for which they've checked four or more statements) with the rest of the class and create a class graph or chart to show the different ways students are all smart. Tell students that from time to time you will be offering them choices of activities and that it will be interesting to see whether they choose activities that are related to their preferences and how well they learn from and enjoy the activities.

Don't be surprised if some children tend to choose the same type of activity again and again. Keep in mind Gardner's own caveat not to label students by identified strengths but instead to recognize these strengths as preferences and to encourage students to try activities in other categories from time to time as well. Younger children in particular should be encouraged to try different types of activities because they haven't had time to develop all of their aptitudes. Students will make sense of the world as they process information using several intelligences at once.

MULTIPLE INTELLIGENCE–BASED PRODUCTS

Figure 5.1 provides a list of open-ended multiple intelligence–based products that students may find engaging. Use this list as you create homework options or end-of-unit projects that appeal to a range of students. It will remind you to vary the activities among the eight intelligences. Some teachers give this list to eager students who want to earn extra credit. These students choose from among the different options to show-what-they-know about a topic they have been studying.

KEY IDEA

Hold students accountable for using critical-thinking skills when using one of Gardner's multiple intelligence–based activities.

PLANNING WITH GARDNER IN BLOOM

In Figure 5.2 I have created ten examples to illustrate how teachers might choose multiple intelligence–based products and then make them more rigorous. The figure shows, for example, the difference between a very open-ended activity, such as "Write three journal entries in an Irish immigrant's diary," and one that asks students to use specific critical thinking skills, such as "Write three journal entries in an Irish immigrant's diary *that compare three ways* life in Ireland was different from the life found in New York City."

LEARNING ACTIVITY

SELF-ASSESSMENT

HOW I AM SMART

Put a check next to any of the statements that apply to you.

Verbal-Linguistic Intelligence

___ I like to read, write, use words.
___ I enjoy puzzles, word games, rhymes, etc.
___ Spelling is easy for me.
___ My vocabulary is strong.
___ I like to do research about topics I'm interested in.
___ I enjoy stories and storytelling.

Logical-Mathematical Intelligence

___ I enjoy numbers, math, and computers.
___ I like strategy games like chess.
___ I like to analyze and solve problems.
___ I like organization, structure, and logical sequences.
___ I enjoy charts, graphs, statistics, data.
___ I like designing and conducting experiments.

Spatial Intelligence

___ I enjoy drawing, doodling.
___ I like color.
___ I like videos, movies, and books with diagrams and photographs.
___ I can close my eyes and "picture in my mind."
___ I can find my way in new places.
___ I enjoy using maps, blueprints, spreadsheets, graphic organizers.

Bodily-Kinesthetic Intelligence

___ I like to move around; I can't sit still for long.
___ I enjoy doing, not watching.
___ I like to use my hands.
___ I am very coordinated.
___ I enjoy sports and activities.
___ I like to make/build/construct things.

Musical Intelligence

___ I enjoy music.
___ I have a good sense of rhythm.
___ I remember melodies and songs.
___ I play an instrument.
___ I sing.
___ I'm sensitive to noise and sounds.

Interpersonal Intelligence

___ I like to be with people.
___ I'm a good leader.
___ I like working in groups.
___ I have a lot of friends.
___ I don't like working alone.
___ I understand how other people feel in situations.

Intrapersonal Intelligence

___ I set goals for myself.
___ I like to work alone.
___ I know a lot about myself.
___ I have a strong sense of fairness.
___ I am an individual with my own ideas.
___ I have my own personal hobbies.

Naturalist Intelligence

___ I enjoy being in the outdoors.
___ I observe and see patterns.
___ I am sensitive to nature.
___ I enjoy taking care of animals and plants.
___ I appreciate the environment.
___ I like to group and classify things around me.

Figure 5.1

A Multiple Intelligence–Based Product List

Verbal-Linguistic:

- ❍ Write a book, poem, myth, or news article about...
- ❍ Design a checklist for...
- ❍ Research a topic and take notes...
- ❍ Write a travel brochure/newsletter...
- ❍ Create a set of newspaper headlines...
- ❍ Use storytelling to explain...

Logical-Mathematical:

- ❍ Conduct a survey, graph your results, and draw conclusions...
- ❍ Construct a visual timeline...
- ❍ Design and conduct an experiment to prove...
- ❍ Create or play a dice game and record...
- ❍ Complete a graphic organizer...
- ❍ Create a word problem based on _____ ...

Bodily-Kinesthetic:

- ❍ Bring hands-on materials to demonstrate...
- ❍ Make a videotape of...
- ❍ Create a museum exhibit to show...
- ❍ Create a play, role-play, or use props...
- ❍ Gather a Treasure Chest/Artifact Box to show...
- ❍ Create a movement or sequence of movements to explain...

Intrapersonal:

- ❍ Keep a diary about...
- ❍ Reflect on your own learning process...
- ❍ Write an advice column...
- ❍ Record in a progress chart your accomplishments toward a goal...
- ❍ Create an All About Me Scrapbook (about a character, historical figure, inventor, etc.)...
- ❍ Complete a Venn diagram that compares you and a character or historical figure...

Spatial:

- ❍ Design a greeting card or postcard...
- ❍ Create a PhotoJournal about...
- ❍ Create a game that teaches the concept of...
- ❍ Create a scrapbook...
- ❍ Find examples of fine art, architecture, or sculpture to symbolize the story/reflect the time period...
- ❍ Take photographs/Use photographs to...

Musical:

- ❍ Interpret a song from a specific time period...
- ❍ Gather examples of music that reflect the mood of a book or a time period...
- ❍ Analyze different types of poems for their patterns of rhyme, rhythm, or sounds
- ❍ Play a piece of music to illustrate...
- ❍ Make an instrument and use it to demonstrate...

Naturalist:

- ❍ Write a PhotoJournal about...
- ❍ Take a virtual field trip via the Internet to...
- ❍ Write and illustrate a postcard from...
- ❍ Gather or plan a collection of objects that...
- ❍ E-mail keypals in other places to learn...
- ❍ Use binoculars, microscopes, magnifiers, or telescopes to...

Interpersonal:

- ❍ Evaluate your group's performance...
- ❍ Present a news show/host a talk show...
- ❍ Interview several people about...
- ❍ Lead a group discussion on...
- ❍ Teach the class about...
- ❍ Conduct a group or class meeting to discuss...

Figure 5.2

PLANNING WITH GARDNER IN BLOOM

Examples of Multiple Intelligence–Based Activities at Higher Levels of Complexity

Multiple Intelligence–Based Activity	How It Addresses Critical Thinking (Analysis, Synthesis, Evaluation)
Social Studies: (*Intrapersonal*) Write three journal entries in an Irish immigrant's diary...	that compare three ways life in Ireland was different from the life found in New York City. (*Analysis*)
Social Studies: (*Verbal-Linguistic*) Write three headlines that you would find in the *Renaissance Times*...	that show your understanding of how life has changed since the Middle Ages. (*Analysis*)
Math: (*Verbal-Linguistic*) Write a book for children...	that explains and compares rational numbers and irrational numbers. (*Analysis/Synthesis*)
Math: (*Bodily-Kinesthetic*) Gather an Artifact Box that includes at least ten items in your everyday life...	that use or represent fractions (decimals, percents, measurement, geometric shapes, etc.). (*Application*)
LOTE (Languages Other Than English): (*Spatial/Logical-Mathematical*) Create a visual timeline of your life with at least five events and five captions...	that shows your understanding of the difference between the preterite and imperfect tenses. (*Analysis*)
LOTE (Languages Other Than English): (*Interpersonal*) Present a meteorologist's report...	describing one day's season, weather, suggested clothing, and possible activities. (*Analysis*)
English: (*Verbal-Linguistic*) Invent your own mythological character to invite to dinner...	and create a story about the events of dinner based on the personality of your character. (*Synthesis*)
English: (*Bodily-Kinesthetic*) Create a Treasure Chest for the chapter book/novel we are reading...	that demonstrates your understanding of the setting, the characters, the symbols, and the themes. Include an explanation of each item you include. (*Analysis*)
Science: (*Verbal-Linguistic/Spatial*) Create an illustrated booklet on the body systems...	to show how at least two organs function in more than one system. (*Analysis/Synthesis*)
Science: (*Naturalist/Spatial*) Create a PhotoJournal about the biome we are studying...	that compares plant life, animal life, land, and climate in the winter and the summer. (*Synthesis*)

GARDNER IN BLOOM PRACTICE WORKSHEET

The Gardner in Bloom Practice Worksheet on page 98 gives you experience in developing appropriately challenging multiple intelligence–based activities. I have suggested multiple intelligence–based activities in the left column. You may adapt the idea to a specific curriculum-based activity that addresses critical thinking at the analysis, synthesis, or evaluation levels of Bloom's Taxonomy in the right column. These activities should require students to analyze information, note relationships and changes over time, sequence events, recognize similarities and distinguish differences, illustrate opposing points of view, create new ideas, and support opinions with evidence. As you develop homework options or alternative assessments for each new unit, keep this two-column structure in mind to help you create activities that are both engaging and rigorous.

GARDNER IN BLOOM ACTIVITIES

Once you are comfortable with linking multiple intelligence–based activities to higher-level thinking skills, you can design end-of-unit projects and/or alternative assessments that integrate the best of Gardner and Bloom while still addressing curriculum standards and state assessments.

KEY IDEA

Gardner in Bloom activities tie multiple intelligence–based activities to rigorous thinking.

Figures 5.3 and 5.4 illustrate how a foreign language teacher and an English language arts teacher offer end-of-unit project choices to their students and still address their standards and assessments. You will notice that although both teachers provide four choices of activities, each choice addresses several of the same key understandings, skills, or focus questions identified as important to the unit. The teachers have made clear what *all students* must know and be able to do. The choice is in the option of *how* to show-what-you-know. To design worthwhile Gardner in Bloom activities, you must keep several things in mind. First, decide on two to four key understandings that all students must demonstrate through their choice of activity. Next, choose four different multiple intelligence–based activities to offer variety to students. Finally, design the four activities, making sure that each addresses the key understandings at high levels of critical thinking. (See "Things to Consider: Gardner in Bloom Activities.") The planning template on page 101 will remind you to label each activity with the multiple intelligence and the appropriate level of Bloom's Taxonomy. Provide the four Gardner in Bloom choices to students at the beginning or midway through your unit and allow them to choose one activity as an alternative assessment to a pen-and-pencil exam.

You can use the reproducible rubric on page 102 to help you assess the Gardner in Bloom activities or you can design one with students. The rubric included here is generic enough to work with written reports, as well as orally or visually presented projects.

PRACTICE

GARDNER IN BLOOM

WORKSHEET

Designing Multiple Intelligence–Based Activities at Higher Levels of Complexity

As you develop a list of instructional activities, use this worksheet to help check that the activities target one or more of the intelligences and, more importantly, meet critical-thinking goals.

Add a curriculum focus for each multiple intelligence–based activity in the left column, and in the right column add specific instructions that guide students to complete each activity at a high level of complexity. You'll find a Bloom's Taxonomy chart on page 80 for reference.

Choose a Multiple Intelligence–Based Activity (MI)	**How Does It Address Critical Thinking at Higher Levels of Complexity?** (Bloom's Taxonomy) **Levels:** Analysis, Synthesis, Evaluation
EXAMPLE: **Gather an Artifact Box...** *with some items representing the 1920s* **MI:** Bodily-Kinesthetic	**that examines...** *the social, cultural, and technological aspects of this decade.* **Level:** Analysis
Write a children's book... **MI:** Verbal-Linguistic	**that distinguishes different kinds of...** **Level:**
Create a PhotoJournal... **MI:** Spatial	**that compares and contrasts...** **Level:**
Conduct a survey and graph results... **MI:** Interpersonal/Logical-Mathematical	**that draw conclusions about...** **Level:**
Create two headlines... **MI:** Verbal-Linguistic	**that show opposing viewpoints about...** **Level:**
Create an All About Me Scrapbook... **MI:** Intrapersonal	**that sequences the life of...** **Level:**

Figure 5.3

GARDNER IN BLOOM ACTIVITIES

Topic: CHARACTERIZATION (Language Arts—Grade 6)

Key Understandings/Skills/Focus Questions:

- How does a character change over time?
- How does an author develop an understanding of the character?
- How do decisions and events in a story impact a character's life?

Create a chart to show what you've learned about the main character. Include clues from the author about 1) how the character looks; 2) what the character does; 3) what the character says, thinks, or feels; and 4) how other characters respond to him/her. Include at least two clues for each aspect of character. **Bloom:** Analysis **MI:** Logical-Mathematical	**Create a visual timeline** of your main character that illustrates and briefly describes important decisions the character makes and how he/she changes from the beginning to the end of the story. **Bloom:** Analysis **MI:** Spatial
Compose your own short story about a character. Be sure to develop your character by describing his/her looks, explaining what he/she does, sharing what he/she says, thinks, or feels. Ask yourself: How do other characters respond to my character? How does he or she change? What happens that might change him or her? **Bloom:** Analysis **MI:** Verbal-Linguistic	**Gather a Treasure Chest** (items, pictures, quotes, maps, symbols, sketches, etc.) that reflect your character's traits, conflicts, and ways he/she overcame obstacles in life. Include a brief written description of the significance of each item. **Bloom:** Analysis **MI:** Bodily-Kinesthetic

Adapted from a workshop with Wantagh teachers

Figure 5.4

GARDNER IN BLOOM ACTIVITIES

Topic: CLOTHING (Foreign Language—Grade 8)

Key Understandings/Skills/Focus Questions:

- Identify articles of clothing and accessories.
- Use correct forms of *adjectives* and *colors* to describe seasonal clothing (refer to *size*, as well)
- Use color, size, and price descriptions to select appropriate clothing

Write four cards to be read at a fashion show. Describe the outfits to be worn by four models, each representing one of the seasons. (*Include adjectives, color, price.*) **Bloom:** Analysis **MI:** Verbal-Linguistic	**Create a brochure** for traveling to different tourist attractions in a foreign country. Highlight four different types of activities and the appropriate dress for each. Describe at least four outfits, using adjectives and color. **Bloom:** Synthesis **MI:** Spatial/Logical-Mathematical
Present a four-season fashion show to your classmates using a bag of clothing props. Use complete sentences. (*Include adjectives, color, price.*) **Bloom:** Analysis **MI:** Bodily-Kinesthetic	**Write and present a dialogue** of at least ten excnanges about shopping for clothing and/or accessories. In your conversation, discuss color, size, and price, and use adjectives to describe at least two pieces of clothing. **Bloom:** Synthesis **MI:** Interpersonal

Adapted from a workshop with Wantagh teachers

PLANNING

GARDNER IN BLOOM TEMPLATE

Topic/Concept: _____

Key Understandings/Skills/Focus Questions:

- _____
- _____
- _____

Bloom: **MI:**	**Bloom:** **MI:**
Bloom: **MI:**	**Bloom:** **MI:**

LEARNING
SELF-ASSESSMENT
ACTIVITY

RUBRIC

Name of student: _____

Project: _____

Criteria: Points earned:	4	3	2	1
I have fulfilled all the requirements of this project.				
My project is accurate and it contains several details to support my main ideas.				
My presentation is visually neat or clearly communicated.				
My project shows effort and creativity.				
My project is on time.				

Total points I have earned: _____

Multiplied by 5 = _____ %

Things to Consider: Gardner in Bloom Activities

When designing Gardner in Bloom activities have I

- ❍ chosen a variety of multiple intelligence–based activities to appeal to the strengths, talents, and interests of my diverse students?
- ❍ made sure that the thinking elicited by each of the tasks is rigorous enough to challenge specific groups or individuals in my class?
- ❍ selected activities that require students to analyze, compare and contrast, sort and classify, consider different perspectives, judge an event or outcome, determine the importance or value of something, suggest an alternative solution, note changes over time, develop metaphors, or create an original scenario?

◆◆◆

By relating multiple intelligences to critical thinking and providing choice for students from among exciting options, you are opening up multiple pathways for students to learn. Showing respect for all types of learners in this way reduces the anxiety of struggling learners and extends opportunities for advanced learners, as well. If you keep your eye on the big ideas and focus primarily on higher-order thinking, there is no reason to eliminate fun from your classroom because of new assessments. In fact, students may never be more prepared for the assessments than they are in an environment that recognizes their uniqueness and honors it—and therefore, makes learning more accessible for them.

Now that we've explored differentiation by student strengths and complexity, we can move on to differentiation by lesson design. Chapter 6 helps you deliver effective instruction through flexible groupings.