Differentiated Instruction and Strategies

his book focuses on creating differentiated lessons and not entire units of study. It is imperative that teachers understand not only the overarching goals of a given lesson but also the broader unit of study before diving in and teaching. The backward design model emphasizes beginning with the end in mind. In their book Integrating Differentiated Instruction + *Understanding by Design*, authors Carol Tomlinson and Jay McTighe (2006) write: "The concept of planning backward from desired results is not new. In 1949, Ralph Tyler described this approach as an effective process for focusing instruction. More recently, Stephen Covey (1989) in the bestselling book Seven Habits of Highly Effective People, reports that effective people in various fields are goal oriented and plan with the end in mind. Although not a new idea, we have found that the deliberate use of backward design for planning courses, units, and individual lessons results in more clearly defined goals, more appropriate assessments, and more purposeful teaching." Typically, we think of applying backward design to comprehensive units of study. But since the notion of this design process is essentially a sequence for curriculum, employing backward design to each lesson is prudent so teachers know what direction a lesson is headed by looking at the final goal first. One way to do this is by creating guiding questions that emanate from standards to use as a guidepost in devising lessons. Using these questions allows teachers to be more effective in teaching by focusing a lesson on standards and concepts so students can grasp the overarching goals.

In this book, teachers will find a multitude of differentiated lessons tied to a curriculum for fourth- to ninth-grade students. Each lesson includes the tenets of backward design in that they begin with clearly articulated standards and guiding questions. Subsequently, I include details to execute lessons including student groupings, strategies, assessments, resources, student handouts, suggestions for differentiation, and more.

DIFFERENTIATED INSTRUCTION

The term differentiation and its use in the classroom are familiar to many educators. There are innumerable books, articles, Web sites, and other resources dedicated to differentiation. Extensive lists of authors who are experts in this area abound; many are listed in the References and Further Reading section of this book. Even those who are unaware of differentiation realize that in a classroom of students, there are those who are more advanced learners and those who are far below grade-level expectations. There are students who have a proclivity for the arts and others who have a tendency to favor the sciences. Some students are content sitting for most of the day at a desk, whereas others are clamoring for time to move about the room or school campus. The list of ways that contribute to student diversity is an extensive one. Students are also keenly aware of the fact that there are differences among them. Just as students know that on a given sports team, not all players are experts in every position, so do students realize that their classmates possess a variety of expertise and interest in areas relating to school work and learning styles. Teachers who employ differentiation are aware of student differences and capitalize on opportunities to challenge students to their abilities, taking into account learner interests, readiness, and learning styles. These teachers' mission is to seek out and learn ways to meet their students' needs. In turn, students appreciate teachers who understand and respond to differences.

DEFINITION: CONTENT, PROCESS, PRODUCT

Carol Ann Tomlinson, a leading author in this field, crystallizes the definition of differentiation in this way: "In a differentiated classroom, the teacher proactively plans and carries out varied approaches to content, process, and product in anticipation of and response to student difference in readiness, interest, and learning needs" (Tomlinson, 2001). Below is a cursory definition of the major components of differentiation; throughout the book, specific examples are provided.

Content

The *content* is the essential knowledge, understandings, and skills of a unit of study or lesson. To identify the content, teachers refer to content standards from the district, state, or school in addition to accessing text-books, curriculum, and other guides and deferring to teacher expertise.

This combination of sources will most likely be needed for teachers to clearly identify the content—what students should know, understand, and be able to do. Some refer to the content as the *input* since teachers are filling up students' brains with new information.

Teachers introduce students to content in a variety of ways. The traditional way is through a textbook or lecture. Other ways include a performance, a video, computer software, a Web site, a field trip, an audiotape, a guest speaker, a summary, an article, and so forth. As teachers come to know their students through formal and informal assessments, they can present content in a differentiated way. For example, content-area teachers can have several biographies available on various individuals and at different levels of readability. The teacher then assigns students appropriate biographies based on students' reading levels and takes into account their interests in a particular noteworthy figure. Or a social studies teacher can arrange students in groups according to their interests on a particular topic, such as a country. Each group then reads various resources centered on the country of choice. Alternatively, the teacher can arrange groups homogeneously by ability and assign more difficult reading to high-achieving students and more accessible text to those who are struggling.

Teachers do not necessarily have to differentiate content for each lesson all the time. They can present the whole class with a resource, such as a video, and then differentiate subsequent activities by instructing groups of students who are arranged by ability level or interest to explore further. For example, if students are studying slavery, a teacher might present an excerpt from a video of Alex Haley's *Roots* to the entire class to expose them to specific content. For further acquisition of this content, the teacher can divide students into readiness-based groups and assign various reading material at an appropriately challenging level for each group. This might mean using a more advanced textbook for the most able readers and providing an excerpt from a grade-level text for other students. Struggling students might be challenged through a brief summary that exposes key ideas.

Process

Process is the method used to make sense of the content. In other words, *process* is the sense-making part of a lesson when teachers call upon students to assimilate and apply the information presented in the content. Typically, this is done through classroom activities and lessons that teachers conduct, although homework assignments are also part of the process.

One frequently used differentiated strategy for teaching or reteaching is through mini-workshops or small-group instruction. In this strategy, students are preassessed to determine their understanding of a particular skill, concept, or topic—for example, their ability to use complex sentences, define *mitosis*, or identify the main idea of a reading selection. Based on this information, teachers might pull a small group of students who need additional support to hone this learning and conduct a miniworkshop to assist them. Or an alternative method is when teachers create

and assign several versions of an assignment to appeal to different ability levels. The preassessment will provide information about which assignment is best suited for each student or groups of students. These previous examples highlight differentiation for readiness level, but teachers can also preassess students in terms of learning style or interest and provide assignment choices so students can work within their preferred learning mode or area of interest.

Another common differentiation practice for process is questioning. Teachers can differentiate questions that appeal to students' interests and also that consider students' readiness. In the latter, questions for advanced learners are those that contain more depth and complexity; however, all learners are given questions that address the overarching concepts of a given lesson or unit. Developing various learning centers, journal prompts, lab experiments, and project choices are just some of the many other ways to differentiate for process.

Any activity or lesson that teachers conduct in the process stage constitutes practice so students have the opportunity to use the content and construct clear understandings. Throughout this critical time of teaching, it is prudent to continually assess how well students are doing and adjust lessons or activities as appropriate. Teachers will feel the need to formulate their own system of accountability; however, they should not overgrade these types of assessments as the emphasis is on practice. A tangible formative assessment for an activity might be a journal-writing response, a math-problem-of-the-week write-up, or an outline. A less concrete albeit critical indicator of how students are faring in their understanding is through observing their participation in small-group tasks and wholegroup discussion. When teachers consistently and consciously employ formative (or ongoing) assessment throughout the entire course of a unit, they are able to offer learning that best meets students' needs by, for example, pulling small groups to reteach, revising a lesson, or varying the pace of instruction.

Formative assessment yields valuable information about the effectiveness of curriculum and instruction. During lessons and activities (process), teachers rely on formative assessments to get a pulse on students' understanding of a targeted skill or concept. As Douglas Fisher and Nancy Frey (2007) state in *Checking for Understanding: Formative Assessment Techniques for Your Classroom*, the purpose is "to improve instruction and provide student feedback." It gives teachers the ability to redirect and strengthen teaching that can have an immediate impact on learners. Chapter 4 includes a number of formative assessment examples and ideas.

Product

As evidence of learning after a considerable unit of study, teachers then issue a culminating product (or summative assessment) to demonstrate students' understanding of a unit's content and process. Since content is what students should know, understand, and be able to do, the product

should be designed in a way that allows students to demonstrate this learning and to do so with clear and appropriate criteria for success. Some teachers issue a test after a given segment of learning, which signifies just one type of product. But products also come in other forms. Teachers should consider issuing both a final exam and a different type of product for a comprehensive assessment of what students have come to know, understand, and be able to do.

In a language arts classroom, products can include a performance, a poster project, an interview, or a formal writing assignment (e.g., response to literature, persuasive, summary). In a science class, a summative assessment could be writing a lab report or building a kite in a physics unit. Differentiating products is a powerful and valuable means of allowing students to exhibit what they have learned. Teachers should present the summative assessment to students at the beginning of the unit so they are well aware of expectations and have specific goals in mind as they work to accomplish each task that leads to the final product.

STUDENT CHARACTERISTICS: READINESS, INTEREST, LEARNING PROFILE

Teachers differentiate content, process, and/or product as they take into account students' readiness, interest, and learning profile. If teachers differentiate by pairing student characteristics with the curriculum and instruction, powerful learning is the result. Teachers can address one or a combination of characteristics, such as readiness and interest, when planning differentiated lessons or units. Following is a brief explanation of these three key types of student characteristics; there are a multitude of resources on each facet presented here, especially on learning profile. The References and Further Reading section provides a partial list of books, but teachers are encouraged to search for their own resources to foster their students' learning in any of these areas.

Readiness

Through pre- and ongoing (or formative) assessments, teachers can glean information regarding what students know, understand, and can do so they can gauge their *readiness*. Readiness varies from student to student, and teachers need to differentiate to appropriately challenge each student at his or her ability level. If students receive material way too demanding for them, they will feel defeated and frustrated. On the other hand, if they are given work that is far below their ability, they are insulted or are turned off completely. Moderately challenging students just above what they are capable of performing is necessary for learning. When teachers differentiate content based on readiness level, they might gather materials across a spectrum of readability and assign students reading selections accordingly. A tiered activity in which teachers modify and extend a

6

particular assignment so that it has various versions at varying levels of difficulty is one example of differentiation by readiness. Other brief examples are given in the list below and throughout this book.

- In a core classroom of language arts/social studies, assign students to read one of three different books that are chosen specifically by readability. The advanced group reads selections by Frederick Douglass, the grade-level group reads *The Slave Dancer* by Paula Fox, and the struggling group reads *Nightjohn* by Gary Paulsen. During the reading, students at all levels from struggling to high achieving complete various tasks individually and in small groups related to the guiding question: *How does the historical setting affect individuals?* As an extension, the high-achieving group might investigate answers to more complex questions, which might require additional reading, such as: *How does social or political oppression lead to conflict or revolution? How do the physical and emotional results of conflict create lasting change for members of society?*
- During a research project, teachers provide a list of topic choices based on the level of difficulty of the topic. Then, teachers assign high-achieving students a list of more sophisticated topics that require more extensive or introspective research.
- In math, assign different math prompts for students to complete that are at various levels of difficulty with high achievers solving more complex problems than struggling students. Students can even create problems for one another to solve.
- Divide science students into groups based on ability levels. Instruct each group to complete one of three lab experiments that are designed to challenge each group appropriately. For students approaching grade level, scaffold the lab so it is accessible to them by providing more concrete directions with examples and adult assistance. Or, expect all students to complete the same lab but provide extension learning opportunities for high achievers, such as posing more challenging problems, creating prediction scenarios, or connecting the work to professions in the world.

Interest

When teachers take into account students' likes and dislikes, they differentiate according to *interest*. Differentiating this way is powerful in that students are more apt to be engaged in learning when it taps into what appeals to them, and there are specific instances where this type of differentiation might apply. Even if a state standard dictates that students write in a particular genre, there still can be the opportunity to consider student interest. For example, students might be expected to write a biography, but teachers can allow each student to choose his or her own subject as the basis for writing. Similarly, teachers who give students the

freedom to choose a topic for a persuasive writing assignment from a comprehensive student-generated list or a research topic from a current unit of study are thus engaging in interest-based differentiation. Selecting a novel as the basis of a literature circle or independent reading is another such example.

Learning Profile

Learning profile encompasses a broad range of areas that involve how students learn best. It most commonly includes learning style and intelligence preferences. Teachers who present content in the same way repeatedly to all students and expect the entire class to demonstrate their learning through only written means do not vary learning styles but rather expect students to work in one modality. Conversely, teachers who selectively present content to groups of students through a variety of ways-video, taped recording, reading selection, hands-on experiment, field trip—are conscious of learning profiles. There are several ways to assign activities that are appropriate for students' learning profiles too. And students can choose products in their preferred modality, such as an interview, storyboard, performance, or written composition one that best suits their learning style and demonstrates their understanding of the concepts and skills presented in a lesson or unit. Teachers know that students do not always operate in the same learning style for all discipline areas.

Rita Dunn and Ken Dunn (1987) developed a widely accepted learningstyle model that includes five classifications of learning styles as summarized in Figure 1.1.

Another commonly known learning profile is *multiple intelligences*, which was conceived by Howard Gardner (1983). He identifies eight different ways to demonstrate intellectual ability, as shown in Figure 1.2, along with suggestions for planning differentiated curriculum opportunities.

Equally noteworthy is Robert Sternberg's (1996) model of intelligence that includes three skill areas: analytical, creative, and practical. Analytical intelligence encompasses those skills most taught in school and represents linear thinking. It involves comparing and contrasting, making judgments, and defining cause-and-effect relationships. Creative thinkers are innovators who have original approaches and ideas and are good at problem solving. The practical thinkers are "street smart" and have the need to know why and how things work within a context in the greater world.

Linking Interest- and Readiness-Based Differentiation

Designing differentiated opportunities that address both interest and readiness is a challenging task, with the goal being to maximize learning.

Learning Styles

Learning Style	Description
Auditory learners	Students who are auditory learn best through listening. They prefer listening to a lecture or book rather than receiving the information from reading. They like to engage in discussions so they can talk and listen to their classmates about content, ideas, and opinions. Furthermore, they glean much information from speaking strategies, such as pitch, intonation, pacing, and gestures. To appeal to the learning style of auditory learners, teachers might suggest that these students read text aloud and use a tape recorder.
Visual learners	As the term indicates, visual learners learn best through seeing. This means they prefer to read along when a teacher is reading or will need to display the information they hear visually by taking notes or developing graphic organizers. Teachers can assist visual learners by making sure information that is presented is also shown on PowerPoint slides, transparencies, a document camera, handouts, pictures, or videos so they can better assimilate the information. When someone is presenting, it is important to these students that they are able to see the person talking so they can read facial cues and body language. Therefore, an unobstructed view to the teacher or featured speaker is important.
Tactile learners	Students who are tactile like working with their hands. They learn best through touching, so provide math manipulatives, drawing devices, science apparatus, or other materials that they can use for hands-on learning.
Kinesthetic learners	Kinesthetic learners learn best by being physically active in the learning process. They like doing and moving so they can assimilate and connect the information presented so that it is meaningful to them. These students find it difficult to sit and would rather move around the classroom.
Tactile/kinesthetic learners	Tactile/kinesthetic learners learn through moving, doing, and touching. These students want to be physically involved in a hands-on way. Since they have a need to be active and explore, they cannot sit still for long periods of time. Simulations and role-playing are appropriate strategies for these students.

FIGURE 1.1

There are several ways to connect interest and readiness in any classroom. One such example is the strategy of literature circles (Daniels, 1994) in which students are organized in groups with others who have selected the same reading text. Typically, all the students focus on the same genre (e.g., biography, autobiography, classic literature, or historical fiction), author, or a consistent theme such as alienation, coming of age, or conflict.

Multiple Intelligences

Multiple Intelligence	Summary of Each Intelligence	Differentiated Curriculum Suggestions
Verbal/ linguistic	Reading, writing, listening, speaking	 Use storytelling to Write a poem, myth, legend, short play, or news article about Lead a class discussion on Create a radio program about Invent slogans for Conduct an interview of on
Logical/ mathematical	Working with numbers and abstract patterns	 Create story problems for Translate into a formula for Create a timeline of Invent a strategy game that Make up analogies to explain
Visual/spatial	Working with images, mind mapping, visualizing, drawing	 Chart, map, cluster, or graph Create a slide show, videotape, or photo album of Design a poster, bulletin board, or mural of Create advertisements for Vary the size and shape of Color-code the process of
Musical/ rhythmic	Using rhythm, melody, patterned sound, song, rap, dance	 Give a presentation with a musical accompaniment on Sing a rap song that explains Indicate the rhythmical patterns in Explain how a piece of music is similar to Use music to enhance learning Create a musical collage to depict
Bodily/ kinesthetic	Processing information through touch, movement, dramatics	 Role-play or simulate Choreograph a dance of Invent a board or floor game of Build or construct a Devise a scavenger hunt to Design a product for
Interpersonal	Sharing, cooperating, interviewing, relating	 Conduct a meeting to Act out diverse perspectives on Intentionally use social skills to learn about

FIGURE 1.2 (Continued)

Multiple Intelligence	Summary of Each Intelligence	Differentiated Curriculum Suggestions	
		 Teach someone else about Collaboratively plan rules or procedures to Give and receive feedback on 	
Intrapersonal	Working alone, self-paced instruction, individualized projects	 Set and pursue a goal to Describe how you feel about Describe your personal values about Write a journal entry on Do a project of your choice on Self-assess your work in 	
Naturalist	Spending time outdoors, sorting, classifying, noticing patterns	 Collect and categorize data on Keep a journal of observations about Explain how a plant or animal species resembles Make a taxonomy of Specify the characteristics of Attend an outdoor field trip to 	

FIGURE 1.2

Source: The multiple intelligence summaries are from Differentiated Instructional Strategies: One Size Doesn't Fit All, 2nd edition, by G. Gregory and C. Chapman. Thousand Oaks, CA: Corwin Press, 2007, pp. 33–34. The differentiated curriculum suggestions are from Multiple Intelligences and Student Achievement: Success Stories From Six Schools by Bruce Campbell and Linda Campbell. Alexandria, VA: Association for Supervision and Curriculum Development, 1999, p. 69.

Teachers usually conduct literature circles during language arts, but they are certainly suitable for other subject areas too. For example, a social studies teacher can offer a variety of historical fiction as the basis for literature circles, or science teachers can provide a selection of biographies on various scientists.

Each student is responsible for a prescribed role that has specific expectations, and each role is rotated. Daniels (1994) offers a list of roles, although teachers tend to expand on them. For example, one student is the "Discussion Director" whose responsibility it is to generate questions and facilitate a group discussion around these questions. Another student assumes the role of "Capable Connector," sharing and facilitating a conversation about connections with characters and themes in other selections or with the real world. Eventually, students internalize the roles and are able to discuss them in depth without the aid of prescriptive jobs and their directions.

Although it is important in literature circles for students to choose a reading selection from a list of choices that interest them, it is equally

important that the text is not too advanced or effortless for each student's reading ability, but rather presents an appropriate challenge. To arrange this proper balance, teachers provide controlled choice by preparing a list of reading selections that represent all different levels of readability. Students choose three books from this list that interest them. Then, teachers review each student's three selections and purposefully assign just the right book for each pupil. A teacher can satisfy the needs of a struggling student who has selected as his first choice a book too challenging by assigning him his third choice, a book more appropriate for his reading level. In this scenario, students read selections of interest to them while the teacher assists with making sure the readability level and content of the texts are appropriately challenging. This combination of interest and readiness can yield meaningful learning opportunities.

Linking Learning Style and Readiness-Based Differentiation

Teachers can also differentiate by linking learning style and readiness. For example, students can choose a culminating project from among a teacher-generated list that addresses their learning style, for example, an interview (for more outgoing students), a short story (for those who like to write), a PowerPoint presentation (for the technology-minded student), a detailed illustration (for the artistically inclined), a musical composition (for the musician), and so forth. To include the element of readiness, teachers can allow students to choose the project type but direct the content. The content on which the project is based could be the result of reading text at different levels of challenge (e.g., articles, text-book chapters, picture books), focusing the project on topics that span levels of difficulty, or analyzing different laboratory outcomes and basing the project on the findings.

DIFFERENTIATED STRATEGY SUGGESTIONS

Figure 1.3 includes several strategies along with suggestions for differentiating instruction. A brief overview and example of how each strategy can be used is included along with identification of content, process, and/or product and whether it applies to readiness, interest, or learning profile. More thorough applications and explanations of some strategies are located throughout this book. With the pervasive nature of this topic, however, one book cannot possibly provide all the necessary information about differentiation. Therefore, refer to the References and Further Reading section for a list of books that serve to improve teachers' awareness, understanding, and implementation of differentiation.

Differentiating Instruction

What Is the Strategy?	How Do I Use It?
Various texts, resources, supplemental materials	Content for Readiness: Teachers can make available a wide array of reading materials at various levels of readability, for example, textbook excerpts from different grade-level texts (and not just the text from the current grade taught), supplemental materials from publishers, various articles, pictures books, and so forth. Teachers assign different groups or individuals appropriately challenging text based on students' reading abilities.
	Content for Interest: In a readiness-based situation, students are assigned reading materials that are appropriately challenging. In an interest-based model, students choose the texts, resources, and materials that involve topics of interest to them.
	Process for Readiness: Similar to providing a wide array of reading material for students to acquire content knowledge, teachers can make available a multitude of resource material at varying levels of difficulty so students can process this content. High-achieving students can read materials that are more complex and advanced. Struggling readers will be assigned less complicated material. Additionally, teachers can employ other differentiated strategies for these students, such as reading partners and using classmates' notes to guide or supplement reading.
	Process for Learning Profile: Teachers consider students' learning styles when providing various kinds of resource materials for students to assimilate content, for example, interviews, demonstrations, computer software, videotapes, or reading excerpts.
Organizing ideas through graphic organizers (or other methods)	Content or Process for Readiness: As students read various-leveled texts or materials or listen to a lecture, teachers may assign different graphic organizers based on readiness with some more challenging and that ask for more complex understanding than others. Although the organizers vary in design and complexity, all students are expected to acquire conceptual understanding of overarching themes. Teachers might also copy and share completed organizers from students who could benefit from classmates' notes. Teachers can also issue different organizers to students to use as a prewriting tool. These brainstorming sheets are modified or more complex, and each mirrors the differentiated writing rubrics students address.
	Content or Process for Learning Profile: Some students organize information through outlining to better understand and assimilate the information; some students prefer writing a brief summary. Teachers who allow students to choose an organizational method that best suits individual learning styles are assisting students in grasping the information. Besides outlining and summarizing, students might create or select a web, chart, diagram, storyboard, and so forth to organize thoughts in a way suitable for individual learning characteristics. There are many Web sites that feature graphic organizers:
	http://www.eduplace.com/graphicorganizer/ http://www.eduplace.com/graphicorganizer/
	http://www.edhelper.com/teachers/graphic_organizers.htm http://www.nyo.com/ocnowletter/graphicorganizers/
	 http://www.nvo.com/ecnewletter/graphicorganizers/ http://www.region15.org/curriculum/graphicorg.html

What Is the Strategy?	How Do I Use It?
Reading buddies or partners/ reciprocal teaching (Palincsar, 1985, 1986)	Content for Readiness: Pair students to read material to supplement concepts presented. Students read material silently and then aloud to each other and discuss the material presented. To differentiate by readiness, teachers pair students of comparable reading abilities. Teachers may also choose to employ the reciprocal teaching strategy so partners have a prescribed method of discussing and understanding materials read through predicting, questioning, summarizing, and clarifying, which represent the hallmark of the Reciprocal Teaching strategy.
Varied computer programs	Content for Readiness: Just as teachers assign students designated material to read based on students' levels of reading and comprehension, so can teachers assign students to work on a software program geared to a certain level of difficulty matched to each learner.
Tape- recorded materials	Content for Readiness/Learning Profile: Some students are better able to assimilate and understand material if they hear it tape-recorded. Allow those students who are struggling readers or those who are highly auditory to listen to tape-recorded material in lieu of reading an excerpt, to follow along with a reading excerpt, or to supplement the reading with an additional tape-recorded piece. Here are some options:
	 Kurzweil 3000 (www.kurzweiledu.com) is a program designed to help low-performing students and those with some learning disabilities read and write and be independent learners. Students can scan in a teacher's handout or an article, and the Kurzweil will read the article out loud. There are options to read slower or faster, to take notes, and to highlight text.
	 Microsoft Word has a tape-recording feature that can help students read. Teachers can also tape-record a lecture and allow students to listen to the lecture again and read a copy of accompanying lecture notes.
	If a story is not currently available on tape or CD, invite students who read with strong inflection and modulation to tape-record stories to share with students who could benefit from listening. Students can also download novels onto their iPods from iTunes, but this source is limited.
	 Recording for the Blind & Dyslexic (RFB&D), a national nonprofit and volunteer organization, has produced accessible educational materials for students with disabilities (e.g., visual impairment or dyslexia) that make reading standard print difficult or impossible. Their digitally recorded textbooks and novels are available in every subject area and grade level from kindergarten through graduate studies. Those interested can become members, and it operates similarly to a lending library (www.rfbd.org).
	 LibriVox (www.librivox.org) provides free audiobooks from the public domain. Volunteers record chapters of books in the public domain and release the audio files back onto the Net. Their catalog includes more than 1,500 works from which to choose.
Videotapes	Content for Readiness/Learning Profile: Assign students to watch videotapes to supplement an explanation or a lecture.

What Is the Strategy?	How Do I Use It?
Visual, auditory, tactile, kinesthetic modes	Content for Learning Profile: To maximize learning opportunities for all students, teachers can present content that addresses their varied learning styles. For example, teachers can accompany lectures (auditory) by showing graphic organizers or notes (visual) on an overhead, a document camera, or a PowerPoint slide. Or teachers can set up math stations with manipulatives (tactile) or assign students to act out a part of a play (kinesthetic).
Jigsaw (Aronson, 1978; Clarke, 1994; Clarke, Widerman, & Eadie, 1990; Slavin, 1994)	Content and Process for Readiness/Interest: The jigsaw strategy involves groups of students reading different material based on readiness or their interests. Students then teach each other what they have learned. Group configuration #1: Students are arranged in initial groups and assigned or choose a subtopic of a greater topic of study. Students read, discuss, and clarify information about the subtopic to become experts. Group configuration #2: Students form a different group comprised of one individual from the first group, who have become experts on a subtopic. Each student's job is to teach others in his or her group about what she or he has learned from the first group. Students may ask questions for clarification and take notes on the subtopic a classmate has explained. At the end of the exercise, students will have learned information about several subtopics. Extension: Teachers extend the jigsaw with additional activities to further students' understanding of the reading, plus they can issue an assessment.
Curriculum compacting (Reis, Burns, & Renzulli, 1992)	Content, Process, or Product for Readiness/Interest/Learning Profile: According to Reis, Burns, and Renzulli (1992), "the term curriculum compacting refers to a process in which a teacher preassesses above-average-ability students' skills or knowledge about content prior to instruction and uses this information to modify curriculum." This strategy is used for students who can master information at a faster pace. Although the authors present eight specific steps, there are three basic phases to curriculum compacting: (1) identify learning objectives or standards of the curriculum to be taught; (2) preassess students on what they know, understand, and are able to do in a given unit; and (3) plan and provide curriculum enrichment for students who have mastered learning objectives based on preassessment results. Although readiness drives curriculum compacting, teachers should collaborate with students to consider interest and learning style preferences as well.
Learning contracts (Tomlinson, 2001; Winebrenner, 2001)	Content, Process, or Product for Readiness/Interest/Learning Profile: A learning contract is an agreement between the teacher and student about independent work that the student will accomplish with teacher guidance. It can be part of the curriculum compacting plan or not. The contract can take many forms and can be used for individuals or groups of students. For example, a student who has shown mastery of certain skills and concepts from a preassessment can work on a learning contract while the class works on teacher-directed learning. During some lessons, these students work independently on the contract, but other times they join the class for whole-group activities or lessons with content matter they need to learn. Students with learning contracts must abide by working conditions and rules set forth by the teacher and agreed to by the student(s), such as working quietly, not disturbing the teacher when she or he is teaching, following activity directions, maintaining a log of work accomplished, abiding by time lines, etc. Criteria for performance (or scoring guide) are necessary to focus students as they work on projects.

What Is the Strategy?	How Do I Use It?
Learning centers	Process for Readiness: Teachers can teach, extend, and reinforce the skills and concepts of a particular unit through learning centers. In this strategy, teachers create several meaningful activities and organize/arrange the materials and directions of these activities throughout the classroom—on the floor, at a back table, on a cluster of desks pulled together. Students are then directed to certain activities—or learning centers—to acquire readiness-based competencies they need to learn. For example, teachers will dictate that some students visit Centers #1 and #2, and go to other centers only if time allows. Other students are designated to visit Centers #3 and #4. Students show evidence of the work completed at each center through a visible recordkeeping device set up in the classroom or by housing work in a folder.
Interest centers	Process for Interest: Similar to learning centers, interest centers are set up throughout the classroom or housed in folders or boxes that can be worked on at students' desks. Interest centers are meant to allow students to explore a topic in further depth based on their interests. This interest-based motivation is what differentiates interest centers from learning centers, which focus more on mastery. The topics for interest centers can be related to a current unit of study or another topic outside the unit.
Games to practice mastery of information and skills	Process for Readiness: Teachers can arrange for students to play a variety of games to review and master skills and information. Teachers or students can prepare game cards by level of difficulty and assign students to answer selected questions. Teachers can make game cards based on popular games (e.g., Jeopardy, Bingo) or make their own generic game board and create clues based on unit content. Clue and answer cards can be color-coded based on difficulty level. Students can act out differentiated concepts or vocabulary words/terms for others to guess. Instead of creating their own, teachers can find various games at conferences where vendors sell their wares, at teacher supply houses, or by searching online; or they can even alter popular games to meet the needs of students.
Anchor activities	Process for Readiness/Interest: Because students work at different paces, in a differentiated classroom students are given a choice of activities (called anchor activities) to work on independently when they finish work early. As students work on these activities that extend the concepts and skills of a lesson or unit, teachers have the opportunity to pull individuals or small groups of students for assessment or further instruction.
Mini- workshops	Process for Readiness: To teach or reteach a skill, concept, or topic, teachers can conduct mini-workshops and invite selected students who are in need of honing targeted learning to participate. Through pre- and ongoing assessments, teachers can detect which students are in need of additional instruction. Teachers would then invite those students to attend a mini-workshop on this skill, topic, or concept as an adjunct to whole-group instruction. Other names for mini-workshops are (1) small-group instruction or (2) flexible-skills grouping if the work of the group focuses on skill building only. Teachers can conduct mini-workshops for a small group while others are working on anchor activities.

What Is the Strategy?	How Do I Use It?
Homework assignments	Process for Readiness: Teachers assign homework at varying difficulty levels to students based on readiness. Differentiating homework assignments serves to further elucidate and challenge students' understanding of a given concept, skill, or topic. For example, teachers can assign different levels of writing or math prompts; in language arts, teachers can assign short stories at different levels of complexity; in science, teachers can offer different challenge levels of science articles for students to read and summarize.
Multiple levels of questioning (California Department of Education, 1994)	Process for Readiness: Questioning is an effective strategy used in classrooms, but in a differentiated classroom specific questions can be purposefully devised to challenge groups of students at varying levels of difficulty and complexity. All questions, though, emanate from the overarching concepts the class is studying. It would behoove teachers to explore the research of Dr. Sandra Kaplan from Southern California's Rossier School of Education when devising differentiated questions. Drawing from her work, key vocabulary is used as the impetus to enrich content knowledge through depth within a discipline and complexity across disciplines. Key words and phrases to foster questioning include patterns, rules, trends, vocabulary, ethics, traits, and purposes.
Exit cards	Process for Readiness: Teachers prepare prompts that they issue to students during the last 3 to 5 minutes of class. The prompts relate to the day's lesson, and students respond to them as a way for teachers to check for understanding and progress and for students to reflect upon key learning. Students can respond on index cards or scraps of paper. Students put their names on their exit cards and the teacher collects them. Afterwards, teachers sort the cards into three piles according to students' understanding: (1) students who are on target and clearly understand what is taught, (2) students who kind of "get it," and (3) students who are clearly floundering and need additional support. With this information, teachers can differentiate instruction by modifying or extending the subsequent lessons. Exit cards can be used on an ongoing basis as part of a teacher's routine, or they can be used on a periodic basis as a teacher deems necessary. Some teachers call exit cards "tickets to leave" since the students hand teachers their cards before leaving the classroom.
Literature circles (Daniels, 1994)	Process for Readiness/Interest: Teachers present a collection of books at varying reading levels and topics of interest to students. In groups, students read the same book and are each assigned a specific role that rotates among students. The roles are intended to illuminate the reading by providing a structured way to delve into the complexities of a work of literature. Once students are well versed in the roles, the structured aspect of each job is suspended so spontaneity will emerge. This same model can be used with nonfiction text, as well.
Think-Pair- Share (Lyman, 1981, 1992)	Process for Readiness/Interest: To facilitate answering questions and factoring in "wait time," teachers can conduct the Think-Pair-Share (T-P-S) strategy to encourage student participation. To use T-P-S: (1) Teachers pose a thoughtful question, (2) students individually think of or write a response, (3) students pair with another and discuss possible answers, and (4) pairs then share their

What Is the Strategy?	How Do I Use It?
	responses with the whole group and continue with discussion. This strategy can be differentiated in many ways, such as pairing students by readiness or by posing an interest-based question for different groups.
Varied journal prompts	Process for Readiness/Interest: Teachers can create a list of prompts to issue throughout a unit of study. Students can respond to those prompts of interest or teachers can assign groups of students specific prompts based on level of complexity. To apply to both interest and readiness, teachers can provide a list of interest-based prompt choices among a span of ability levels.
Group work preferences	Process or Product for Learning Profile: Some students work best alone, while others excel within a group. Teachers who allow students to choose to work independently, in pairs, or in small groups on activities or products are differentiating according to students' learning profiles.
WebQuest (Kelly, 2000)	Process or Product for Readiness/Interest: A WebQuest is a short- or long-term/individual or small-group project. The model was developed by Bernie Dodge at San Diego State University in February 1995 with early input from SDSU/Pacific Bell Fellow Tom March, the Educational Technology staff at San Diego Unified School District, and waves of participants each summer at the Teach the Teachers Consortium. Its focus is inquiry oriented as students research information on teacher preselected Web sites to investigate a research question. Students read and analyze the resources from the Web sites and produce a product showing evidence of understanding. The nature of the activity or project and the associated Web sites can be differentiated by either readiness or interest level or both.
Independent study	Process or Product for Interest/Readiness: In an independent study, students discuss with teachers a topic that forms the basis for a project. The focus can be problem based or an exploration of a topic that is of interest to the student. Both teacher and student collaborate to determine the steps in the process to product completion, time line of each step, the form the product will take, and criteria for success. Independent study is also based on readiness as some students may not be prepared to assume the responsibility of independence in completing the product. Students can work independently, in pairs, or in small groups.
Complex instruction (Cohen, 1994)	Process or Product for Learning Profile: Teachers emphasize each student's talents and contributions in a cooperative group by creating and assigning specific challenging and complex learning tasks geared to each student's intellectual strength. A significant goal is for students to appreciate each other's intellectual strengths as they work collaboratively to produce a meaningful product. For example, students work together on creating a fictitious island. Tasks within the project include creating a brochure, drawing a detailed map with a legend, orating the political views of the island, and so on.
RAFT (Santa, 1988)	Process or Product for Readiness/Interest: RAFT is an acronym for role, audience, format, and topic. Students work on an assignment that takes into account four components: (I) Role: From whose point of view is the piece written? What role should the student assume? (2) Audience: Who is the audience? Who will see, read,

What Is the Strategy?	How Do I Use It?			
	or use this? (3) Format: What is the more effective and meaningful product format to show understanding? (4) Topic: What is the topic focus for the product or assignment? Teachers can differentiate for readiness by making more challenging RAFT choices than others or by interest so students can choose the RAFT that most appeals to them. Examples: **American Revolution**			
	Role	Audience	Format	Торіс
	George Washington	Mother of wounded soldier	Personal letter	How she feels
	King George	Sons of Liberty	Document	Why independence is a bad idea
	Patrick Henry	Tories or Neutralists	Propaganda	Why fighting for independence is essential
		/	Лопеу	
	Role	Audience	Format	Торіс
	Store owner	Customers	Advertisement	All items 10% or 15% off
	Baker	Customers	Window sign	Advertising 35% off on some baked goods and 25% off on others
	Restaurant owner	Dining customers who are senior citizens	Discounted menu	Entrees 20% off
Group investigation (Sharon & Sharon, 1992)	Process or Product for Interest/Learning Profile: In groups, students select and explore specific subtopics of interest within a general problem area. Students plan and execute investigation relying on multiple sources as they gather, organize, and analyze the information. Groups present their information in a variety of forms that are appropriate for learning styles; classmates and the teacher evaluate the presentations			
Tiered activities, labs, products (Tomlinson, 1999)	Process or Product for Readiness: Teachers create various interesting and thought-provoking versions of an activity or culminating product in a range of difficulty levels. Students are then assigned activities or products at an appropriate level of challenge. Even though they vary in the level of complexity, all tiered work focuses on what all students should know, understand, and be able to do. Students can work in pairs or small groups with learners of similar readiness profiles or work independently. If students work in groups, the number of each group will not necessarily be equal given the ability levels of students in a given classroom. For example, there might be one group of four high achievers and			

What Is the Strategy?	How Do I Use It?
	two of struggling students. The rest of the groups are comprised of at-grade-level students. Commonly, activities or products are tiered so that there are three varying levels of complexity, but there can also be two or five levels. <i>Example</i> : In a poetry unit, one particular assignment can be tiered in which advanced students identify and analyze a poet's use of metaphor, symbolism, and imagery in a sophisticated and complex published poem; at grade level, students identify and analyze the use of metaphor in a less complex poem; struggling learners find two similes in a poem at an appropriate level for them and discuss in a teacher-led group the purpose of the similes used in the piece.
Tic-tac-toe (variations by Winebrenner, 2001; and Tomlinson, 2001)	Process or Product for Readiness/Learning Profile: Teachers create a variety of learning-style product choices (e.g., produce a skit, create a song, write a short story or poem) and place them in a tic-tac-toe grid. Students choose which assignments or products they want to complete so that they win a game of tic-tac-toe. Specifically, students choose three assignments that are in a row horizontally, vertically, or diagonally. Teachers can intentionally design the board to apply to readiness by fashioning tasks in appropriate rows based on level of difficulty. Or teachers can create three different tic-tac-toe boards each geared to an ability level. In this way, the tic-tac-toe boards serve as a tiered product for both learning style and readiness.
Portfolios	Product for Interest: Teachers can assign students to collect a sampling of their best work in a portfolio. To guide collection, teachers can make a list of the contents of the portfolios and allow for student choice. Within the portfolio, students write a self-reflection answering such questions as: Which piece is your favorite and why? Which piece might you revise? Which piece shows your best work? Which piece was the most challenging one and why?
Grade-level and individual student learning rubrics	Product for Readiness: Rubrics, or scoring guides, delineate how students will be assessed or evaluated for a given product. It guides both students and teachers in identifying quality work. Sometimes teachers find or create a rubric that represents the key criteria for assessment. They can create rubrics for the different levels of learners in a classroom being mindful of satisfying standards. Other times, teachers and students collaborate to create a rubric that is appropriately challenging to use as a guide for goal-setting when working on a project. The columns represent performance factors (e.g., emergent or approaching grade level, capable, developing, advanced or numbered 1 to 4, 5, or 6). The rows indicate the criteria being assessed.
I-Search (Joyce & Tallman, 1997; Macrorie, 1988) or research project	Product for Interest: In an I-Search paper, students actively engage in the research process by exploring answers to interest-based questions that they generate. The research involves four steps from formulating the research question to representing knowledge gained. For a traditional research paper, students can choose a topic of interest within a greater unit of study.

What Is the Strategy?	How Do I Use It?
Community mentorships to guide product	Product for Interest: Teachers can assist students in arranging mentorships with employees in the community to complete a product. For example, students who are working on independent study or an I-Search paper might choose a topic related to the environment. To research information for this product, students can spend time working with environmentalists to better understand what qualifications are required in the job, what problems these employees face, how to participate in an environmental study, and so forth.
Community service projects	Product for Interest: Students can determine a need in the community and create a service-learning project that reaches out to the community. This appeals to many students because it allows them to do real-world work in an area of interest. For example, students could start a recycling program at a school, organize a tutoring program to benefit struggling students, visit a senior center regularly and read to the seniors or play games with them, or coach younger children in a sport at a local recreation center that is in need of such a program.
Product format choices	Product for Readiness/Interest/Learning Profile: Teachers can allow students to show their understanding of what they have learned by choosing a product to complete from a teacher- or student-generated list of choices. Offering several product choices is important when considering each student's learning profile. For example, teachers can list a variety of choices such as interview, short story, project cube, game board, song, PowerPoint presentation, and so on. To design products for readiness and interest, provide a wide array of topic choices that are more challenging and complex for advanced learners and less so for struggling learners. Ensure that all choices are interesting and thoughtful and also allow students to show evidence of conceptual and "big idea" learning. A criterion (rubric) for performance is necessary to guide students as they work on products.
Modify performance assessments	Product for Readiness/Learning style: Teachers can assist students in showing what they have learned through modifications of assessments and teacher support. For example, students who have difficulty showing what they know through a written essay that a teacher issues can be asked to tape-record their responses to the essay questions instead. Or students who have fine-motor issues can keyboard their responses. Other ways to support success include (1) extending the due date of products, (2) providing checkpoints along the way with a calendar for students to track and complete work in chunks, and/or (3) submitting sections of a product and assessing them in pieces.

FIGURE 1.3

SUMMARY

Differentiation does not mean that every single lesson or unit includes a differentiated content, process, and product for each and every student's interest, readiness level, and learning profile. As Carol Tomlinson (1999) states in her book The Differentiated Classroom: Responding to the Needs of All Learners: "Teachers may adapt one or more of the curricular elements (content, process, product) based on one or more of the student characteristics (readiness, interest, learning profile) at any point in a lesson or unit."

Teachers will instruct students as a whole class in many points throughout the unit and then find it in alignment with the goals of the unit to divide students into differentiated groups for certain activities. Essentially, differentiation is woven in and out of a unit as appropriate; there is no prescribed way that each lesson or unit is to be conducted every time. And it certainly does not mean giving more work to the high achievers and drill practice to lower-level learners. The way and extent to which teachers differentiate depend on the learning goals and the students. But most importantly, it depends on a teacher's willingness to do what is best in the name of education to service students in the more effective way for growth and enlightenment.

Differentiation can be achieved in many different ways. Two teachers who conduct the same lesson or unit can each effectively employ differentiation, although using different techniques, as long as they are clear-sighted about the goals of a given lesson or unit. When teachers are guided by standards and have a firm understanding of the end in mind, they can devise thoughtful curriculum that accounts for the ability levels, learning styles, and interests of their student-clients. This chapter lists a variety of differentiation opportunities (see recap in Figure 1.4). In the following chapters, teachers will receive specific examples and additional support to make differentiation a reality in their classrooms on a consistent basis.

Differentiating Instruction: Recap

Strategy	Readiness	Interest	Learning Profile
CONTENT	,		
Various texts, resources, supplemental materials	X	Х	
Organizing ideas through graphic organizers	X		×
Reading buddies or partner/reciprocal teaching	Х		
Varied computer programs	Х		
Tape-recorded materials	Х		×
Videotapes	Х		×
Visual, auditory, tactile, kinesthetic modes			×
Jigsaw	X	×	
Curriculum compacting	X	Х	Х
Learning contracts	X	Х	Х

FIGURE 1.4 (Continued)

Strategy	Readiness	Interest	Learning Profile
PROCESS	1		
Various texts, resources, supplemental materials	Х		Х
Organizing ideas through graphic organizers (or other methods)	X		Х
Jigsaw	Х	Х	
Curriculum compacting	X	Х	Х
Learning contracts	Х	Х	Х
Learning centers	X		
Interest centers		Х	
Games to practice mastery of information and skills	Х		
Anchor activities	X	×	
Mini-workshops	Х		
Homework assignments	Х		
Multiple levels of questioning	Х		
Exit cards	Х		
Literature circles	Х	×	
Think-Pair-Share	Х	Х	
Varied journal prompts	Х	Х	
Group work preferences			Х
WebQuests	Х	Х	
Independent study	Х	Х	
Complex instruction			Х
RAFT	X	Х	
Group investigation		Х	Х
Tiered activities, labs, products	X		
Tic-tac-toe	X		×

FIGURE 1.4 (Continued)

Strategy	Readiness	Interest	Learning Profile
PRODUCT	1		
Curriculum compacting	Х	Х	Х
Learning contracts	Х	×	×
Group work preferences			×
WebQuests	X	×	
Independent study	Х	×	
Complex instruction			×
RAFT	X	×	
Group investigation		×	×
Tiered activities, labs, products	X		
Tic-tac-toe	X		×
Portfolios		×	
Grade-level and individual student learning rubrics	X		
I-Search or research project		×	
Community mentorships		Х	
Community service projects		Х	
Product format choices	Х	Х	Х
Modify performance assessments	Х		×

FIGURE 1.4