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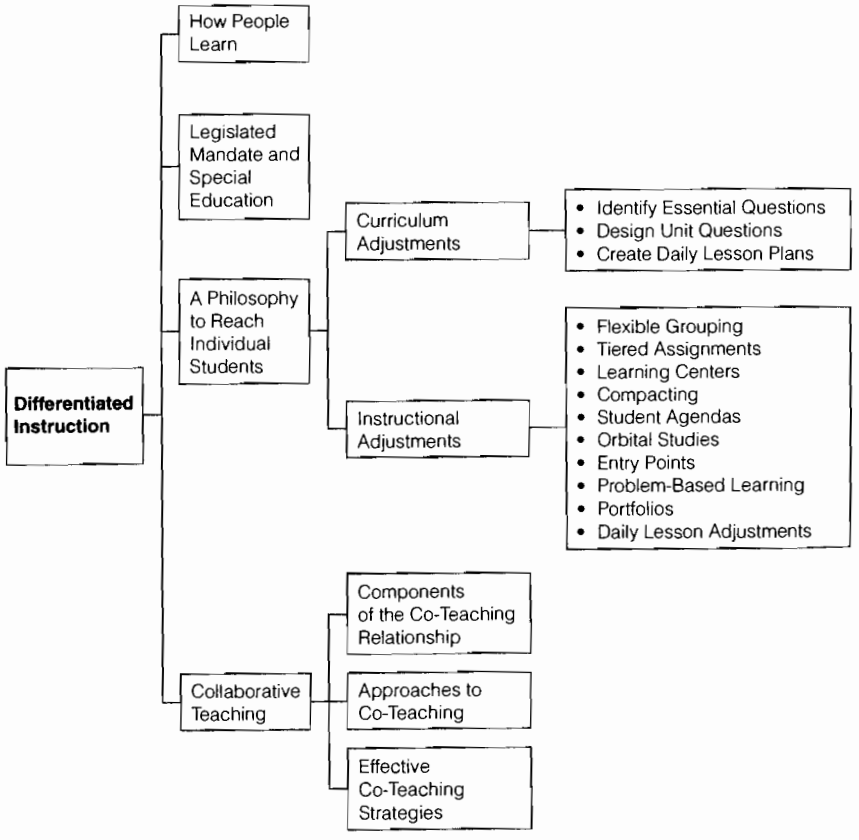
9

Differentiated Instruction: Meeting Special Needs of Students



In a comic strip peek into a typical American living room, a young boy comforts his agitated father who is staring at a report card. "Don't worry about my being at the bottom of the class, Dad," says the boy. "They teach the same at both ends." This one-size-fits-all treatment of students characterizes far too many classrooms and schools in our country. Students are different from one another; they differ in size, age, interests, ability, background, and experience. Yet, as Gregory and Chapman (2002) put it:

> *. . . for years we have planned "The Lesson" and taught it to all, knowing that we were boring some and losing others because they were not ready for that learning. Still we expect students to adjust to the learning when the learning should really be adjusted to the learner. (p. x)*

Over one hundred years ago, the one-room schoolhouse was the teacher's domain. Some students came from homes with no books while others came already reading. These same children of all ages working in one room came with different reasons for learning. Each student had his or her own interests, motivations, background, parental support, and so forth. Except for the broad age differences, today's teacher finds the same challenges. We believe that the past century has provided us with approaches for addressing these individual differences and needs. We now know enough about modifications in the curriculum, in instruction, and in evaluation, that today's teacher should be prepared to meet the needs of individual learners in a classroom with the same spectrum of talent, strengths, interests, and weaknesses present in the one-room schoolhouse over one hundred years ago.

OVERVIEW

One decision that many new teachers find especially challenging has to do with differentiated instruction. When questions like "How can I challenge this obviously gifted student?" and "What can I do with these two students on IEPs in my regular education classroom?" are asked without a solid understanding of how to modify the curriculum and adapt instruction, the teacher may resort to "teaching the same at both ends." Unless the teacher is aware of the many resources available to help in differentiating instruction, decisions about *what* to teach and *how* to do it may become nagging doubts until, finally, he or she may give in to the "one-size-fits-all" mentality of many classrooms.

The ideas and suggestions found in previous chapters certainly provide a solid basis for teaching in the secondary classroom. The aim of this chapter is to help new and experienced teachers construct a framework for decision making about differentiated instruction. Background information about laws regulating how schools must serve students with special needs will be provided. Current theory and research about differentiated instruction will be reviewed. Finally, the chapter will address both ends of the continuum of student needs, from the student with specific academic weaknesses to the gifted student. Practical suggestions for modifying and adapting the curriculum, instruction, and evaluation will be provided as well.

SCENARIO

Bill Anders, a high school English teacher, was entering his second year of teaching. In the previous year, his schedule of classes included two ninth-grade general (i.e., low-track) and three eleventh-grade college-prep English classes. He had seen definite academic and behavioral differences between the two groups of students. The freshmen were, well, freshmen. On any given day, they demonstrated the capacity to behave like children and, in the same class period, like young adults. Because this general-level course tended to attract lower-tracked students, the majority of the students shared similar reading and writing abilities. In one of Bill's two ninth-grade classes, two students definitely stood out. They not only had strong reading comprehension skills, but also wrote at higher levels. Their paragraphs were developed with very few errors in mechanics. Bill could always count on these two students to set the standard for an A in each assignment. He enjoyed their interest in the class novels and felt neglectful when he had to spend much of their class time going over plot, setting, character development, and the like with the rest of his struggling readers. On some days, Bill let these two "bright stars" go to the library during book discussions so they could use the computers or read other material. At the end of the year, Bill recommended to the students and their parents that they enroll in college-prep English classes during their sophomore year.

Bill's eleventh-grade course was another story altogether. In one of the three classes, he had four students on IEPs (individual education plans) and in another class he had three students on IEPs. Bill had learned about IEPs in his teaching-preparation courses so he knew to consult with the school support staff (counselors, psychologists, and special education teachers). For five of the seven students, Bill felt confident that the assignments he sent to the Learning Disorder (LD) tutor helped meet the goals in these students' IEPs. Each of these five students met daily with a tutor for an entire class period. Once a week, the tutor would meet with Bill during his planning period to go over each student's progress and to put together a tutorial folder of review work and remedial activities. Bill also made sure the tutor had copies of the class literature

anthology, the grammar book, the vocabulary workbook, and all the novels his students were required to read.

Bill did not feel so secure about the support he provided to the other two juniors on IEPs. They did not work with a tutor and Bill often felt frustrated in trying to meet their academic needs. Both students struggled with reading rate and comprehension; their writing was poor in both mechanics and content. Bill and the two students tried to meet at various times throughout the year, at lunch and before and after school, but quite often the meetings never took place. Either the students would have other commitments such as athletic practices or jobs, or Bill had meetings to attend. By the end of the school year, each of the students barely passed the course. Bill knew full well that, too often, he had failed to meet their needs.

This new school year would, hopefully, be different for Bill and his next group of students. Bill's course load had changed slightly. This year he would have one general ninth-grade, two college-prep tenth-grade, and two college-prep eleventh-grade English classes. Two significant changes that had occurred gave Bill hope about meeting the needs of all his students, regardless of abilities. First, the high school Special Education Department had created collaborative-teaching roles for inclusive classrooms. Instead of relying solely on tutoring, students on IEPs could work with special education teachers within the regular education classroom. Bill felt that the addition of daily support would also help the students who were not on IEPs. The other change this year was that, over the summer, Bill had attended a workshop on differentiated instruction at a local university. That one-week workshop had been well worth the time and the money because Bill learned about being an effective team-teaching member. A panel of co-teachers—that is, special education and regular education teachers who had worked together in the same classrooms—came in one morning of the workshop and offered practical suggestions about inclusion. For example, Bill learned five different ways that he and his co-teacher could present a lesson, depending on the content and the students. Bill also learned some ways to modify the language arts curriculum to meet the needs of his special education students.

A pleasant surprise in the workshop was the information on enriching the learning of gifted students in the regular classroom. Before the workshop, Bill had assumed that gifted students would be found only in the advanced-track of classes. Once he learned that students can be gifted in many different ways, Bill reflected on the students he had met in his student teaching and in his first year on the job who were, in fact, gifted and talented and, unfortunately, bored and unchallenged in his classroom. The workshop provided Bill with some practical strategies for challenging gifted students and enriching their learning. Bill spent part of the summer after the workshop designing independent study projects to be used in three of the units in his ninth-grade class and four of the units in his eleventh-grade class. He also created some

learning contract forms that he would later tailor to individual students in all of his classes. Bill was particularly excited about something called "curriculum compacting," which involved pretesting fundamental skills and designing enriching alternative activities.

Bill knows that he has much to learn about differentiated instruction. He also knows that, because he is discovering new resources and supports, the one size he had used before to plan, to teach, and to evaluate, would expand someday into a more individualized, custom-made fit.

■ RESEARCH AND THEORETICAL BASE

At the very beginning of this book, *pedagogy* was defined in Chapter 1 as a "rational approach to teaching" that should undergird a teacher's decision making. This rational approach to teaching rests on a foundation of scholarly research that informs educators as they go about the work of teaching. We know, for example, in-depth details about how people learn. The contributions of educational psychologists and cognitive psychologists abound. Much of this research has led to the current emphasis on constructivist beliefs and practices. Let us briefly examine some key findings:

- Learners construct their own meaning from the inside rather than processing it and internalizing it as it is presented to them by teachers (Dewey, 1938; Piaget, 1952; and Vygotsky, 1962).
- Learning styles in students consist of differences in cognitive styles, receptive styles, affective styles, attention styles, and physiological styles (Keefe, 1987).
- Understanding is multifaceted. To reduce understanding of a concept, a skill, and the like, renders learning to an incomplete and immature state (Wiggins and McTighe, 1998).
- Human learning is a social activity involving cooperation, feedback, and input (Dewey, 1938; Vygotsky, 1962).
- Lesson components (e.g., lecture content, activities, assignments, etc.) that are too difficult for a student lead to frustration and limit the amount and the level of learning that takes place (Howard, 1994; Vygotsky, 1962, in Tomlinson, 2001).
- Failure to learn is directly linked to giving students the wrong work to do (Schlechty, 2001).
- Learning is positively impacted by climate. An enriched learning climate is not created "only by materials but also by the complexity and variety of tasks and challenges and feedback" (Caine and Caine, 1997; Jensen, 1998, in Gregory and Chapman, 2002, p. 15).
- Intelligence is not a single thing; it is multifaceted (Sternberg, Thorndike, and Gardner in Tomlinson, 1999).

- Varied and vigorous learning changes the physiology of the brain (Caine and Caine, 1997; Sylvester, 1995, in Tomlinson, 1999).
- The human brain resists meaninglessness and seeks meaningful patterns. Meaning is highlighted by teachers who connect old learning to new learning and who design lessons with high interest and relevance (Tomlinson, 1999).
- Moderate challenges stimulate the human brain while simple tasks suppress thinking and problem solving (Howard, 1994; Vygotsky, 1962).

To a degree, the classroom teacher can choose how to respond to this research about how humans learn. Unfortunately, many teachers have responded by ignoring these findings and, instead, opt to plow ahead with the one-size-fits-all approach to teaching. The classroom teacher does *not* have complete freedom of choice, however, when it comes to teaching students with special needs. According to Dwyer (in Telzrow and Tankersley, 2000), currently in our public schools, "Approximately 6 million children in the United States receive special education and related services each year. Their entitlement to a free appropriate public education (FAPE) was the result of parent efforts and court decisions that moved Congress to action and in 1975 culminated in P.L. 94-142, subsequently renamed the Individuals with Disabilities Education Act (IDEA)" (p. xi). Since 1975, this legislation has been amended and expanded a number of times. One outcome of this legislation that affects nearly all teachers has to do with a process called *inclusive education.* IDEA requires that children with identified special education and related-services needs "be placed in the general educational environment unless the school or institution can demonstrate that the education of the individual student with a disability cannot" be satisfactorily achieved (Fisher, Sax, and Pumpian, 1999, p. 10). This principle is known as the "least restrictive environment" (LRE) for special education students. The implications for the regular (or general) education teacher vary according to student needs. Students who will benefit from learning in a regular education classroom tend to receive services either through an *inclusive classroom model* or through a collaboration between the regular education teacher and special education providers such as a special education teacher, a tutor, a speech therapist, and a work/study coordinator.

Collaborative teaching in an inclusive classroom requires instructional approaches that many new teachers have never learned or experienced. Lombardo (2000) contends that inclusive classrooms often "shock teachers who historically have worked solo, keeping tabs on their own students and controlling the flow of the lessons without any outside help" (p. 1). Some teachers may find themselves working in an *inclusive school setting* in which co-teaching with a special education teacher is not used as much as are curriculum and instructional adaptations. These adaptations include approaches such as modifying length of assignments, prioritizing lesson objectives, and offering assistance on tests. Other adaptations will be described in detail in the following section, Application to Practice. Practical suggestions for making collaborative teaching work in an inclusive classroom will also be covered.

Reaching and teaching all learners, as stated earlier, is both an option and a legislated mandate. Classroom teachers are compelled by federal law to meet the

needs of students with specifically identified special needs. But what about those other millions of students who do not have IEPs? What about the student who struggles with his reading? What about the learner who is bored in her biology class because she has already read much of the material on her own? No laws compel the teacher to alter instruction or modify the curriculum in most of these cases. What does force us to change how and what we teach is a sense of professional responsibility to teach each of our students. The term in use today that applies to teachers' attempts at meeting the diverse needs of their students is *differentiated instruction.*

According to Gregory and Chapman (2002), differentiated instruction "is a philosophy that enables teachers to plan strategically in order to reach the needs of the diverse learners in classrooms today" (p. x). Heacox (2002) claims that differentiated instruction is "not a new trend. It is based on best practices in education. It puts students at the center of teaching and learning. It lets their learning needs direct your instructional planning" (p. 1). The reader should be reminded of the discussion in Chapter 4 about constructivism or teaching for understanding or active learning. Differentiated instruction is a constructivist approach put to use with diverse learners.

This idea of putting students "at the center of teaching and learning" is echoed in Tomlinson's (2001) research. "At its most basic level," she writes, "differentiating instruction means 'shaking up' what goes on in the classroom so that students have multiple options for taking in information, making sense of ideas, and expressing what they learn" (p. 1). Most classroom teachers (as well as students and their parents) have experienced undifferentiated instruction throughout their school years. For this reason, Tomlinson begins her treatment on differentiated instruction by clearing up some misconceptions about what happens when teachers try to solve the problems of one-size-fits-all teaching. Differentiated instruction is *not* the "individualized instruction" of the 1970s nor does it occur in a chaotic, out-of-control classroom environment. Tomlinson continues clearing up some misperceptions about differentiated instruction by claiming that it is *not* "just another way to provide homogeneous grouping." Finally differentiated instruction is *not* just "tailoring the same suit of clothes." Superficial modifications such as grading on effort or letting students choose which questions they will answer on a test are simply not enough (pp. 2–3).

In contrast to these mistaken notions of what differentiated instruction is, Tomlinson (2001) describes this new way of thinking about teaching and learning:

- Differentiated instruction is *proactive.*

  Instead of planning a single approach for all students and then "reactively trying to adjust the plans when it becomes apparent that the lesson is not working for some of the learners for whom it was intended," the teacher plans a variety of approaches. (pp. 3–4)

- Differentiated instruction is more *qualitative* than quantitative.

  Varying the amount of work given to students (e.g., one book instead of two; a seven-page report instead of ten pages) is a way to meet some students' needs.

But merely "adjusting the *quantity* of an assignment will generally be less effective than adjusting the *nature* of the assignment." (p. 4)

- Differentiated instruction is *rooted in assessment.*

  In a differentiated classroom, assessment is not an end-of-the-unit event. Rather, assessment is an ongoing process to determine individual students' needs throughout the unit of instruction. The teacher uses multiple methods of assessment to monitor and adjust instruction including strategies such as anecdotal record keeping, journal entries, observations, and individual conferences. (p. 4)

- Differentiated instruction provides *multiple approaches* to content, process, and product.

  Teachers in differentiated classrooms offer different approaches "to *what* students learn, *how* they learn it, and how they *demonstrate what they've learned.* All these different approaches have the common goal of enhancing student learning. (pp. 4–5)

- Differentiated instruction is *student centered.*

  At the secondary level, it is very tempting to equate teaching with telling. Lecturing to a large group of learners, even with sophisticated technology, is still lecturing and, except for a handful of students, not very engaging. In a differentiated classroom, the teacher strives for active, meaningful engagement for all students. (p. 5)

- Differentiated instruction is *a blend* of whole-class, group, and individual instruction.

  All teaching is highly contextual; there are times when whole-class instruction is more effective than small-group or individual instruction. In a differentiated classroom, student grouping is a fluid matter and depends on such factors as content, student ability, and time. (p. 5)

The following section, Application to Practice, covers specific differentiated instructional strategies. What is important to remember in this review is that differentiated instruction is a way of meeting the needs of all students, particularly those at either end of the ability continuum. Much of this discussion about legal mandates and pedagogical approaches has focused on the needs of students who struggle in our classrooms. At the other end of the ability continuum are those students who have mastered or nearly mastered the unit and/or lesson objectives the teacher has planned. Many times, these students come into their classes having already learned the material. They may have taken an early interest in the subject, or perhaps they had been in a previous class in which the material was taught. These students deserve to be engaged and challenged. Differentiated instruction is an effective way to meet their needs.

One special population of learners with high abilities is the gifted and talented students. Too often, these students become bored in class and either tune out or become noticeably frustrated. Teachers do not always know how to challenge these learners; often, teachers do not even know how to identify them. Identification of

gifted students is complicated by the erroneous assumption that all high-achieving students are gifted and/or that all gifted students are high achievers. According to Heacox (2002),

> *To appropriately differentiate instruction for gifted learners, it's important to understand this distinction. Giftedness reflects innate, advanced aptitudes that may or may not emerge as exceptional academic talent over time. In other words, you can be gifted but not talented. High-achieving students know what it takes to be successful in school and are willing to put in the time and effort. Those students who are gifted underachievers may be unable to achieve academic goals because of learning differences or difficulties. They may also be unwilling to commit the time and effort necessary for school success. (p. 135)*

Many of the strategies identified in the next section have been developed by experts such as Susan Winebrenner (1992), whose work in curriculum compacting and learning contracts is highly regarded in the area of gifted education. It is important to note that these strategies may be effectively used with gifted learners as well as with many high achievers. The focus is on the student regardless of his or her label. In a student-centered environment, the teacher's responsibility "is not to teach the *content*. A teacher's responsibility is to teach the *students*, and to make sure that all students learn new content every day" (Winebrenner, 1992, p. 1).

■ APPLICATION TO PRACTICE

Curriculum Adjustments

What we teach in a unit of instruction can be adjusted to meet the needs of the struggling student. Curriculum adjustment does *not* mean that the teacher "waters down" the content or leaves gaps in the sequence of learning objectives. A critical characteristic of differentiated instruction is that it is relevant—that is, "it focuses on essential learning: those curricular objectives that are fundamental, significant, and most important for students to grasp" (Heacox, 2002, p. 53). After a few years in the classroom, teachers often develop favorite units, projects, and activities. But unless the objectives in these lessons are directly aligned with the district's curricular goals, the teacher needs to put these favorites aside.

The first task in adjusting curriculum is for the teacher to "identify the essential concepts and principles" of the curriculum or subject (Heacox, 2002, p. 53). Asking essential questions helps to "frame" a course and, consequently, enables the teacher to "sort the crucial content from the fluff—the learning activities that take the focus away from what is most important for students to know, understand, and do" (p. 53). Wiggins and McTighe's (1998) work, *Understanding by Design*, is an excellent source for teachers who want to learn more about "uncovering the important ideas at the heart of each subject" (p. 28). Essential questions, according to Wiggins and McTighe, are characterized by what they do:

- Go to the heart of a discipline.
- Recur naturally throughout one's learning and in the history of a field.
- Raise other important questions.

- Have no obvious "right" answers.
- Are deliberately framed to provoke and sustain student interest. (pp. 29–30)

Examples of essential questions are:

- History: "Is U.S. history a history of progress?"
- Life Science: "How does an organism's structure enable it to survive in its environment?"
- Health: "What is healthy eating?"
- Literature: "What makes a 'great' book?"
- Art: "How does art reflect the time and the society it springs from?"
- Foreign Language: "What distinguishes a fluent foreigner from a native speaker?"
- Mathematics: "When is the 'correct' answer not the best solution?"
- Writing: "How can writing lead to self-discovery?"

Once the teacher creates the essential questions for the subject (usually four or five essential questions suffice), unit questions are designed. Heacox (2002) claims that the purpose of unit questions is to "provide specific content and facts about essential questions. They add depth and specificity" (p. 55). The distinction between essential questions and unit questions is that essential questions are larger concepts that the teacher returns to throughout the year and throughout different topics. Unit questions are "subsets of essential questions that address specific content and skills" (p. 55). Not every essential question has to be addressed in each unit; not every essential question will have only one unit question (p. 56). Some examples of essential questions with their related unit questions follow.

From Life Science (Heacox, 2002, p. 55)

Essential Questions:

1. What are living organisms?
2. What are some characteristics of living organisms?
3. How are living organisms classified in science?
4. What are common laws or principles of living organisms?
5. What are common cycles or patterns of living organisms?

UNIT: AMPHIBIANS

Unit Questions:

1. What are the characteristics of amphibians?
2. What animals are included in the class *Amphibia*?
3. Which laws or principles of living organisms govern the life cycle of amphibians?
4. Which cycles or patterns of living organisms do amphibians follow?

From Literature (Wiggins and McTighe, 1998, p. 31)

Essential Question:

Must a story have a moral, heroes, and villains?

UNIT: *HUCKLEBERRY FINN*

Unit Questions:

1. What is the moral of the story of Huck Finn?
2. Is Huck Finn a hero?
3. Who are the villains in the story of Huck Finn? Why are they considered villains?

From Mathematics (Heacox, 2002, p. 60)

Essential Questions:

1. What ways of thinking are used in mathematics?
2. How are mathematical thinkers problem solvers and problem posers?
3. What are essential tools for mathematics?
4. How is mathematical knowledge useful in everyday life?

UNIT: INTRODUCTION TO GEOMETRY

Unit Questions:

1. What is geometric thinking?
2. What is geometric problem solving?
3. How are algorithms used to describe shapes?
4. How do Escher-like figures represent geometric concepts?
5. How is geometry represented in shadow and light?

Creating essential questions and unit questions takes place in the planning phase of teaching. As you recall from Chapter 5, once unit goals are developed, the teacher next creates objectives for daily lesson plans. This linear process of deciding *what* to teach, framed within the guidelines of state and local standards, should help the teacher eliminate the "nice-to-knows" from the "need-to-knows." The essential and unit questions should then be used to differentiate instruction.

Let's revisit the essential and unit questions from the *Huckleberry Finn* unit in a literature class. As the teacher begins to make decisions about lesson activities, assignments, projects, and so on, he or she will keep the two sets of questions foremost in mind. At the end of the course (i.e., at the end of the semester or the end of the year), *all* the students should be able to argue if a story must have a moral. *How* the students may learn this will depend on their individual needs, backgrounds, interests, and skills. Similarly, at the end of the unit, *all* the students should be able to explain the moral of the story of Huck Finn. Again, *how* the students

demonstrate this understanding will be highly individualized. Some students who struggle with language arts, particularly reading comprehension and writing, may demonstrate their understanding of the novel's moral in a conference with the teacher. Other students with highly developed language arts skills may demonstrate this same understanding in a debate, an allegory, or a comparison/contrast of Twain's major works.

Adjusting the curriculum is the process of identifying "the essential concepts and principles of your curriculum or subject" (Heacox, 2002, p. 53). Once you are certain about what all students should know, you can then begin the process of differentiating your instruction.

■ WEBSITE RESOURCE ■

The Association for Supervision and Curriculum Development (ASCD) offers tutorials in its professional development section on a variety of topics including differentiated instruction. Text and videos are presented including application of differentiated instruction in high school and elementary classrooms at **www.ascd.org/pdi/demo/dikffinstr/differentiated1.html.**

Included are comments from teachers, references, and other resources readily available to explore more in-depth.

Instructional Adjustments

Some of the most creative work teachers can do is designing instruction. Making decisions about *how* students will learn content is part of the art of teaching. The range of colors on the teacher-artist's palette is substantially enlarged when a differentiated instructional approach is used. For instance, a high school health teacher may have students in his tenth-grade class with reading levels ranging from fourth grade to post–high school. The teacher uses mixed-ability grouping to conduct research on different mental illnesses by gathering information from materials at each individual student's own reading level. Using a Jigsaw cooperative-learning method (see Chapter 8), the groups split up into mental illness "expert" groups. The original groups reconvene with every member teaching the other group members about each mental illness. Lower-ability students teach higher-ability students. Each student finds and reads research material at his or her own level. Students hold each other accountable for content mastery and learning pace.

This scenario demonstrates only two ways a teacher can differentiate instruction—mixed-ability grouping and variety of reading texts. Classroom teachers have various options to differentiate instruction in their classrooms.

1. *Flexible instructional grouping*—Students' learning needs direct the size and makeup of each group. These groups are not used in every lesson, and each

group's activity time "varies according to the complexity of the task" (Heacox, 2002, p. 85). Students meet in small groups with the teacher for "additional instruction or extended learning experiences" (p. 85). In a high school English class, for example, during a research paper unit, the teacher may spend part of the class period working with a more advanced group on evaluating electronic data sources and then work with a lower-level group on proper paraphrasing.

2. *Tiered assignments*—Students' learning needs help the teacher decide which learning tasks should be demonstrated by which students. According to Heacox (2002), teachers can tier assignments based on:
   - challenge level (using Bloom's taxonomy)
   - complexity (from least complex to most complex presentation of learning)
   - resources (using materials at various reading levels and complexity of content)
   - process (e.g., all students write a report but some use basic reference materials while others use more advanced research skills like interviewing)
   - product (students demonstrate their mastery of learning goals through differentiated products such as skits, visual displays, speeches, etc.)
3. *Learning centers or stations*—At the secondary level, stations or "challenge centers" can be used to differentiate instruction by setting up various areas in the classroom where different groups or individuals work on different tasks at the same time (Tomlinson, 1999). Gregory and Chapman (2002) describe a high school history teacher's use of "choice centers." The goal for each group was to collect information about different civilizations from a variety of sources and to present their discoveries to the rest of the class. The teacher planned detailed directions and rubrics for this unit and then set up ancient civilization learning centers that included the students' choice of China, Japan, Africa, the Middle East, Southeast Asia, and the Pacific (pp. 107–108).
4. *Compacting*—Compacting is the process of selecting learning objectives at the correct level of difficulty. Lesson objectives can be turned into pre-assessment questions, and those students who have already mastered the objectives do not have to continue working on what they already know. By documenting competencies, students, in essence, "buy time" to work on more challenging activities like a project or special investigation (Tomlinson, 1999; Winebrenner, 1992).
5. *Student agendas*—A student's agenda is "a personalized list of tasks that a particular student must complete in a specified time" (Tomlinson, 1999, p. 66). In secondary blocked classrooms, teachers usually select the first part of the block for students to work on their agenda items. In other classes, agendas can be used once a week or "as anchored activities when students complete other assigned work" (p. 66). For example, in an English class, agenda items could include vocabulary work, essay interpretations, paraphrasing exercises, and sustained silent reading. During the time that students work on their agendas, teachers can work with individuals or small groups who need instruction or monitoring.

6. *Orbital studies*—Orbital studies are independent investigations that revolve or "orbit" around some facet of the curriculum (Tomlinson, 1999, pp. 71–74). Students choose their own topics for investigation and work with the teacher who guides and coaches their work. Orbital studies generally last from three to six weeks and require documentation of time spent on the study, resources used, and skills gained.

7. *Entry Points*—Gardner's (1983) work on multiple intelligences has led to a deeper understanding of the varied ways students take in information, solve problems, and express their learning. The Entry Points strategy allows students to explore a topic through as many as five avenues or Entry Points: Narrational Entry Point (presenting a story), Logical-Quantitative Entry Point (using numbers or deduction), Foundational Entry Point (examining philosophy and vocabulary), Aesthetic Entry Point (focusing on sensory features), and Experiential Entry Point (hands-on).

8. *Problem-Based Learning*—Medical students have substantial experience with this instructional approach when, presented with a patient's symptoms, they assume an active role in problem solving. The teacher in a secondary classroom can use Problem-Based Learning by presenting students "with an unclear, complex problem" (Tomlinson, 1999, p. 92). The students are expected to "seek additional information, define the problem, locate and appropriately use valid resources, make decisions about solutions, pose a solution, communicate that solution to others, and assess the solution's effectiveness" (p. 92). The flexible grouping and teacher coaching that can be a part of Problem-Based Learning provide support to struggling students and challenge to higher-level students.

9. *Portfolios*—Not only do these collections of student work allow for alternative assessment, they also provide differentiation in classroom instruction. Students are encouraged to choose work samples representative of their development over time that will go into their portfolios. Students are also encouraged to establish appropriate learning goals and to evaluate their own work. Portfolios are considered a viable part of differentiated instruction because they are put together, over time, from student interests, skills, learning styles, and personal goals (Tomlinson, 1999).

10. *Daily lesson adaptations*—On a given day as the lesson progresses, the teacher can always consider adapting assignments. For instance, a student who

has difficulty with test taking	could be given extra time for testing or be allowed to take the test orally or have essay length shortened
has poor reading skills	could be given an outline of important points from the reading material or be given a tape of the material or be read to by a tutor or a peer

has poor listening skills	could be given a copy of presentation notes or be allowed to tape record lectures, discussions, and so on or be taught how to outline, take notes, and the like
has difficulty completing assignments independently	could be given a list of all steps necessary to complete each assignment or have the assignment reduced into manageable sections with specific due dates

These kinds of lesson adaptations are interactive decisions made by the teacher during the course of instruction. These are only *some* of the many adjustments a teacher can make with a diverse group of learners. The lesson adaptations may not be revolutionary or time-consuming, but they are meaningful ways to differentiate instruction because they help fulfill the teacher's primary responsibility, which is "not to teach the *content*" but "to teach the *students*, and to make sure that all students learn new content every day" (Winebrenner, 1992, p. 1).

■ WEBSITE RESOURCE ■

Leon County Schools in Tallahassee, Florida, has a website on differentiated instruction that includes links to many sources of information. Most valuable are the sample lesson plans from teachers experimenting with differentiated learning in their K–12 classrooms at

http://tst1160-35.k12.fsu.edu/mainpage.html.

Hints for the Beginning Teacher

Adapting the instruction in your classroom can be facilitated by careful documentation of student learning. As students progress through a unit near the beginning of the year, keep a running record of their progress, strengths, weaknesses, and so forth. A simple way to do this is to keep a three-ring notebook with a "progress page" on each student. As you observe how each student is mastering lesson and unit objectives, make abbreviated notes on his or her page. When it is time for the next unit of instruction, you can begin to make adaptations based on these observations.

Collaborative Teaching

A common method of meeting the needs of special education students in our schools has been through collaborative teaching. This service delivery system, a direct result of special education legislation, is a part of what could go on in an "inclusive school," a school where the general education program is "rich and flexible enough to accommodate the unique needs of each learner" (Fisher, Sax, and Pumpian, 1999, p. 10). Collaborative teaching, also known as co-teaching or team teaching, is a partnership between special education teachers and regular education teachers. Teacher collaboration does not just happen. Rather, effective team teaching occurs when the teachers involved know the components of the co-teaching relationship, the different approaches of co-teaching, and effective co-teaching strategies.

Components of the Co-Teaching Relationship Imagine beginning your first year of teaching and finding out that in your fifth- and sixth-period classes, you will be working each day with a teacher from the special education department. You not only will be responsible for planning lessons, assessing learning, and selecting materials, but also you will be expected to work with another adult to plan, assess, and select for a handful of students in your classes. How will you work with this person? Who makes the decisions about teaching the class? What else could crop up in this unforeseen relationship?

Like any relationship, co-teaching is a developmental process, one that requires some getting used to and a great deal of practice. According to Gately and Gately (2000), co-teaching relationships tend to go through three stages—the beginning stage, the compromise stage, and the collaborative stage (p. 40). Gately and Gately have also identified eight components to the co-teaching relationship: interpersonal communication, physical arrangement, familiarity with the curriculum, curriculum goals and modifications, instructional planning, instructional presentation, classroom management, and assessment. An awareness of how these eight components develop throughout the teaching relationship may help enhance the teaching relationship. What follows is a summary of Gately and Gately's (2001) examination of the co-teaching relationship:

Stages	Beginning	Compromise	Collaborative
Interpersonal Communication	Reserved; guarded	Genuine, sophisticated dialogue about students	Verbal and nonverbal before, during, and after lesson
Physical Arrangement	Students with more disabilities may sit apart from rest of the students	More movement and shared space	Classroom is jointly owned
Familiarity with Curriculum	Lack of confidence in each other's subject/skill areas	Increased competence and confidence	Modifications in curriculum made jointly

(continued)

Stages	Beginning	Compromise	Collaborative
Curriculum Goals and Modifications	Textbook-driven planning with accommodations restricted to IEP mandates	Essential questions asked about what *all* students should be learning	Modifications of content, activities, and assessment for *all* students
Instructional Planning	Two separate events for two sets of students	Shared	Mutual activity before and during lesson
Instructional Presentation	Two separate lessons with one teacher "leading" and the other "helping"	Shared responsibility	Equal engagement with all students
Classroom Management	Special educator acts as "behavior manager"	Mutual development of rules and routines	Mutual responsibility often accompanied by individual behavior plans
Assessment	Two separate grading systems	Mutually agreed upon assessment strategies	Variety of assessment options mutually designed to meet the needs of *all* students

To help ensure success in co-teaching, the regular educator and the special educator must be willing to discuss these relationship components. Before the school term even begins, the teachers should talk about their expectations for all the students in the classroom, planning responsibilities, discipline procedures in the classroom, student assessment, physical arrangement of the classroom, and curriculum issues. This conversation will need to be continued and refined throughout the school year. Bringing in other support staff such as administrators and counselors will enhance the co-teaching relationship as it becomes more and more collaborative.

Different Approaches of Co-Teaching There is not a singular model for co-teaching. Lombardo (2000) identifies five co-teaching approaches that have been successfully used in classrooms:

One teaches, one supports. While one teacher leads the lesson, the other teacher moves around the room, assisting students and gathering data.

Parallel teaching. The two teachers divide the class into two heterogeneous groups and teach them simultaneously. Learning can be enhanced if the teachers vary their content so that, once the group is reconvened, students can share what they learned.

Station teaching. Content and students are divided, with one teacher who is more knowledgeable about the subject teaching new content to one group, while the other teacher reviews previous lessons or teaches learning strategies such as note taking, outlining, or speed reading. Students rotate through each group.

Alternative teaching. One teacher facilitates enrichment or alternative activities while the other teacher reviews important concepts. Students are pulled out of the larger group for review, tutoring, and so on based on specific learning needs.

Team teaching. The two teachers share in the delivery of the lesson. For example, one teacher can lecture while the other teacher writes material on the board or uses the overhead projector.

Effective Co-Teaching Strategies Becoming comfortable with co-teaching takes time and concerted effort. Some suggestions for making collaborative teaching successful come from Lombardo (2000) and Fisher, Sax, and Pumpian (1999):

- Co-teaching should be a mutual decision made by both teachers and not a top-down mandate handed down by district or building administrators.
- The goal of co-teaching should be improved student learning.
- Both teachers should be given time to work together before the school year begins and throughout the school year.
- The regular educator should be as committed to learning about differentiating instruction as the special educator is to learning the subject area of the class.
- Collaborative teaching is a relationship in process, which time and patience help improve.
- Co-teachers should learn how to make the most of planning time with tailored agendas. These meeting times must be productive and not just complaint sessions.
- Co-teaching can be strengthened by consistent and ongoing feedback from the teacher partners, from students, from parents, and from administrators.
- Staff development on inclusion should be consistent and ongoing.
- The same instructional resources that enhance regular education teaching can enhance co-teaching. Co-teachers should be open to using technology, outside speakers, field trips, distance learning, and so on.

Secondary teachers who are serious about meeting the needs of all their students have exciting opportunities ahead of them in the area of co-teaching. Pairing the special educator's methods expertise with the general educator's content expertise is a major step in school reform. The time and energy that must be invested in this professional relationship are well spent when the effects on student learning are considered.

■ SUMMARY POINT ■

The one-room schoolhouse is no longer the norm in public education. The one-size-fits-all mentality of many current classrooms should be and can be a relic of the past as well. Differentiated instruction, as explained in this chapter, can be seen as both an ethical decision and a legal mandate for teachers. The research, theory, and practical suggestions presented in this chapter should help new teachers construct a framework for making decisions about meeting the needs of all the students in their classrooms.

■ QUESTIONS FOR REFLECTION ■

1. Describe some of your own experiences as a student when your needs were not met. Consider a time in school when the instruction was too fast paced or the content was too difficult. Also, consider a time when the instructional pace moved too slowly and the content was too easy for you.

   In both circumstances, how did you feel about the class, about the instructor, and about yourself?

   What adjustments could the instructors have made to meet your needs?

2. What aspects of constructivism do you find in this chapter's description of differentiated instruction?

3. Identify three or four essential questions from a subject you plan on teaching. Then consider a unit of instruction that you might teach in this subject. (For example, a unit could be based on a novel or a textbook chapter or a period in history.) List three or four unit questions.

4. Of the ten instructional adjustments suggested in this chapter, which two do you see yourself using early in your teaching career? Why? Which two do you think might not be a part of your early teaching repertoire? Why?

5. At some point in your teaching, you may work with a special education teacher in a co-teaching relationship. What concerns do you have at this time about that kind of relationship? How might you address or solve some of these concerns?

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