Learning to Teach
This book focuses on effective teaching and the different ways teachers help students learn. Next to the students themselves, teachers are the most important influence on student success (Marzano, 2007). This chapter begins by examining effective teaching, and what you can do to help your students learn. In this chapter we also describe the different components of learning to teach, including the different forms of professional knowledge that contribute to teacher expertise. In addition, we describe how decision making integrates this knowledge into purposeful teacher actions.

Finally, in this chapter we introduce three themes that run through this text: standards and accountability, diversity, and technology. Standards and accountability are reshaping
Learning to Teach

classrooms and influencing teacher decision making in myriad ways, ranging from planning to instruction to assessment. We describe how standards influence each of these dimensions of teaching in later chapters.

Exploring diversity, the second text theme and a feature in every chapter, examines how different forms of diversity influence classroom teaching. Technology and Teaching, a third text theme and an additional feature found in chapters, describes how teachers can use technology to increase student learning.

To begin our discussion, let's look in on a group of teachers talking about their students. As you read the vignette, think about your own definition of effective teaching and how you plan to help your students learn.

Three middle school teachers are eating lunch together on their 40-minute break between classes. After weather and local politics, the conversation turns to teaching, or, more specifically, to students.

“How are your seventh graders this year?” Paul Escobar asks. “I can’t seem to get them motivated.”

Stan Williams replies with a frown. “I’ve got three basic math classes, and I’ve spent the first two months reviewing stuff they’re supposed to know already. They don’t seem to want to think,” he concludes, turning to the others with an exasperated look.

“Mine aren’t so bad,” Leona Foster replies. “In fact, the other day we had a great discussion on individual rights. We were discussing the Bill of Rights, and I got them to think about their rights and responsibilities in our school. Some of them actually got excited about it. And it was even one of my slower classes. I was impressed with some of their comments.”

“But how am I going to get them to think if they don’t even know how to multiply or divide?” Stan answers in frustration.

“I know what you’re talking about, Stan,” Paul interjects. “I’m supposed to teach them to write, but they don’t even know basic grammar. How am I supposed to teach them subject-verb agreement when they don’t know what a noun or verb is?”

“Exactly!” Stan answers. “We’ve got to teach them basics before we can teach them all the other stuff, like problem solving and thinking skills.”

“Hmmm. . . . It might be more complicated than that,” Paul replies. “I had a real eye-opener the other day. . . . Let me tell you about it. I’ve been going to workshops on using writing teams to teach composition. I tried it out, putting high- and low-ability students on the same team. They were supposed to write a critical review of a short story we had read, using television movie critics as a model. We talked a little about basic concepts like plot and action and watched a short clip of two movie critics arguing about a movie. Then I turned them loose. I couldn’t believe it—some of the kids who never participate actually got excited.”

“That’s all fine and good for English classes, but I’m a math teacher. What am I supposed to do, have them critique math problems? Oh, I give this math problem two thumbs up! Besides, these are supposed to be middle school students. I shouldn’t have to sugarcoat the content. They should come ready to learn. My job is to teach; theirs is to learn. It’s as simple as that.”

Defining Good Teaching

“It’s as simple as that,” . . . or is it? Teaching has always been a challenging profession, but changes both within and outside classrooms have made it even more challenging. Teachers are being asked to teach thinking and problem-solving skills at the same time that students come from
increasingly diverse backgrounds. Both students and teachers are being held accountable by standards and high-stakes testing. Your personal definition of good or effective teaching is becoming not only more crucial but also more complex.

But, what is effective teaching? How does effective teaching relate to learning? What responsibilities do teachers have to motivate their students? What are the implications of student diversity on the teaching/learning process? And, how can you use new technologies to promote learning?

These are important questions for teachers because they center on the question “What is good teaching?” These concerns are particularly important to developing teachers because your answers to these questions will influence the kind of teacher you become. As you ponder these questions, thinking about yourself and the classrooms you’ve experienced, each of you will construct a personal definition of effective teaching. This individual response is as it should be: each teacher is as unique as each student. But beyond this individual uniqueness, some strands exist that pull these questions together.

Let’s consider these commonalities a bit further. Does your definition of effective teaching apply to all levels? For example, are there similarities in the ways effective kindergarten and high school teachers instruct? What about students? Would your definition of good teaching apply equally well to low- and high-ability learners? And, how about subject matter? Does an effective history teacher teach the same way as an effective English or art teacher? Finally, how does time influence your definition? Do effective teachers teach the same way at the beginning of the school year as at its close, at the beginning of a unit as at the end, or even at the beginning of a lesson and at its completion?

Each of you will wrestle with these questions, either implicitly or explicitly, as you begin and continue your teaching career. The purpose of this book is to help you resolve these questions based on the best information available to the profession.

The field of teaching is at a particularly exciting time in its history. Education has always been one of the most rewarding professions, but at the same time, it continues to be one of the most challenging. An effective teacher combines the best of human relations, intuition, sound judgment, knowledge of subject matter, and knowledge of how people learn—all in one simultaneous act. This task is extremely complex, and one of the factors making it particularly difficult has been the lack of a clear and documented body of knowledge on which to base professional decisions.

The situation has changed. Education now has a significant and rapidly expanding body of research that can guide your teaching practice. That’s what this text is all about; it is a book about teaching practice that is based on research. As you study the chapters, you will be exposed to this detailed body of research, and you will learn how this research can be applied in your classroom to increase student learning.

We developed this text around a series of themes that will be introduced in this chapter. As your study continues, you will see how research helps teachers as they make their professional decisions. This research, as with all research, is not perfect, but having it as a foundation is a giant step forward (Richardson, 2001). This research marks a major advance in education and is already finding its way into tests used to certify teachers (Educational Testing Service, 2008), and into both preservice and inservice programs for teachers. Your study of this text will provide you with the best information available to the profession at this time.
The Search for Effective Teaching

Historically, teaching has been a profession in search of a body of knowledge that could inform classroom practice. In the past, educators often looked to teacher characteristics to guide them, as we’ll see in the next section.

Teacher Characteristics and the Search for the Right Method

As researchers began to seek connections between teaching and learning, they initially focused on teacher characteristics, such as neatness, sense of humor, or cognitive flexibility (Rosenshine, 1979). Initial research asked whether teachers having these desirable traits resulted in increased learning. For example, do students taught by a teacher with a good sense of humor learn more and/or have better attitudes than those taught by a more serious teacher? Unfortunately the question was oversimplified; magnificent teachers of many different personalities can be found.

In hindsight, the research on teacher characteristics was not completely misguided. Two teacher characteristics—teacher experience and understanding of subject matter—have proved to be powerful variables influencing how teachers understand events in the classroom and explain content (Berliner, 1994; Shulman, 1987). Veteran teachers are able to use their experience to interpret the complex events that occur in classrooms and to make the many split-second professional decisions that are needed every day. Similarly, subject-matter expertise allows effective teachers to frame and explain ideas in ways that make sense to students. We will return to both of these ideas later in the chapter.

The next wave of research focused on global methods, attempting to link certain teaching strategies, such as inquiry instruction or discovery learning, with student outcomes, such as scores on standardized achievement tests (Dunkin & Biddle, 1974; Medley, 1979). This research was characterized by a belief that a particular type of teaching, such as discussion, was better than an alternative, such as lecture. To investigate this question, teachers were trained in a particular technique and then asked to teach their students by this method. The performance of their students was compared to the performance of students taught by an alternate method.

Like research on teacher characteristics, this line of research was also flawed. Researchers concluded that no one way of teaching was better than others and, instead, teachers required professional decision making to adjust their teaching methods to situational variables that included the students themselves as well as the content being taught.

Teacher Effectiveness Research: Teachers Do Make a Difference

As a consequence of the results or, more accurately, the nonresults of earlier efforts, research on teaching finally focused on teachers’ actions in classrooms, attempting to find links between what teachers actually do in classrooms and student learning. These studies marked a new way of thinking about research in education. Unlike previous work, this research focused on the teacher and the kinds of interactions teachers had with students (Good & Brophy, 2008). Researchers identified teachers whose students scored
higher than would be expected on standardized tests and other teachers whose students scored lower. They then went into classrooms, videotaped literally thousands of hours of instruction, and tried to determine what differences existed in the instruction of the teachers in the two samples. Because these efforts focused on differences between less and more effective teachers, it became known as the teacher effectiveness research (Good & Brophy, 2008). A number of significant differences were found, which we’ll describe in later chapters.

Understanding Effective Teaching: A Focus on Student Learning

The effective teaching literature made an invaluable contribution to education because it both confirmed the critical role teachers like you play in student learning and provided teachers with a knowledge base to help them make their instructional decisions.

Despite impressive results, critics also identified a major shortcoming in the teacher effectiveness research—it identified strategies that effective teachers use in their classrooms but didn’t explain why they worked. In essence, critics were reminding us that students and student learning should be our primary focus in teaching. These criticisms resulted in fundamental changes in our views of effective teaching methods, with a major shift from focusing solely on the teacher to also considering how students learn and how teachers could help.

Contemporary Views of Teaching and Learning

At the same time that perspectives on teaching were changing, similar changes were occurring in the way researchers viewed learners and learning (Bransford, Brown, & Cocking, 2000). Behaviorist views of learning, which emphasized external influences in the form of rewards and punishment, gradually gave way to more cognitive perspectives. These cognitive perspectives emphasized students’ use of strategies to organize, store, and retrieve information (Bruning et al., 2004). More recently, research has emphasized the critical role that learners play in constructing new knowledge (Eggen & Kauchak, 2010). We analyze these changes in the sections that follow.

From Behaviorist to Cognitive Perspectives

For the first half of the twentieth century, behaviorist views of learning predominated in education. Behaviorism emphasized the importance of observable, external events on learning and the role of reinforcers in influencing student learning. The goal of behaviorism was to determine how external instructional manipulations effected changes in student behavior. The teacher’s role was to control the environment through stimuli in the form of cues and reinforcement for appropriate student behavior. Students were viewed as empty receptacles, responding passively to stimuli from the teacher and the classroom environment.

Over time educators found this perspective on learning to be oversimplified and perhaps misdirected. Although learners do indeed react to stimuli from the environment,
research revealed that students were not passive recipients, but instead actively changed and altered stimuli as they attempted to make sense of teacher lessons. Student characteristics such as background knowledge, motivation, and the use of learning strategies all influenced learning (Bruning et al., 2004). The role of the teacher also changed from dispenser of rewards and punishment to that of someone who helped students organize and make sense of information. These differences between behaviorism and cognitive psychology, which focuses on thought processes within learners, are summarized in Table 1.1.

**Constructivism: Students as Creators of Understanding**

Recently, constructivism—a recent development in cognitive psychology—has focused our attention on the central role that learners play in constructing new knowledge. Influenced by the work of Jean Piaget (1952, 1959) and Lev Vygotsky (1978, 1986), as well as the work of linguists and anthropologists, constructivism is a view of learning that emphasizes four key components:

1. Learners construct their own understanding rather than having it delivered or transmitted to them.
2. New learning depends on prior understanding and knowledge.
3. Learning is enhanced by social interaction.

Constructivism has fundamentally changed the way we view teaching and learning. As opposed to passive recipients of information, learners become active meaning-makers, building upon their current knowledge. To facilitate the process, teachers design learning activities in which learners can work with others on meaningful learning tasks. Many of the teaching strategies that you’ll learn about in this text are based upon constructivist views of learners and learning.

In addition to these broad, general changes in views about teaching and learning, content-specific ones have also arisen. The National Council for the Teaching of Mathematics (NCTM) has developed guidelines that stress student involvement in meaningful problem-solving activities (NCTM, 1991, 2000). Those in the field of science have also published guidelines that call for deeper, more thoughtful, and intensive study of science topics (American Association for the Advancement of Science, 1993).

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**Table 1.1 Comparison of Behaviorist and Cognitive Views of Learning**

<table>
<thead>
<tr>
<th>View of Learning</th>
<th>View of Learner</th>
<th>View of Teacher</th>
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<tbody>
<tr>
<td>Behaviorist</td>
<td>Accumulation of responses through selective reinforcement</td>
<td>Passive recipient of stimuli from environment</td>
</tr>
<tr>
<td>Cognitive</td>
<td>Development of strategies to encode and retrieve information</td>
<td>Active meaning maker through strategy use</td>
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</tbody>
</table>
Common to all of these is refocused attention on the learner and what teachers can do to help students learn.

These changes make this an exciting time to study education and become a teacher. Researchers are uncovering a number of links between teacher actions and student achievement. Because of this research, and other related research, our views of teacher expertise and professional development have changed. Our goal in preparing this text is to communicate these findings and their implications to prospective teachers and practicing teachers in the classroom.

Text Themes

In response to recent developments in education, three themes appear throughout the text:

- Standards and accountability
- The diversity of our learners
- The use of technology for increasing learning

Because these topics influence so many different aspects of teaching, they are integrated throughout the text. Let’s examine them briefly.

Standards and Accountability

Standards, statements that describe what students should know or be able to do at the end of a period of study (McCombs, 2005), have become a major influence on teachers’ lives. Standards, together with accountability, the process of requiring students to demonstrate mastery of the topics they study as well as holding teachers responsible for this learning, have changed the ways teachers plan, instruct, and assess student learning.

The “standards movement” is commonly traced to the publication of A Nation at Risk: The Imperative for Educational Reform, published by the National Commission on Excellence in Education (1983). This document famously stated:

If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen to ourselves. We have even squandered the gains in student achievement made in the wake of the Sputnik challenge. Moreover, we have dismantled essential support systems which helped make those gains possible. We have, in effect, been committing an act of unthinking, unilateral educational disarmament. (p. 9)

This report came at a time when other countries, such as Germany and Japan, were outcompeting us both industrially and educationally, and it struck a chord with leaders in this country; if we were to compete internationally, we had to have better schools. Standards together with accountability were one way to accomplish this.

Since 1983, a number of reform efforts have attempted to address the concerns raised by A Nation at Risk. The revised federal Elementary and Secondary Education Act (ESEA), enacted by the George W. Bush administration in 2001 was one of the most significant. Renamed the No Child Left Behind (NCLB) Act, the law asked America’s schools to
document their success in terms of the extent to which students could meet specified standards. No Child Left Behind has been controversial, but it and the standards movement in general have left a lasting legacy.

Standards are here to stay; since the turn of this century, every state in the nation has developed standards in different content areas, and there is currently a movement to institute standards at the national level (Finn & Petrilli, 2009). In addition, reformers are advocating the use standards-based assessments to evaluate teachers and using the results for decisions about teacher pay and retention in their jobs (McNeil, 2010). Standards are having a major impact on education and will play a major role in your future professional life.

**Standards in Today’s Schools** Standards at the state level have been written for content areas ranging from core curriculum areas, such as reading, writing, math, and science to others less prominent, such as

- Physical education
- Fine arts
- Economics
- Agricultural science
- Business education
- Technology applications
- Trade and industrial education
- Spanish language arts and English as a second language

Even this list is not exhaustive.

Let’s look at several examples of state standards. Standards in different states are labeled in different ways, such as “Essential Knowledge and Skills” (Texas Education Agency, 2008a), “Learning Standards” (Illinois State Board of Education, 2008b), “Content Standards” (California State Board of Education, 2008a), or “Sunshine State Standards” (Florida Department of Education, 2007). Regardless of the labels, each state’s standards describe what students should know or be able to do.

Since space doesn’t allow us to list examples from every state, we’re going to present representative samples for sake of illustration. For those of you reading this text who don’t live in these states, you can easily access your own state’s standards by clicking on the following link: http://www.education-world.com/standards/state/index.shtml. Then, click on the pull down menu and select your state.

How do standards from different states appear? The following is an example in fourth-grade math from the state of Texas (Texas Education Agency, 2008b).

(4.2) Number, operation, and quantitative reasoning. The student describes and compares fractional parts of whole objects or sets of objects

The student is expected to:

(A) use concrete objects and pictorial models to generate equivalent fractions.

The number (4.2) identifies this as the second standard in the list of fourth-grade standards in math, and the letter (A) describes what students should be able to do to meet this standard. Different states code their standards in different ways, but all are designed to describe learning and assessment targets for teachers and students.
As another example, the following standard comes from the state of Illinois in middle school science (Illinois State Board of Education, 2008a).

Illinois Science Assessment Framework
Standard 12F—Astronomy (Grade 7)
12.7.91 Understanding that objects in the solar system are for the most part in regular and predictable motion. Know that those motions explain such phenomena as the day, the year, the phases of the moon, and eclipses.

Although the way the standard is coded is different from the coding used in Texas, both describe what students should know or be able to do.

Standards can also target important outcomes in secondary language arts. For example, consider the following example from the state of Florida (Florida Department of Education, 2009):

The student understands the common features of a variety of literary forms.
(LA.E.1.4)
1. identifies the characteristics that distinguish literary forms.
2. understands why certain literary works are considered classics.

This standard is broader and more abstract, but it is still designed to guide both teachers and students in the classroom.

Professional organizations have also weighed in on the need for standards in education. Let’s take a look.

Professional Organizations' Standards Professional organizations are designed to provide leadership in different areas of education. Many professional organizations, such as the National Council of Teachers of Mathematics (NCTM, 2008), the National Council of Teachers of English (International Reading Association & National Council of Teachers of English, 2008), and others that focus on science, social studies, early childhood education, special education, the arts, health education, and bilingual education also have produced standards that shape teachers’ lives. For example, the following are examples from the NCTM (2008). (These are only samples for pre-K–2 and grades 6–8; you can access standards for grades 3–5 and 9–12 together with complete lists online at www.nctm.org.)

Number and Operations Standard
Instructional programs from prekindergarten through grade 12 should enable all students to—

■ Compute fluently and make reasonable estimates.

Pre-K–2 Expectations
In prekindergarten through grade 2 all students should—

■ Develop and use strategies for whole-number computations, with a focus on addition and subtraction.
■ Develop fluency with basic number combinations for addition and subtraction.

Grades 6–8 Expectations
In grades 6–8 all students should—

■ Select appropriate methods and tools for computing with fractions and decimals from among mental computation, estimation, calculators or
computers, and paper and pencil, depending on the situation, and apply the selected methods.

- Develop and analyze algorithms for computing with fractions, decimals, and integers and develop fluency in their use.

A number of other professional organizations have also prepared standards to guide teachers’ instructional efforts and these, plus their websites, are found in Table 1.2.

**National Standards** In addition to state standards and standards from professional organizations, national standards are also being proposed (Gewertz, 2010). The Common Core State Standards Initiative, sponsored by the National Governors Association and the Council of Chief State School Officers, recently published a draft of national standards in language arts and math.

**Table 1.2 Professional Organizations for Educators**

<table>
<thead>
<tr>
<th>Organization and Web Address</th>
<th>Organization Mission or Goal</th>
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<tbody>
<tr>
<td>American Council on the Teaching of Foreign Languages <a href="http://www.actfl.org">http://www.actfl.org</a></td>
<td>To promote and foster the study of languages and cultures as an integral component of American education and society</td>
</tr>
<tr>
<td>American Federation of Teachers <a href="http://www.aft.org">http://www.aft.org</a></td>
<td>To improve the lives of our members and their families; to give voice to their legitimate professional, economic, and social aspirations</td>
</tr>
<tr>
<td>Association for Supervision and Curriculum Development <a href="http://www.ascd.org">http://www.ascd.org</a></td>
<td>To enhance all aspects of effective teaching and learning, including professional development, educational leadership, and capacity building</td>
</tr>
<tr>
<td>Council for Exceptional Children <a href="http://www.cec.sped.org">http://www.cec.sped.org</a></td>
<td>To improve educational outcomes for individuals with exceptionalities, students with disabilities, and/or the gifted</td>
</tr>
<tr>
<td>International Reading Association <a href="http://www.reading.org">http://www.reading.org</a></td>
<td>To promote high levels of literacy for all by improving reading instruction, disseminating research and information about reading, and encouraging the lifetime reading habit</td>
</tr>
<tr>
<td>Music Teachers National Association <a href="http://www.mtna.org/flash.html">http://www.mtna.org/flash.html</a></td>
<td>To advance the value of music study and music making to society and to support the professionalism of music teachers</td>
</tr>
<tr>
<td>National Art Education Association <a href="http://www.naea-reston.org">http://www.naea-reston.org</a></td>
<td>To promote art education through professional development, service, advancement of knowledge, and leadership</td>
</tr>
<tr>
<td>National Education Association <a href="http://www.nea.org">http://www.nea.org</a></td>
<td>To fulfill the promise of a democratic society, NEA shall promote the cause of quality public education and advance the profession of education</td>
</tr>
<tr>
<td>National Science Teachers Association <a href="http://www.nsta.org">http://www.nsta.org</a></td>
<td>To promote excellence and innovation in science teaching and learning for all</td>
</tr>
<tr>
<td>National Council for the Social Studies <a href="http://www.ncss.org">http://www.ncss.org</a></td>
<td>To provide leadership, service, and support for all social studies educators</td>
</tr>
<tr>
<td>National Council of Teachers of English <a href="http://www.ncte.org">http://www.ncte.org</a></td>
<td>To promote the development of literacy, the use of language to construct personal and public worlds and to achieve full participation in society, through the learning and teaching of English and the related arts and sciences of language.</td>
</tr>
<tr>
<td>National Council of Teachers of Mathematics <a href="http://www.nctm.org">http://www.nctm.org</a></td>
<td>To provide broad national leadership in matters related to mathematics education</td>
</tr>
<tr>
<td>National Association for Bilingual Education <a href="http://www.nabe.org">http://www.nabe.org</a></td>
<td>To recognize, promote, and publicize bilingual education</td>
</tr>
</tbody>
</table>

(continued)
As you can see from Table 1.3, the format for these standards is not dramatically different from existing state standards. In addition, the content of these standards does not differ significantly from that found in state standards. This is not surprising, since drafters of the national standards, in an effort to gain widespread support, made a special effort to match their standards to existing state guidelines.

However, these standards are drafts, and their final form and whether they will be adopted at all will be determined by individual states. And critics abound (Cavanaugh, 2010; Gewertz, 2010). Foremost among these is the fear that national standards will result in a national curriculum and national accountability tests. This fear is especially prominent among advocates for state’s rights, who are concerned about greater federal control over their lives. In addition, other critics question these standards’ rigor and whether they emphasize critical thinking at the expense of subject matter content.

<table>
<thead>
<tr>
<th>Organization and Web Address</th>
<th>Organization Mission or Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phi Delta Kappa <a href="http://www.pdkintl.org">http://www.pdkintl.org</a></td>
<td>To promote quality education as essential to the development and maintenance of a democratic way of life by providing innovative programs, relevant research, visionary leadership, and dedicated service</td>
</tr>
<tr>
<td>Teachers of English to Speakers of Other Languages <a href="http://www.tesol.org">http://www.tesol.org</a></td>
<td>To improve the teaching of English as a second language by promoting research, disseminating information, developing guidelines and promoting certification, and serving as a clearinghouse for the field</td>
</tr>
</tbody>
</table>

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**Table 1.3 Proposed National Standards**

<table>
<thead>
<tr>
<th>Grade 1</th>
</tr>
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<tbody>
<tr>
<td>Language Arts</td>
</tr>
<tr>
<td>1. Ask and answer questions about key details and events in a text.</td>
</tr>
<tr>
<td>2. Identify who is speaking at various points in a story, myth, fable, or narrative poem.</td>
</tr>
<tr>
<td>Math</td>
</tr>
<tr>
<td>1. Read and write numbers to 100.</td>
</tr>
<tr>
<td>2. Understand that addition and subtraction apply to situations of adding to, taking from, putting together, taking apart, and comparing.</td>
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</table>

<table>
<thead>
<tr>
<th>Grade 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Arts</td>
</tr>
<tr>
<td>1. Determine the main idea of supporting details of a text; summarize the text.</td>
</tr>
<tr>
<td>2. Describe in detail a character, event, or setting, drawing on specific details in the text.</td>
</tr>
<tr>
<td>Math</td>
</tr>
<tr>
<td>1. Understand that a digit in one place represents ten times what it represents in the place to its right.</td>
</tr>
<tr>
<td>2. Solve multistep word problems involving the four operations with whole numbers.</td>
</tr>
</tbody>
</table>

A second theme appearing throughout the text is student diversity. The students attending our classrooms are becoming increasingly diverse. For example, teachers will encounter students with a wide range of learning abilities. Inclusion, which attempts to accommodate the learning needs of all students in as regular an educational setting as possible, results in more students with exceptionalities in regular classrooms (Hardman, Drew, & Egan, 2008; Heward, 2009). About 10 percent of the student population is included in this group, and exceptionalities range from mild learning disabilities to physical disabilities such as deafness and blindness (U.S. Department of Education, 2004).

Ethnicity and culture also contribute to classroom diversity. Cultural minorities make up a third of the U.S. population, and the 2000 census indicated that, for the first time, the Hispanic surnames Garcia and Rodriguez are among the 10 most common in our country, having replaced Moore and Taylor in that category (Roberts, 2007).

This trend is reflected in our classrooms, where more than 4 of 10 students are members of cultural minorities. Children of color currently make up the majority of public school enrollments in six states—California, Hawaii, Louisiana, Mississippi, New Mexico, and Texas, and more than 90 percent of the student population in six major cities: Baltimore, Chicago, Detroit, District of Columbia, Los Angeles, and New York (Padilla, 2006; Short & Echevarria, 2004/2005).

By the year 2020, the school-age population will experience many more changes. Experts predict considerable increases in the percentages of all groups of students except White, non-Hispanic. During this time the percentage of White students will decrease from more than 60 percent to a little more than half of the total school population (U.S. Census Bureau, 2003).

Whereas most immigrants during the early 1900s came from Europe, more recently they have come from Central America (nearly 40%), Asia (25%), and the Caribbean (10%), with only 14 percent with Europe as their point of origin (U.S. Census Bureau, 2004). This demographic shift has resulted in a dramatic increase in the proportion of students whose first language is not English (U.S. Department of Education, 2005).

One of five children in U.S. schools—out of approximately 14 million students—are children of immigrant parents, and they bring with them a variety of languages and dialects (Kober, 2006; Padilla, 2006). Experts estimate that the number of students who speak a native language other than English increased 72 percent between 1992 and 2002 (Padilla, 2006; Short & Echevarria, 2004/2005). Increasingly, our students are bringing different native languages to school, and their facility with English varies widely (Abedi, Hofstetter, & Lord, 2004).

English language learners (ELLs) are students whose first or home language is not English. As a result of immigration and high birth rates among immigrant families, the number of non-English-speaking students and those with limited English has increased dramatically over the past three decades (Gray & Fleishman, 2004/2005). Projections indicate that by 2015, more than half of all P–12 students in our country will not speak English as their first language (Gray & Fleischman, 2005). This language diversity is staggering; more than 450 languages are spoken in our schools, with Spanish being the most common after English (Abedi et al., 2004).
Chapter 1

Learning to Teach

Becoming an expert teacher is a complex, multifaceted process that continues throughout a person's professional lifetime. It requires intelligence, sensitivity, experience, and hard work. It also requires several different kinds of knowledge—knowledge of subject matter, such as history, literature, or algebra; knowledge of how to illustrate and represent abstract ideas in understandable ways; knowledge of learners and how they learn; and an understanding of how teachers can help in this process.

Technology and Teaching:

Using Technology to Increase Student Learning

The third theme for this text is technology. Technology has changed the way we live and has also changed the way we learn and teach. To say that technology is an integral part of our lives is an understatement. Technologies such as cell phones, Facebook, and Twitter have revolutionized the way we communicate. Internet search engines, such as Google, Dogpile, or Yahoo, have revolutionized the way we find information. A print encyclopedia has become an anachronism and nearly the same is true for a dictionary. We don't look up places on a map anymore; we go to www.mapquest.com instead. Our vehicles are equipped with GPS systems that will send us straight to our desired destination. Technological literacy has become a basic skill, next in importance only to reading, writing, and math.

Currently, virtually all schools have access to the Internet, and 87 percent of classrooms can access the Internet (Ansell & Park, 2003). The ratio of students to computers has fallen dramatically, and experts now estimate it at four to one (Cuban, 2005). Most households with school-age children (83%) have a computer in the home (Corporation for Public Broadcasting, 2003).

Although the availability of televisions, DVDs, and CD-ROMs has also increased in classrooms, probably the most dramatic growth has occurred in the area of computer technology. Initially, computer literacy, or the preparation of students for life in the age of computers, was the focus of most computer use in the schools. Over time, instructional uses of computers have expanded to include the following:

- Computer-assisted instruction, including simulations, multimedia instruction, drill and practice, and tutorials
- Information tools for students, including spreadsheets, databases, and other capabilities for information retrieval and processing and multimedia learning
- Computer-managed instruction, including student record keeping, diagnostic and prescriptive testing, and test scoring and analysis
- Design of instructional materials, including text and graphics (Roblyer & Doering, 2010)

Technology in general, and computers in particular, are viewed as essential elements of instruction to help students develop critical thinking skills (Forcier & Descy, 2005). Today's teachers need to know how to use these technologies to help students learn.
Let’s turn now to a closer look at the different kinds of knowledge it takes to become an expert teacher.

The Importance of Knowledge in Teaching

Expertise in any field is built upon a knowledge base (Bruning et al., 2004). This knowledge comes from a variety of sources, including experience, research, and other professionals. One of the most important kinds of knowledge for teachers is knowledge of the content they are teaching.

Knowledge of Subject Matter

We can’t teach what we don’t understand ourselves. This simple statement is self-evident, and it is well documented by research examining the relationships between what teachers know and how they teach (Shulman, 1986; Wilson, Shulman, & Richert, 1987). To effectively teach about the American Revolution, for example, a social studies teacher must know not only basic facts about the event but also how it relates to other aspects of history, such as the French and Indian Wars, our relationship with England prior to the Revolution, and the characteristics of the individual colonies. The same is true for any topic in any other content area.

Pedagogical Content Knowledge

Knowledge of content—no matter how complete—is not enough, however; it is a necessary but not sufficient condition for effective instruction. An effective teacher also needs to know how to represent that information in ways that learners will understand. The ability to do this is called pedagogical content knowledge (Shulman, 1986). For example, consider the concept of mammal, which is typically taught in different ways to students at different levels. At the elementary level, the teacher might use pictures and concrete examples (e.g., a gerbil or guinea pig) to emphasize characteristics such as “covered with hair” and “warm blooded.” At the junior high level, teachers build on this foundation by emphasizing additional characteristics such as “live birth” and “four-chambered heart.” Finally, at the high school level, biology teachers discuss characteristics such as mammals’ ability to adapt to their surroundings, different classes of mammals, and what it means to be a primitive (e.g., the duck-billed platypus that actually lays eggs) compared to an advanced mammal that gives birth to live offspring. The same concept is taught in different ways at each of these levels to accommodate the background, interests, and capabilities of students.

Teachers at these different levels undoubtedly had a thorough understanding of content, but it was not sufficient in helping their students understand the topics they were studying. Majoring in math, for example, doesn’t ensure that a teacher will be able to create examples that will help students understand why multiplying two numbers sometimes results in a small number ($\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$, for instance), a counter-intuitive finding. The ability to create or choose effective examples requires both a clear understanding of content and pedagogical content knowledge. When either is lacking, teachers commonly paraphrase information in learners’ textbooks or have students memorize steps that don’t make sense to them.

Knowledge of Teaching and Learning

Learning to teach not only involves understanding content and how to translate that subject matter into an understandable form, but it also requires knowledge about the processes of teaching and learning themselves.
Knowledge of teaching and learning involves a general understanding of learners and how instruction contributes to the process of learning (Borko & Putnam, 1996). To understand how knowledge of teaching and learning is a central component of learning to teach, let’s look at a teacher who has taught her students the process for adding fractions and is now reviewing with them.

“Class, look at this fraction on the board. What do we call the number on the bottom? Celena?”

“Uh...denominator.”

“Good, Celena. And what do we call the number on the top, Carl?”

“...”

“We talked about this yesterday, Carl. Remember, it tells us the number of parts in the fraction. Think about the term that it is derived from, number.”

“Oh, yeah, numerator.”

“Excellent, Carl. Now, look closely at this addition problem. It says to add and What do we have to do first? Think for a moment, because this is important. Look up at the pies that I’ve drawn on the board to represent these different fractions.”

This teacher was trying to help her students do several things in her review. First, she wanted them to remember the names for the top and bottom number in a fraction—two concepts that she had already taught. When Carl could not answer, the teacher provided a prompt that helped him respond correctly. After students recalled the terms numerator and denominator, the teacher referred them to a problem on the board. She illustrated the abstract problem with a concrete example (the pies) to promote their understanding of the process. Finally, she told them to pause for a moment—an idea called “wait-time”—encouraging them to take some time to think about why changing the denominator was important.

Review, concept, prompting, concrete example, and wait-time are all pedagogical concepts—concepts about teaching and learning. As such, they are part of a professional body of knowledge that helps us understand and analyze our teaching and student learning. Your teacher education program is designed to aid you in understanding these and many other pedagogical concepts, which will help you recognize and appreciate effective teaching when you observe it, and ultimately help you plan and implement effective lessons in your own classroom. Each of the chapters in this text describes connections between teaching and learning.

Teaching Strategies As we’ve seen, research on effective teaching has established links between teacher actions and student learning (Good & Brophy, 2008; Marzano, 2007). Research on wait-time, for example, indicates that giving students time to think about a question increases the quality of both their immediate responses and their long-term achievement. Research also tells us that providing students with concrete examples to illustrate abstract ideas improves students’ ability to understand those ideas. An expert teacher understands the relationships between teacher actions and student learning and can implement these actions with their students.

In our work with teachers, we have found that sharing research with them is not enough. Research results must be translated into teaching strategies that work in classrooms, and teachers must be given opportunities to practice the strategies and receive feedback about their efforts. Teaching strategies are a fourth component of learning to
teach. A teaching strategy is an interconnected set of teaching actions designed to accomplish specific goals. Teaching strategies can be thought of as research translated into integrated teacher actions.

To illustrate the idea of a teaching strategy, let’s visit a high school language arts teacher wrestling with the concept of theme in writing.

“Class, today we’re going to learn about the idea of theme. It’s an idea that will help us understand and appreciate the literature we read. Look up at the white board and read the definition there.

‘A theme is an idea that reoccurs or repeats itself throughout a story.’”

“Let’s see if we can understand how theme relates to a story, Hemingway’s The Old Man and the Sea, which we’ve just finished. One of the major themes in that book was the struggle of man against nature. Hemingway introduced this theme at the beginning when he told us about the old man’s struggles to make a living catching fish. He worked hard every day but went for weeks without catching a decent fish. That’s one place where the theme—man struggling against nature—occurred. The fisherman represented man, and the sea that wouldn’t let him catch fish was nature. Who can give me a second example of this theme where man struggled with nature? Deena?”

“Well, like when the old man hooked the fish and had to fight with it for a long time.”

“Good, Deena. Go ahead and explain how that illustrates the idea of this theme.”

“I...I’m not sure...but I’ll try. The theme...the theme is man’s struggle against nature and the fish is nature, so he’s struggling with it.”

“Good thinking, Deena. Note, everyone, how the same idea—man against nature—is repeated in the story. That’s why it’s a theme. Who can think of another place where this theme reoccurred or repeated itself? Eddie?”

“...How about the shark attack?”

“Go on.”

“...Well, after he caught the fish, he tried to bring it back to sell it, but the sharks wouldn’t let him. So he...”

“What was he struggling with—besides the sharks?”

“Oh, okay, nature. He was struggling with nature.”

How does this illustrate a teaching strategy? A teaching strategy consists of coordinated teacher actions designed to reach a particular goal—in this case, helping students understand the concept of theme. The teaching strategy used by this teacher involved three basic steps:

- Defining the concept
- Illustrating the abstract idea with specific examples taken from the story
- Questioning to promote students’ active involvement in learning and to help them connect the examples to the concept

Research indicates that this is an effective strategy when we want students to understand abstract concepts (Eggen & Kauchak, 2010). Defining the idea provides a frame of reference for the rest of the lesson, the examples illustrate the concept and give it meaning, and questioning involves students in the learning process. In Chapters 6 through 12, we describe a number of teaching strategies ranging from learner-centered, constructivist strategies that
To view a video clip of teachers at different grade levels and in different content areas demonstrating these different forms of professional knowledge, go to the Book Specific Resources tab in MyEducationLab, select your text, select Video Examples under Chapter 1, and then click on Demonstrating Knowledge in Classrooms.

capitalize on social interaction to more teacher-centered approaches such as direct instruction and lecture-discussions. Each contains a specific set of research-based steps designed to accomplish specific goals.

Teacher Decision Making

Teachers need to know the content they teach and how to transform this content into a form students can understand. They also need to understand how to help students learn and how to translate this knowledge into teaching strategies. We call these four components of learning to teach knowledge of subject matter, pedagogical content knowledge, knowledge of teaching and learning, and teaching strategies. But learning to teach involves even more than a thorough understanding of these components. Expert teachers not only have a repertoire of knowledge and strategies, but also understand when specific teacher actions are effective and why. For example, the teacher-centered approach to teaching concepts described earlier, which results in increased understanding of concepts, may not be effective for teaching other important goals, such as social interaction skills that include active listening and building on others’ ideas, or developing attitudes and values such as openness to alternate points of view. These goals need different approaches that require student-student interaction (Alexander, 2006). Understanding how to implement knowledge of teaching and learning and when and how different teacher strategies are effective is an important dimension of effective teaching, requiring a great deal of expertise. This dimension is called professional decision making, a process that governs and guides the other four components.

Decision making involves the application of professional judgment in deciding when, where, how, and why to use the other components of teaching. As shown in Figure 1.1, decision making is an executive function that governs the application of the other teaching components.

Professional decision making can be thought of as a filter that helps determine when and where research findings should be used. Educational research needs to be applied selectively and strategically, with students’ well-being and with our goals for teaching continually in mind; this is the essence of professional decision making. Let’s see how decision making influences teaching in the classroom.

A kindergarten teacher has just distributed materials for an art project and is now surveying the room to see if everyone has started. She notices that Jimmy is staring out the window with his thumb in his mouth and tears in his eyes. It is the beginning of the school year, and Jimmy still isn’t used to the idea of being away from home.
Learning to Teach

Should the teacher wait a minute and see if the art materials will do the trick, or should she intervene?

A middle school teacher is getting more and more frustrated. Mary is obviously more interested in her friends than in English, and the teacher can’t keep her from talking. He calls on her; she doesn’t hear the question. Should he reprimand her, repeat the question, or go on to another student?

A high school teacher has just distributed an assignment. She goes over the work in some depth, explaining its importance and how it should be done. She concludes by reminding the class that the grade for the assignment counts as one-fourth of the semester grade. A barely audible “Who cares?” follows. Should the teacher ignore it and go on, or should she respond?

We all remember our educational psychology texts’ admonitions about the effects of reinforcement and punishment on behavior. These are documented research findings. But what do the findings tell the classroom teachers in the preceding examples? In each case, direct interventions might cause as many problems as they solve. Ignoring the problem raises similar issues. To make the situation more complex, these decisions must be made immediately.

The number of decisions—conscious or otherwise—that teachers must make every day is staggering. One estimate suggested that teachers make more than 800 decisions per day in elementary classrooms (Jackson, 1968); another estimated the number at 1,500 (Murray, 1986). Even using the more conservative figure, that translates into more than 130 decisions per hour in a six-hour teaching day!

Before you get discouraged, remember that effective teachers not only make these decisions but also make them well. Expert teachers structure their classrooms to run efficiently, so more time and energy can be devoted to important decisions—decisions that affect learning (Emmer, Evertson, & Worsham, 2009; Evertson, Emmer, & Worsham, 2009).

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**Figure 1.1**

**Components of Learning to Teach**

- **Knowledge of Subject Matter**
- **Pedagogical Content Knowledge**
- **Knowledge of Teaching and Learning**
- **Teaching Strategies**
Educational Reform

You are becoming a teacher in one of the most tumultuous periods in the history of American education. Critics, both inside and outside the profession, are calling for reforms, which are suggested changes in teaching and teacher preparation intended to increase the amount students learn. To implement these reforms, teachers must be well prepared, and leaders in education are saying that we need to professionalize teaching (Blair, 2000). We examine the implications of these reform efforts for your professional development as a teacher in this section.

No Child Left Behind  By far the most far-reaching federal reform effort was the No Child Left Behind Act. This legislation, signed by President George W. Bush in 2002, was a reauthorization of the Elementary and Secondary School Act of 1965 and provided, among other things, guidelines for teacher and school accountability that included the following:

■ Annual testing. By the 2005–2006 school year, reading and math assessments from grades 3 to 8 were required, with each state deciding which test to use and what a passing or proficient grade would be. By 2007–2008, science assessment requirements were added in elementary, middle, and high schools. Schools were required to report not only test scores for the school, but also scores broken out by race, ethnicity, disability, social class, and limited English proficiency to ensure that no group is left behind—the reason for the legislation’s name.

■ Academic improvement. Each state was required to define academic proficiency for their students, and all students were to be proficient in reading and mathematics by 2013–2014. The progress each state and each school made was measured annually, and schools that failed to make adequate yearly progress (AYP) for two consecutive years were labeled “underperforming.” Although underperforming schools were entitled to special assistance, they also needed to give parents the option of sending their children to successful schools and to pay transportation costs. If a school did not achieve AYP for three years, additional supplemental services were to be provided to children, including private tutoring, also paid for by the school. After four years of unsatisfactory test grades, the state had to intervene and institute major staff and curricular changes. If progress wasn’t made after five years, the school could be closed and either reconstituted by the state or reopened as a charter school.

■ Report cards. States and school districts were required to provide the public with reports of district and school progress or lack of progress.

■ Teacher qualifications. All teachers were to be highly qualified, licensed with an academic major in the field they were teaching (Hardy, 2002; Jennings, 2002).

No Child Left Behind was controversial on several levels (Allen, 2004; Marshak, 2003; Mathis, 2003). First, critics contended that it placed too much emphasis on standardized testing, resulting in teaching to the test and a narrowing of the curriculum away from areas such as art and literature that aren’t tested. A second criticism was that it placed unreasonable demands on schools with large numbers of minority or high-poverty children. Critics contended that meeting the needs of these students required significant additional resources. A third criticism was that states watered down both their standards and the tests linked to them in an attempt to make themselves look good. This watering down is a major reason for the current interest in national standards. Despite these criticisms, NCLB and
other reform efforts have caused major changes in teacher licensure, which will affect you as a beginning teacher.

**Changes in Teacher Preparation**  Reform in teacher education focuses on upgrading the knowledge and skills of teachers, including

- Raising standards for acceptance into teacher-training programs
- Requiring teachers to take more rigorous courses than they have in the past
- Requiring higher standards for licensure, including teacher tests
- Expanding teacher-preparation programs from four years to five
- Requiring experienced teachers to take more rigorous professional development courses (Wayne & Youngs, 2003)

Some of these suggestions are almost certainly going to affect you. We’ll describe two as examples. First, you will likely be required to take more courses in English, math, science, history, and geography than have been required of teachers in the past. In addition, there is a movement to require all teachers, elementary and secondary, to major in a content area for their undergraduate degree. The rationale behind this push is related to both knowledge of content and pedagogical content knowledge—that teachers can’t teach what they don’t know themselves.

Second, you probably will be required to pass a test before you’re awarded your teaching license. Currently, most states require some form of testing for prospective teachers, but the exact form that this testing takes varies from state to state (Swanson, 2008). Some states require tests of basic skills prior to admission to a teacher education program, whereas others test professional knowledge after program completion. In addition, some states require tests of your knowledge of the subjects you’ll be teaching, especially if you’re a middle or high school teacher. Virtually all of these tests are paper-and-pencil, although most new teachers will also be evaluated in terms of their classroom performance during their first year.

Testing teachers is not new; for example, teachers were tested all the way back in the 1840s using oral exams that focused primarily on candidates’ moral qualifications (Wilson & Youngs, 2005). The current emphasis on testing teachers is part of a larger accountability movement in education in which students, teachers, and even principals are tested, and the results are used to evaluate the effectiveness of educational efforts.

The Praxis Series, published by the Educational Testing Service, is the most common form of teacher testing, although several large states such as Florida, New York, and Texas publish their own (Educational Testing Service, 2008). The Praxis Series (praxis means “putting theory into practice”) is currently being used in more than 30 states and consists of three components (Educational Testing Service, 2008):

- **Praxis I: Academic Skills Assessments**—designed to measure basic or “enabling” skills in reading, writing, and math that all teachers need.
- **Praxis II: Subject Assessments**—designed to measure teachers’ knowledge of the subjects they will teach. In addition to 70 content-specific tests, Praxis II also includes the Principles of Learning and Teaching (PLT) test and the Professional Knowledge test.
- **Praxis III: Classroom Performance Assessments**—use of classroom observations and work samples to assess teachers’ ability to plan, instruct, manage, and understand
professional responsibilities. In addition, Praxis III assesses the teacher’s sensitivity to learners’ developmental and cultural differences.

You are most likely to encounter Praxis I during your teacher preparation, Praxis II after its completion, and Praxis III during your first year of teaching.

**Standards-based Professional Development**

One important outcome of the reform movement in education is the increased use of standards to focus curriculum and instruction on important learning goals. Standards-based education is changing K–12 education, as you read about earlier in the chapter. It is also changing the kinds of experiences you’ll have in your teacher education programs.

**Beginning Professional Development: INTASC Standards**

In the past, learning to teach was easier and the demands on beginning teachers were not as great. This has changed (Berliner, 2000). A rapidly expanding body of literature consistently demonstrates that teaching now requires professionals who are highly knowledgeable and skilled (Darling-Hammond, 2000; Marzano, 2007).

The profession is responding. Created in 1987, the *Interstate New Teacher Assessment and Support Consortium* (INTASC, 1993) was designed to help states develop better teachers through coordinated efforts of support and assessment. INTASC’s work is guided by the premise that effective teachers should possess the knowledge and abilities to assure that all students learn and perform at high levels. To make this happen INTASC has established rigorous standards that describe the knowledge and skills that all teachers should possess. The current standards, along with proposed revisions, are outlined in Table 1.4 (Interstate New Teacher Assessment and Support Consortium, 1993; Council of Chief State School Officers, 2010).

As you can see, both the current and proposed new principles describe broad areas of knowledge and expertise that all teachers, including new ones, should possess. In addition, the new, proposed principles are grouped into four main areas: The Learner and Learning, Content, Instructional Practice, and Professional Responsibility. Note that these new principles are currently under review and, will in all likelihood be revised with minor revisions and published in final form sometime in 2011. These principles provide broad goals for teachers as they enter into the profession and develop as competent and effective professionals.

**Table 1.4  Current and Proposed New INTASC Principles**

<table>
<thead>
<tr>
<th>Current INTASC Principles</th>
<th>6. Communication skills</th>
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<tbody>
<tr>
<td>1. Knowledge of subject</td>
<td>7. Planning</td>
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<tr>
<td>2. Learning and human development</td>
<td>8. Assessment</td>
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<tr>
<td>3. Adapting instruction</td>
<td>9. Commitment</td>
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<td>5. Motivation and management</td>
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### Proposed New INTASC Principles

<table>
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<tr>
<th>Principle</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>The Learner and Learning</strong></td>
<td>The teacher understands how children learn and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.</td>
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<td>Standard #1: Learner Development</td>
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<td>Standard #2: Learning Differences</td>
<td>The teacher uses understanding of individual differences and diverse communities to ensure inclusive learning environments that allow each learner to reach his/her full potential.</td>
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<tr>
<td>Standard #3: Learning Environments</td>
<td>The teacher works with learners to create environments that support individual and collaborative learning, encouraging positive social interaction, active engagement in learning, and self motivation.</td>
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<tr>
<td><strong>Content</strong></td>
<td>The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners.</td>
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<td>Standard #4: Content Knowledge</td>
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<tr>
<td>Standard #5: Innovative Applications of Content</td>
<td>The teacher understands how to connect concepts and use differing perspectives to engage learners in critical/creative thinking and collaborative problem solving related to authentic local and global issues.</td>
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<tr>
<td><strong>Instructional Practice</strong></td>
<td>The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to document learner progress, and to inform the teacher's ongoing planning and instruction.</td>
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<td>Standard #6: Assessment</td>
<td></td>
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<tr>
<td>Standard #7: Planning for Instruction</td>
<td>The teacher draws upon knowledge of content areas, cross-disciplinary skills, learners, the community, and pedagogy to plan instruction that supports every student in meeting rigorous learning goals.</td>
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<tr>
<td>Standard #8: Instructional Strategies</td>
<td>The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to access and appropriately apply information.</td>
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<tr>
<td><strong>Professional Responsibility</strong></td>
<td>The teacher is a reflective practitioner who uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (students, families, and other professionals in the learning community), and adapts practice to meet the needs of each learner.</td>
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<tr>
<td>Standard #9: Reflection and Continuous Growth</td>
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<tr>
<td>Standard #10: Collaboration</td>
<td>The teacher collaborates with students, families, colleagues, other professionals, and community members to share responsibility for student growth and development, learning, and well-being.</td>
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The INTASC standards are demanding, but this is as it should be. If you expect to be treated as a professional, you should have the knowledge and skills that allow you to make the decisions required of a professional. Being able to meet the INTASC standards is a good beginning and developing a professional portfolio is one of the most effective ways to demonstrate your mastery of these standards. We discuss how in the next section.

### Developing a Professional Portfolio

The interview was going okay, but I was uneasy. The principal I was interviewing with was cordial, but she certainly wasn’t enthusiastic. “I’ve had it,” I thought to myself. She even quit asking me questions after about 20 minutes. I really wanted the job too.
As I was about to leave, I happened to mention, “Would you like to see my portfolio?” She looked at it for a couple of minutes, and then she started asking some probing questions. When she stuck my CD-ROM in her computer and saw me teaching, she really lit up. I got the job! (Shannon, a recent graduate and new teacher)

As you begin this section, you might wonder, “Why are they talking about interviews and portfolios now in the middle of my teacher education program? Jobs and interviews may be months, even years, away.” The answer is simple. The sooner you start on your professional portfolio, the better, and professional portfolios are one of the best ways to document and reflect on your growth as a teacher. A professional portfolio is a collection of work produced by a prospective teacher (Devlin-Scherer, Burroughs, Daly, & McCarten, 2007). Just as artists use portfolios of produced work to illustrate their talents and accomplishments, teachers use portfolios to document their knowledge and skills.

The reason to think about your portfolio now is that you may want to include products that you complete throughout your program, including assignments for the course you’re in now. For instance, you might teach a particularly good lesson for one of your methods classes. You may want to include a copy of the lesson plan, a videotape of you teaching the lesson, and student work samples to document the lesson’s effectiveness and your growth as a developing teacher. Although this experience will have occurred long before you actively seek a job, it can be a valuable entry nevertheless. The sooner you start thinking about what to include in your portfolio, the less likely you are to omit valuable or important entries.

Portfolios also provide tangible benchmarks that you can use for reflection, and reflection, or thinking about and analyzing your actions and beliefs, can accelerate your growth as a professional. For instance, you have videotaped yourself teaching a lesson for one of your teaching methods courses. The videotape is a concrete indicator of your skills at that point and provides a tangible basis for your reflection. Later, you may complete another videotaped lesson during an internship experience or student teaching. A comparison of your performance in the two lessons provides a concrete measure of your progress.

**Possible Portfolio Entries**

The contents of a professional portfolio can take many forms. Some possible suggestions are included in Table 1.5.

These different types of portfolio entries provide different perspectives on your growth as a professional.

<table>
<thead>
<tr>
<th>Table 1.5 Potential Professional Portfolio Entries</th>
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<tbody>
<tr>
<td>Lesson plans</td>
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<tr>
<td>Unit plans</td>
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<tr>
<td>Videotapes of lessons taught</td>
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<tr>
<td>Student work samples</td>
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<td>Student projects</td>
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<td>Action research projects</td>
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<td>Classroom management plan</td>
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<td>Communications with parents</td>
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<td>Community involvement</td>
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<td>Grading policies</td>
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<td>Transcripts</td>
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<td>Volunteer work</td>
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<td>Technology competence</td>
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<td>As a teacher:</td>
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<td>Principal evaluations</td>
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<td>Supervisor evaluations</td>
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Source: Adapted from Bullock and Hawk (2001).
Preparing a Portfolio  Preparing a portfolio involves five steps (Kilbane & Millman, 2003):

1. Specify a goal. For example, you’re probably taking this course because you’ve either decided that you want to teach or you’re at least considering teaching. Finding a satisfying job would be a likely goal.

2. Determine how both past and future experiences relate to the goal. You might choose to tutor a student with a reading problem, for example, to get professional experience that will make you more marketable.

3. Strategically collect items that provide evidence of your developing knowledge and skill. A video clip of you working with the student would be an excellent entry, for instance.

4. Decide which items among your collection best illustrate your knowledge and skills. Since a prospective employer is unlikely to view a bulky collection or series of videotapes, you’ll need to be selective about the items you choose to insert in your portfolio.

5. Determine how to best present the items to the person or people connected to your goal, such as the personnel director of a school district in which you want to teach.

All professional portfolios have four components:

- **Purpose:** To document a particular aspect of your growth as a teacher, such as your ability to plan or implement a specific type of lesson
- **Audience:** Can vary from a professor or instructor to a prospective employer
- **Evidence:** Consists of work samples that document accomplishments and growth
- **Reflections:** Thoughts about the evidence and how it documents professional growth (Bullock & Hawk, 2001)

As you begin your portfolio, we offer three suggestions:

- Initially, err on the side of including too much in the portfolio. If you think you might use it, include it now. You can always remove an item, but retrieving an item you’ve discarded is difficult if not impossible.
- Always date the entry. If you want to organize your portfolio chronologically, the dated items will make organizing the information simpler.
- Make all entries and supporting information with clear communication in mind. You’re trying to convince a potential employer that you’re knowledgeable and skilled, and you want to make his or her decision as easy as possible. A well-organized portfolio creates a positive impression; the opposite occurs with a disorganized one.

Electronic Portfolios.  As we move further into the information age, the development of electronic portfolios is becoming more commonplace. They include everything a paper-based product includes, but they do it more efficiently. For example, one CD-ROM disk can hold the equivalent of 300,000 text pages. Typed documents can be scanned into word processing files and stored on floppy disks or CD-ROMs, and video can be digitized and also stored on CD-ROMs. This saves both time and energy. People who want to view a video episode in a paper-based portfolio must find a VCR, review the tape, and put it back into the correct portfolio container. In contrast, video footage in an electronic portfolio can be augmented with text and graphics and accessed with the click of a mouse. This is what got Shannon her job. The principal was impressed with both her teaching and the fact that the information in her portfolio was so easy to access.
Because of these advantages, it is likely that paper-based portfolios will become obsolete, so the sooner you develop your technology skills in these areas, the more effective your portfolio will be.

**Using This Book to Learn to Teach**

This book can help you become an expert teacher in several ways. Perhaps most important, it includes research findings that describe how teachers can increase student learning. Much of this research is described as concepts that are highlighted in **boldface** type and defined in **italics** to identify them as important ideas. These “Important Concepts,” with page numbers, are also found at the end of each chapter to aid you in your study. Other research findings appear as teaching strategies designed to accomplish specific goals. Our goal in presenting this information is to provide you with the conceptual tools you need to analyze your own and others’ teaching and to plan and implement effective lessons in your own classroom.

Case studies are used throughout this book in an attempt to connect theory with classroom practice. We begin each chapter with a case that frames important concepts and major issues in the chapter, and we end each chapter with an additional case for you to analyze called “Preparing for Your Licensure Exam.”

These case studies serve several functions. First, they illustrate important educational concepts, helping you understand what these ideas look like in classrooms. For example, we used brief case studies in the previous section to illustrate teacher decision making—an abstract and potentially difficult to understand concept. In addition to being useful illustrations, case studies show how important ideas can be applied in classrooms. Also, the Praxis II series, as well as many state teacher exams, use case studies to test beginning teachers’ knowledge. Your familiarity with the use of cases to illustrate complex ideas will assist you on these tests. The cases in this text are based on our experiences in classrooms and schools and are an attempt to provide you with a realistic slice of classroom life.

Discussion questions are also found at the end of each chapter. They invite you to go beyond the content, to look for relationships between ideas, and to integrate the material in a personal way. The answers to some of these questions can be found within the text, whereas others are more open-ended, asking you to use your own experience and judgment. We hope that they will stimulate your growth in professional decision making.

The third set of exercises, “Portfolio Activities,” is designed to assist you in developing your own professional portfolio by applying research findings in actual classrooms through assignments that demonstrate the implications of research findings for classroom practice. These portfolio activities appear in three forms. Some ask you to interview teachers to discover how expert teachers think about and solve real-world problems. Talking to expert teachers and analyzing their teaching are productive way to learn about teaching, and reflecting on the thoughts and actions of others provides you with a concrete frame of reference to construct your own developing personal philosophy of good teaching. A second kind of activity asks you to observe teachers in action, based on information you’ve studied in this book. You’ll watch teachers teach, analyze the strategies they use to help students learn, and reflect on their effectiveness, not only for these students, but also for the students you’ll be teaching. The third kind of activity invites you to try these ideas for yourself. It involves structured teaching experiences designed to help you apply concepts and strategies in real classrooms with real students and to reflect on their effectiveness. If at all possible, we recommend that you use all of these to make the content of this text personally meaningful and to document your growth as a teacher.
Summary

Defining Good Teaching
The central role of research in informing teaching practice has changed the way we think about teaching and learning. Research now provides us with tools to analyze teaching to maximize learning.

The Search for Effective Teaching
Initially, research on teaching focused on teacher characteristics and later moved to a search for one effective method. Both lines of research failed to link teacher actions to student learning. The teacher effectiveness research established that teachers do indeed make a difference in students’ learning and identified a number of productive strategies to increase student learning.

Contemporary Views of Teaching and Learning
As research has shifted from behaviorist to cognitive views of learning, teaching has focused on active ways to involve students in learning. Constructivist approaches to instruction stress the central importance of student’s active involvement in learning.

Text Themes
Recent developments in education shaped the three major content themes for this text—standards and accountability, diversity, and technology. Standards and accountability influence how teachers plan, instruct, and assess. A focus on diversity explores ways to capitalize on student differences in the classroom. Technology provides us with electronic tools to enhance student learning.

Learning to Teach
Learning to teach is a complex process involving many components. Teachers need to know their subject matter but also need pedagogical content knowledge—an understanding of how to translate this content into forms that are understandable by students. Knowledge of teaching and learning, which addresses the relationship between teachers’ actions and students’ learning, needs to be combined with teaching strategies aimed at specific goals. Teacher decision making combines all of these components in effective teaching. Learning to teach in an era of reform will require teachers to demonstrate their competence to teach throughout their professional careers.

Using This Book to Learn to Teach
A number of features in this book are designed to help you learn to teach. Important concepts are highlighted in bold and listed at the end of each chapter. Cases provide access to classrooms, encourage you to connect important ideas to students and learning, and provide practice for Praxis and state-specific exams. Discussion questions invite you to go beyond the content in the book and link this content to your own experiences. Finally, portfolio activities suggest ways that you can use chapter concepts to observe, analyze, and implement ideas in classrooms.
Important Concepts

Accountability (p. 7)  Pedagogical content knowledge (p. 14)
Behaviorism (p. 6)  Professional portfolio (p. 22)
Cognitive psychology (p. 6)  Reflection (p. 23)
Constructivism (p. 6)  Reforms (p. 19)
Decision making (p. 17)  Teacher effectiveness research (p. 5)
English language learners (p. 12)  Teaching strategy (p. 16)
Knowledge of teaching and learning (p. 15)

Discussion Questions

1. Rank order the following teaching strategies on a continuum in terms of students’ active involvement. Explain how each can involve students in the learning processes.
   - Cooperative learning groups
   - Discussion
   - Drill and practice
   - Homework
   - Lecturing
   - Student projects

2. Reexamine the information in Table 1.1, comparing behaviorist and cognitive views of learning. Which view do you think is more motivating for students? Why? Which view is more demanding for teachers? Why?

3. In terms of effective teaching, research suggests that content mastery is an essential component. Is this component equally important at all grade levels? In all subject-matter areas?

4. How does your definition of good teaching vary in terms of high- and low-ability students? Are there more similarities or differences between the two groups? What would you do with one group that would be different from the other?

5. What kinds of diversity did you encounter in the schools that you attended? What types of diversity do you anticipate encountering in the classrooms you’ll teach in? How can student diversity be both an asset and a challenge to your teaching?

6. Reread the case study at the beginning of this chapter. What is the teacher’s responsibility in terms of motivation? Do you agree with Stan Williams? What about the question regarding basic skills versus thinking strategies? Do basic skills need to precede thinking skills? What are the advantages and disadvantages of this approach?

7. What forms of technology did you encounter in the schools that you attended? How were they used to promote learning? What types of technology are you encountering in your teacher education program? What is the biggest challenge involved in using technology in your teaching?
8. One of the problems in learning to teach is that good teaching often appears effortless. Think back to some of the good teachers that you’ve had. What specific things did they do that made them effective? Compare these behaviors with those of other, less effective teachers.

**Portfolio Activities**

1. **Effective Teaching: The Teacher’s Perspective.** How do experienced teachers think about effective teaching? Interview two teachers and ask the following questions:
   - What is effective teaching?
   - How do they know when it is occurring in their classroom?
   - What are some ways to measure effective teaching?
   - Which factors (e.g., students, content area) influence the definition of good teaching?
   Compare the responses of the two teachers with your own ideas about effective teaching.

2. **Effective Teaching: The District’s Perspective.** How does the district evaluate its teachers? In your interview with the teachers in Exercise 1, find out how they are evaluated. If a form or instrument is used, ask to see it. Consider the following questions:
   - What criteria are used? Are these based upon research findings?
   - How is the form used? That is, how many times is the teacher observed with it?
   - What does the teacher think of the process?
   - How will the process of being evaluated as a teacher influence your professional development?

3. **Effective Teaching: The Student’s Perspective.** The bottom line in our teaching is its effect on students. This exercise is designed to make you more sensitive to the learning process from a student’s perspective.
   Identify six students to observe; three should be male and three female. Also, two should be high achievers in the class, two medium, and two low or struggling learners. If you are using another teacher’s classroom, an ideal way to do this is to have the teacher select the students but not identify their status. This provides you with an opportunity to infer classifications from students’ behavior and responses. Position yourself at the side of the classroom and toward the front so you can see the students’ faces. Observe the six students as they enter the class, at the beginning of the lesson, during the major part of the lesson, and during any seatwork. Answer these questions:
   - Which students are most attentive?
   - Which students take notes?
   - Which students participate the most in the lesson?
   - Is there any relationship between teacher actions (e.g., questioning) and student engagement rates?
   - If possible, interview the students and ask them the kinds of things the teacher does to help them learn.
   - What implications do the students’ perspectives have for your instruction as a teacher?
4. *Diversity.* Observe a classroom and note the kinds of diversity you find there. How do students in the class differ in terms of
a. gender
b. ability
c. culture and ethnicity
d. English language facility

Do all students participate equally in the class? Interview the teacher and ask how diversity influences his or her teaching. What opportunities and challenges will student diversity provide you as a developing teacher?

5. *Motivation.* Observe a classroom and try to determine the following:
   a. Students’ level of motivation during the lesson. (How can you tell?) Does it seem to vary during the lesson?
   b. Different students’ level of motivation. Is there any pattern? How does location in the room influence this?
   c. The teacher’s strategies to influence student motivation.

If possible, discuss your observations with the teacher afterward. How do you plan to motivate students in your own classroom?

6. *Technology.* Which kinds of technologies are being used in the classroom you are observing? What other types of technologies are available in the school? Interview the teacher and ask
   a. How does technology enhance learning and teaching?
   b. What influence does it have on student motivation?
   c. What obstacles are there to the teacher’s greater use of technology?
   d. How did the teacher learn to use this technology?

How will you use technology in your classroom?

To check your comprehension of the content covered in Chapter 1, go to the Book Specific Resources in MyEducationLab, select your text, and complete the Study Plan quiz. In addition to receiving feedback on your answers, a study plan will be generated from the quiz that will direct you to access Review, Practice, and Enrichment materials to enhance your understanding of chapter content.