Welcome to the study of Educational Psychology. Educational psychology helps us understand learning and teaching and how development and differences among individuals influence the process of learning. Learning and teaching are highly interrelated, and the study of educational psychology helps us make informed decisions about how our students learn best. It helps us reflect on our own learning and, at the same time, informs our educational practice. As teachers...
In this text we take a developmental approach to understanding how children and adolescents grow, change, and learn. Development is critical in the study of educational psychology, and we discuss the topic from a variety of perspectives. Age and experience affect children’s knowledge of and ways of engaging in academic subjects, social relationships, and moral dilemmas. Physical and emotional development also affect children’s ways of understanding. Thus, teaching strategies need to be responsive to the ways in which children and adolescents think about things.

Teaching as Both Art and Science

There is a complex interrelationship between teaching and learning. The process of teaching is a combination of art and science. The art of teaching requires talent, creativity, flair, and intuition. A teacher must be attuned to other people and be able to read emotions and feelings. He or she must be able to perceive the nuances of students’ reactions. At the same time, the science of teaching relies on reproducible knowledge that provides direction for instruction; in other words, teachers rely on the experience of others who have taught successfully. What has worked for others, especially if backed up by the close scrutiny of research, gives us information on the teaching strategies that provide students with opportunities to learn. The learner is central to teaching.

Too often, however, the learner is forgotten in the endeavor of learning to teach. This tendency is especially evident when we observe preservice or novice teachers. They are so busy with the act of teaching that they sometimes overlook the students themselves. This is a natural and common occurrence when one is concentrating so hard on mastering a new skill. For example, most children are very careless when learning to ride a bicycle. They are working so hard at riding the bike that they forget about the cars and pedestrians sharing the street with them.

Learning, on the other hand, tends to be a personal enterprise. No one else can learn something for you. When conditions for the learner are appropriate, learning can occur whether a teacher is present or not. Think of the number of things that you know about the world that you learned simply by watching a television program or observing someone else. There was no teacher present, and yet you learned something. Learning occurs naturally. The act of teaching builds on this innate capability and enhances learning. To facilitate the learning process, this book is designed not only to introduce concepts connected with effective teaching and the influences affecting the learner, but also to help preservice teachers understand the learner’s perspective. This understanding is vital if you are to make the learner your primary focus in teaching.

Educational Psychology: Theory and Practice

Educational psychology is a discipline concerned with the overall teaching-learning process. Broadly defined, it can be separated into two distinct but highly related areas: theory and practice. Throughout this book you will be
introduced to concepts that often have what appear to be two or more opposing viewpoints. In almost all instances, however, we urge you to think not in terms of two different opposing frameworks, but rather in terms of two concepts on either end of a continuum. Education is seldom a choice between two concepts; more often it is a compromise based on our knowledge of the learner, the context of the learning situation, and the necessary learning goals. On the theory–practice continuum, a teacher can typically be found somewhere in the middle of the continuum, depending on the learner and the learning situation (Figure 1.1).

**Theory: A Scientific Framework for Understanding Learners**

Psychologists analyze what it means to be a human, whereas educational psychologists, with the use of theories and principles, analyze what it means to be a learner. These theories provide teachers with an understanding of the learner generalized from many individuals’ experiences. From among the numerous theories that exist, the teacher selects the concepts that most closely match the learner in question. The teacher then uses intuition (the “art” of teaching) combined with the theory to achieve a better understanding of the unique learner and situation. In this way, theories are a critical part of the teaching process. For example, a teacher notices that a ninth-grade student is very concerned with comparing his marks to others in the class. The teacher knows that social comparison theory will help her understand this, combined with talking to the student and his parents to see if other pressures are affecting him. Or a grade 3 student is constantly seeking teacher attention, leading the teacher to question why the child is so needy. Is the child emotionally and socially immature? Does she lack self-confidence? Has she had enough opportunities to experience mastery?

**Practice: Combining Science with the Art of Teaching**

On the other end of the theory–practice continuum, practice provides teachers with a series of concrete strategies and activities that have proved to be effective teaching tools. Often these strategies and activities are handed down from practitioners who have developed and tested their repertoires over years of experience—one of the reasons that a student teaching experience with a master teacher is so important (Photo 1.1). Master teachers create their repertoire from theoretical building blocks. They understand important theoretical concepts and use them to design instructional strategies that engage students and facilitate their academic achievement. The art of teaching can be learned only in a classroom, and it is learned most effectively with someone who shares a rich, well-informed repertoire of experience.
Working along the Theory–Practice Continuum

The development of a theory without any intention of putting it into practice makes it nothing more than an interesting exercise in psychology. A comment sometimes heard in school staff rooms is that a teacher’s proven repertoire has value, whereas theories are just for those in universities or “ivory towers”—not those of us in the “trenches.” As one of the authors illustrates,

“When my son was in grade 4, he was placed in the school’s Challenge Program. We lived in a very small community in which the local school was only kindergarten to grade 3, so when he changed to the larger elementary school we were delighted to see this program for gifted students continuing. But soon my son started to “hide” by being very busy and quiet when it was time to leave his class to go to this program. He wanted no part of it. After talking to him, I met with the teacher who worked with the Challenge Program to explain that all the children who came from the primary school had already completed the unit on magic that this teacher was now doing. The teacher explained that, although she knew some children had already completed the unit, she had already prepared the worksheets and materials and was proceeding with teaching it. She noted that there wasn’t any additional material for the children to cover in this program. Her teaching assignment was a result of scheduling, and she had had no opportunity to acquire an understanding of theories of giftedness. Such an opportunity would undoubtedly have made her approach very different.”

This example illustrates that both theory and practice are necessary for education to function. Theory and practice interact to inform each other, and a teacher needs to work back and forth along the theory–practice continuum to find the best mix for a specific teaching–learning situation. Likewise, educational psychologists learn a great deal from what happens in classrooms.

As you work through the various theories of development and learning presented in this text, you will quickly realize that no single theory can explain all the variations that occur in the children and adolescents you encounter. The developmental approach we use in this text is actually a combination of many theories, since human development is an open and complex dynamic system. The major challenge to developing a comprehensive theory is human nature itself.
Chapter 1  Educational Psychology

Theory and Practice in the Classroom Community

Theories help us grasp some of the nuances of human nature. Theories tend to be succinct and based on the integration of a large research base. They provide us with starting points to understand the learner as a human being and with ideas that can be used to try to find the best fit between our teaching goals and the learners in our classroom. Each learner is an individual with particular learning styles and needs that must be taken into account in our teaching. Classrooms, however, are also dynamic social communities in which the particular mix of learners affects the learning that takes place (Photo 1.2). We learn in both social and individual ways. Classrooms are unique social communities, often called communities of learners, that contribute to the development of knowledge.

Community of Learners: The Social Construction of Knowledge

What we learn is influenced both by our individual characteristics as learners and by our interactions with others. Knowledge is socially constructed, a point to which we will return in more detail. For now, we emphasize two points.

- **Teachers are both learners and teachers.** It is their responsibility to impart knowledge, but they do this most effectively when they learn from their students. If they learn how students understand the curriculum, for example, they can help students build on their current understanding to acquire more complex forms of knowledge.

- **Learners take on dual roles as well.** This is an important corollary to the concept of a teacher as both learner and teacher. In addition to the obvious relationship between students and their teachers, students also learn in their relationships with each other. Students are part of a community of learners (see also Chapter 6). They learn from the experience of teaching each other and working together on problems and projects. If teachers are open to the experience, they also teach their teachers innumerable lessons. Detailing the teaching-learning experience and the variety of influences that bear on this experience is central to educational psychology.
Understanding the learners in our classrooms is central to the educational enterprise. Without this understanding, we cannot make informed decisions about how best to support our students. As teachers, we need to ask ourselves a number of key questions to ensure that we understand our students as fully as we can. These questions reflect the core principles and concepts of educational psychology:

- What motivates our students?
- How do they conceive of themselves as learners?
- How do they understand the purposes of schooling?
- Do they feel safe and secure as learners in an educational community?
- How do other factors in their lives influence their learning?
- How do they change and grow throughout childhood and adolescence, and how do these changes influence their learning?
- What strategies do they use to learn?
- How do they respond to different ways of teaching?
- How do I, as a teacher, interact with my students in the most effective, supportive ways?
- How do I manage my class when it includes a child with special needs?

Educational psychology is concerned with these and other related questions. The discipline focuses on the critical intersections among the minds and actions of the learner, teacher, and educational community.

In this textbook we discuss the following core principles and central concepts of educational psychology:

- Learning
- Cognitive development
- Social and emotional development
- Moral development
- Physical development
- Social–cultural context
- Children with special learning needs
- Intelligence and creativity
- Motivation
- The learning context
- Assessment and evaluation of learning

We consider how these principles and concepts bear on understanding learners at different stages of their development and with varying capabilities. The relationship between understanding learners and educational practice is paramount in this text. As teachers, we must understand why we do what we do. This understanding will enable us to provide a sound rationale for our practice to parents and school administrators. More important, though, this understanding is fundamental to best practice. Best practice refers to the provision of an environment and learning challenges that allow each student to achieve his or her full potential.
Examples from Early Childhood

Throughout the text, we include examples to illustrate key concepts of educational psychology. These examples are intended to help you make the connections between educational psychological theory and practice. A number of these examples are from early childhood, such as the following from Vivian Paley’s (1981) book, *Wally’s Stories*. Wally highlights better than we can the reasons for emphasizing examples from early childhood.

Wally: People don’t feel the same as grown-ups.
Teacher: Do you mean “Children don’t”? 
Wally: Because grown-ups don’t remember when they were little. They’re already an old person. Only if you have a picture of you doing that. Then you could remember.
Eddie: But not thinking.
Wally: You never can take a picture of thinking. Of course not. (p. 4)

Wally’s comments on thinking remind us that, as adults, we have forgotten a lot about how we used to think when we were children. There is more of a gap between the thinking of adults and young children than there is between the thinking of adults and older children and adolescents. However, even at these later periods of development, adults are sometimes challenged to understand how older children or adolescents think. For example, a sixth-grader responded in the following way to a question on a social studies test:

Why is the Rhine River known as the “sewer of Europe”?
Because Cologne is on the Rhine, and that’s where they make toilet water.

Students rarely are being “smart.” They are genuinely trying to answer the question they thought you asked. Teachers need to ask what may have been meant by a student’s response or action. By asking this question, you will become better prepared to think through the possible meanings of your students’ thoughts and actions during all stages of development.

Examples from High School and College

We also use examples from high school and college. As adults, we sometimes forget what it is like to be a novice in a field or area of specialization. We often overlook the struggles we went through in learning—and that these experiences often changed the way we understand our world. In a college physics class, for example, Dykstra (1996) analyzed students’ discussions during a laboratory session on forces. After observing another student’s demonstration of forces canceling out each other, Mike responds, “Okay, I see how what you’re saying can work. It sure isn’t what I was thinking and I’m not sure it feels right, but I think I see what you mean” (p. 197). Mike’s comment illustrates how novices often depend on what “feels right” when solving scientific problems. They struggle when they see evidence that is counterintuitive. Mike’s teacher listened to their conversations to help students build scientific knowledge. When students reach the “I think I see what you mean” stage, they need opportunities to build solid understanding. They are starting to consolidate a concept; this is a perfect “teachable moment.” Only by listening to what they are saying will you recognize these moments.

In many instances you will find the examples from young children to be clearer than those from high school or college. This is because young children tend to be more open socially when speaking or asking questions; the examples
are not complicated by subject area topics, and the social–emotional situation may not be as complex. Throughout this book, however, we provide examples of students from a range of ages to demonstrate that each age group has unique, yet related, challenges.

Integrating Education and Psychology

Educational psychology is considered to include “the development and application of psychological principles to education, as well as the adoption of psychological perspectives on education” (O’Donnell & Levin, 2001, p. 73). What will this mean to you as a teacher? First, it is important to note that the relationship between psychology and education is not unidirectional. While educational psychology has drawn on psychology to inform education, education has just as much to offer to psychology. Education offers the realistic learning and teaching situations that challenge psychological theory (Mayer, 2001; O’Donnell & Levin, 2001). It is in the real world that students and teachers engage in thinking and learning. This is why educational psychology is meaningful to teachers. Mayer (2001) argued, “There is nothing as beneficial to practice as a good theory” (p. 87). Theory provides the conceptual underpinnings for teachers’ work. Since the early 1900s, educational psychology has been concerned with the following topics (O’Donnell & Levin):

1. Measuring intelligence and relating intelligence to other variables (e.g., gender and achievement)
2. The reliability and validity of tests, the development of tests, and the evaluation of teaching
3. Influences on learning, including different sorts of instruction and different sorts of learning tools (e.g., types of text, computers)
4. Teacher behavior (e.g., how teachers praise students, how teachers respond to problem behaviors)
5. The influence of motivation on learning
6. Students’ attitudes, self-esteem, self-concept, and personality
7. Students’ classroom behavior

Self-Regulated Learning

The third and fifth topics in the preceding list can be expanded to include research that has taken place since the 1970s on self-regulated learning (Paris & Paris, 2001). Self-regulated learning includes effective strategies for learning, reflection on one’s own thinking and learning (metacognition), and motivation and engagement with school tasks. The social support that students receive in classrooms enhances self-regulated learning. Students who are self-regulated tend to take charge of their learning. Educational psychology has been helpful in articulating the characteristics of self-regulated learners and the classroom practices that support self-regulation and teaching self-regulatory strategies.

Classroom Management

An additional area of inquiry in educational psychology is classroom management. How teachers organize and manage classrooms is central to establishing
PHOTO 1.3
Educational psychologists study what it means to have a learning or developmental disability, be developmentally advanced, demonstrate behavior problems, or have a physical or sensory impairment that affects learning.

and maintaining a supportive educational environment. Because teachers work in such complex environments, they need to be aware of research on students' psychological needs, positive teacher–student and peer relationships, and effective responses to behavioral problems (Emmer & Stough, 2001).

Exceptional Learning Needs

Another critical area studied by educational psychologists is exceptional learning needs. They study what it means to have a learning or developmental disability, be developmentally advanced, demonstrate behavior problems, or have a physical or sensory impairment that affects learning (Photo 1.3). They also study the sorts of learning tasks and environments that are most supportive of students with exceptional learning needs. An examination of development, behavior, and learning that differ from the norm helps inform our understanding of more typical development, behavior, and learning (Robinson, Zigler, & Gallagher, 2000).

Transition to Learner-Centered Classrooms

Contemporary education shows an increasingly learner-centered focus (Fried, 2001). This focus is a significant change from the way many of us were educated, in teacher-centered classrooms. Learner-centered classrooms focus on the needs and capabilities of the students as starting points for instruction. Teacher-centered classrooms focus on a curriculum and the delivery of predetermined knowledge to students. The change from teacher-centered to learner-centered classrooms requires two major considerations:

1. How we conceptualize education and schooling: Many of us “cling to the image of the teacher as the fixed source of knowledge” (Fried, 2001, p. 136) and resist the more reciprocal focus of learner-centered education.
2. How we foster passionate learners: Young children have an innate passion for learning, and educational psychology is key to keeping this passion alive throughout their years of formal schooling. Its principles are central to the learning process.
Translating Core Principles and Concepts into Practice

To present educational psychology in a way that facilitates its translation into practice, we emphasize two directions for this book:

1. **Presentation of background material in a narrative style:** We have found (and our students agree) that the use of textbooks fosters a fragmented type of thinking. Teachers need to think in a much more holistic way and consider the multiple influences on and meanings of learning for each student. We understand that classrooms are complex, and we present theory in a way that reflects the “story” of classroom life.

2. **Incorporation of problem-based learning into the text:** To learn about children and adolescents and the lives of those who teach them, it is necessary to think about real-life teaching. A problem-based approach allows for engagement with genuine teaching situations (Murray, 2000).

Problem-Based Learning

Problem-based learning works differently than traditional approaches to teaching and learning. **Problem-based learning** is a strategy that creates a “culture of inquiry” in which, rather than learning in a rote and isolated manner and making rapid judgments, individuals engage in defining problems, seeking ways of addressing these problems, collaborating with others, and being curious about the work that they do. Problem-based learning presents learners with real-life problems to solve (Photo 1.4). Unlike most problem-solving endeavors, however, such learning also requires that students first identify and characterize the problem to be solved. As in actual teaching practice, problem-based learning presents students with professional problems that need to be identified (found or set).

Donald Schon (1983) made an important distinction between **problem solving** and **problem finding or setting** that is particularly relevant to teaching. If the teaching profession is viewed as a problem-solving endeavor, it ignores the critical activity of problem setting, which Schon defines as

> the process by which we define the decision to be made, the ends to be achieved, the means which may be chosen. In real-world practice, problems do not present themselves to the practitioner as givens. They must be constructed from the materials of problematic situations which are puzzling, troubling, and uncertain. . . . When we set the problem, we select what we will treat as the “things” of the situation, we set the boundaries of our attention to it, and we impose upon it a coherence. . . . (p. 40)

The problem-based learning approach allows learners to begin with authentic information and then to construct meaning and directions for practice from this information. Rather than proceed from theory to practice in an abstract way, problem-based learning begins with practice-based situations that facilitate the linking of theory to practice through consideration of the questions inherent in the problem. Teachers need to understand the developmental and educational needs of all the students in their classroom. To achieve this objective, it is critical to think about real-life teaching situations.
As you prepare to become a teacher, learning experiences that are matched to the real world of schools are critical (Blumberg, 2000). Preservice teachers typically find that their practical experiences in schools are the most valuable features of their programs. This book provides a complement to those experiences. It engages you in linking theories to the real world of practice. Simply reading about or listening to theories of development and learning and how they are connected to practice is not enough. This approach represents a naïve view of learning (Duch, Groh, & Allen, 2001), not one that is appropriate for beginning teachers. Our complex society requires that professionals have not only a solid knowledge base, but also the ability to apply their knowledge to the solution of complex problems (Dochy, Segers, Van den Bossche, & Gijbels, 2003). As teachers, you need to be proactive lifelong learners (Kelson, 2000).

Using Problem-Based Learning to Become an Effective Teacher

Consistent with current research on effective learning (Donovan, Bransford, & Pellegrino, 1999), you will learn about teaching practice in a way that facilitates the monitoring of your own growth in understanding the concepts and issues concerned with educational psychology. As teachers, you will come face to face with problems daily, often in situations for which the problem has no clear solution. These open-ended problems are called ill-structured problems. That is, in many instances you don’t really know all the factors related to the problem situation, or the problem setting may change while you are trying to figure out a solution. Sometimes the problem isn’t really solved; it is just put on hold while the student is in the school environment. In any event, this is the reality of working with people and complex situations.

If you live in a province or state where praxis examinations or something similar are required for certification as a teacher, the types of problem-based scenarios included in this book provide solid preparation for the exam. The exams include scenarios that require you to develop plausible solutions with a theoretical base.

This book uses examples from our experience as teachers—Elizabeth in middle and secondary schools and Marion in elementary schools. We have altered all identifying information to protect students’ confidentiality, but the dilemmas are...
real. They represent the real world of teaching, with all its complexity, excitement, challenges, and unknowns. The problem-based learning strategy involves working in cooperative groups to think about the real world of teaching. In general, people seldom attempt to solve problems by themselves; instead, they usually ask others for information, opinions, and advice. By working in groups, you will find that information searches are more manageable. Furthermore, the collaboration required in a group to find a possible or probable solution reinforces and reflects the collaborative nature of the teaching profession.

Features of This Text

This text has two unique features. First, theory is presented the way we like to teach it—through stories of development, learning, and teaching. We all make meaning of our lives through narrative (Bruner, 1986, 1996). Stories reflect individuals’ construction of the meaning of events in their lives. Teachers spend a great deal of their professional lives in the “narrative mode” (Bruner, 1986), both listening to their students’ stories and telling and retelling their own as they try to understand their practice.

Theory-Based Narration

In each chapter, narrative-style text introduces you to relevant theory by presenting key theoretical concepts and examples of what these concepts mean in the real world. Consistent with a problem-based approach to learning, the presentation of theoretical concepts contains key information, but does not include exhaustive detail. To supplement the theory-based narration, we have included features called *Info Bytes* and *Surfing Terms*. These features provide additional relevant information to help you to find and set the problem and also to expand your ideas on how to solve the problem.

At the end of each of the following chapters, you will find a section called *A Metacognitive Challenge*. This is your opportunity to synthesize the information you have learned. In Chapter 4 you will learn more about metacognition and discover why this section has the title it does. This section contains questions that provoke personal reflection.

Problem-Based Scenarios

Second, *problem-based scenarios* reinforce principles of theory by introducing you to teachers, students, parents, principals, and other school personnel. Many of these scenarios contain two parts: the first describes the context, and the second is a collection of artifacts such as might be contained in a folder on a teacher’s desk: memos, student work samples, test results, and the like. Only some of the scenarios contain artifacts, since it is often the case that teachers are confronted with issues that are immediate and for which no relevant data have been gathered. The problem-based scenarios are situated in elementary, middle, and secondary school contexts. Also, some narratives focus on students with special educational needs. Each narrative is coded with an icon to identify the particular context (Figure 1.2).

Because development, learning, and teaching are multifaceted, you will revisit various students and teachers as you move through the different topics in the book. For example, the first time you meet a student, his or her teacher may be focused on a cognitive developmental question to meet academic needs. Later you
Elementary school narrative

Middle school narrative

Secondary school narrative

Problem-based scenario that focuses on the consideration of special learning needs in a regular classroom

FIGURE 1.2
Icons Used in Problem-Based Scenarios

might learn more about that student’s motivation, peer relationships, and family life to determine how a teacher might help this student function successfully at school. Problem-based scenarios demonstrate the interconnectedness of different facets of development, learning, and teaching.

Using the Problem-Based Scenarios

In many instances, you will find that a topic is introduced but omits the lengthy detail often found in educational psychology texts. One goal of problem-based learning is for you, as the student, to detail not only the problem, but also the type of information necessary for its solution. For each problem-based scenario, you will need to actively engage in setting (defining) the problem and then determining where and how to gather the necessary information related to your focus of action.

The first several scenarios in this text provide additional help in the form of quick questions and hints to focus you on the problem to be solved. For example, suppose a sixth-grade teacher noticed that one of his best students, Peter, began to turn in incomplete work and appear disinterested in school. Several questions need to be considered. Is this a motivational issue (Peter isn’t challenged enough), a hearing problem (perhaps made worse by a severe cold), a result of peer influence, an indication of an emotional issue at home, or some other cause? Teachers talk to each other, offer advice on where to find information, and swap articles and addresses. In other words, they work together as a collaborative unit, gathering and analyzing information to find probable and possible solutions.

Focus on the Classroom

Teachers often consider students’ development on an individual basis. But it also is the case that a teacher needs to consider student needs within the context of all the learners in the classroom. Some chapters conclude with classroom scenarios in which the learners you met earlier in the book join their classmates. These scenarios challenge you to apply principles of educational psychology to
meeting individual needs within the classroom setting. Teaching is both a challenging and a rewarding profession. It requires hundreds of decisions a day, and these decisions often involve consideration of a variety of factors. Educational psychology will help you make informed decisions. It also will add to the excitement of teaching by giving you new frameworks for interpreting students’ thoughts and behaviors. Ultimately, we hope that the use of educational psychology leads you to innovative practice and engaged learners—two invaluable rewards of the profession.