

Second Edition

Educational Psychology

A Contemporary Approach

Gary D. Borich

The University of Texas at Austin

Martin L. Tombari

University of Denver

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Contents in Brief

Preface

Chapter 1: Introduction to Educational Psychology

Part I: What Teachers Need to Know About Development

Chapter 2: Cognitive Development

Chapter 3: Personal-Social Development: The Feeling Child

Part II: What Teachers Need to Know About Learning

Chapter 4: The Behavioral Science Approach to Learning

Chapter 5: Cognitive Learning I: Understanding Effective Thinking

Chapter 6: Making Learners Active Thinkers

Chapter 7: Motivation and Classroom Learning

Part III: What Teachers Need to Know About Instruction and Classroom Management

Chapter 8: Group Process in the Classroom

Chapter 9: Positive Approaches to Conduct Management

Chapter 10: Instructional Management

Part IV: What Teachers Need to Know About Assessment

Chapter 11: Assessing for Learning: Ability and Standardized Assessment

Chapter 12: Assessing for Learning: Objective and Essay Tests

Chapter 13: Assessing for Learning: Performance Assessment

Part V: What Teachers Need to Know About Learner Diversity

Chapter 14: Teaching Exceptional and At-Risk Learners

Chapter 15: Multicultural and Gender-Fair Instruction

Chapter 16: Family Systems and Home-School Partnerships

Appendix: Discussion and Practice Answers

Glossary

References

Chapter 1

Introduction to Educational Psychology

This chapter will help you answer the following questions about yourself and your learners:

- What stages of development can I expect to pass through during my first year of teaching?
- How can the study of educational psychology help me develop into an expert teacher?
- How can I evaluate the knowledge acquired through the study of educational psychology and decide whether to apply it in my teaching?
- How can I use the knowledge base of educational psychology to solve specific classroom problems?

In this chapter you will also learn the meanings of these terms:

case study
concerns theory
control group
correlational study
dependent variable
descriptive research
educational psychology
ethnography
experimental group
experimental study
generalizability
hypothesis
impact stage
independent variable
operational definition
qualitative research
quantitative research
randomization
survival stage
task stage
variables

Marisa Washington is a first-year language arts teacher at Fawkes Middle School. It is February, and on this particular day she is participating in an after-school seminar on teaching writing. Dr. Cornell Gates, a former professor of Marisa, is presenting the seminar. During the break, Marisa goes up to Dr. Gates and introduces herself.

Marisa: Dr. Gates, I'm Marisa Washington. I took your class on writing about a year ago. Do you remember me?

Dr. Gates: Of course. You always sat in the last row on the left side of the room. You know what they say about students who sit in the back!

Marisa: Yeah. I think the same thing about some of my students.

Dr. Gates: This must be your first year teaching. How's it going?

Marisa: It's just like you said in class...the first few months are a matter of survival. Well, I think I'm past that stage now. Had you presented these ideas about writing last October, I probably would have been too overwhelmed to listen. Now I can see where I can use them.

Dr. Gates: So, you're at the point where your concerns are changing: focusing less on yourself and more on how to teach?

Marisa: That's it. I finally feel that I can plan my lessons with a focus on my presentation skills and the content. Before, every lesson plan ended with my asking, "Now, what behavior problems might this create?"

Dr. Gates: And now you ask whether the lesson will get your point across?

Marisa: Yes. Before, the things you were talking about today would have just made me worry about classroom control. Now, I'm thinking about whether they'll help me teach better.

Dr. Gates: Sounds like you're past the survival stage and beginning to focus on your teaching skills.

Marisa: I would never have said this in the fall, but I think I'm beginning to see the light at the end of the tunnel.

There is a common perception that with certification comes expertise in teaching. But it will take time for you to develop patterns of practice that will enable you to confidently and effortlessly develop and carry out effective lesson plans. As a

beginning teacher you will be a developing professional, as Marisa has come to realize and as Dr. Gates has taught.

How does a beginning teacher develop into a mature, confident, and competent professional? What conditions must you experience? What knowledge must you acquire? What skills must you develop? Educators and educational psychologists have studied the developmental process of becoming a teacher and have found that it unfolds in some predictable ways. In this chapter, we will discuss the stages of development that all teachers go through on the way to becoming expert practitioners. Then we will explore the knowledge base of educational psychology, the subject of this book, and how it can help you in your classroom.

Stages of Teacher Development

At this point in your training, you probably see yourself in the role of a teacher, and you may have constructed some images or pictures of your first class. You may have promised yourself that you are going to be better than some of the teachers who taught you when you were in elementary or high school. You probably hope to be as good as some other teachers you have known. But as you begin your first regular teaching assignment you will find that there is a difference between your student teaching experience and the “real world of teaching.” First, the classrooms you have been in came with a made-to-order instructional and behavior management system. All you had to do was adjust to it. Soon, no such system will exist, and you will have to create one of your own.

Second, during student teaching you have had instructional materials and lessons to draw on as aids to help you plan and teach. This may not be the case when you start your first teaching assignment. You will have to make many

decisions about what, for how long, and in what manner to teach a group of learners you know little about.

Finally, your cooperating teacher has been an important advisor and confidante during your student teaching experience, someone you could approach for advice on how to teach particular learners or how to cope with the psychological and physical demands of teaching. It is possible that such a mentor may not exist in your first regular teaching assignment.

The Survival Stage

This transition to the real world of teaching ushers in the first stage of teacher development, sometimes called the **survival stage** (Borich, 1993; Burden, 1986; Fuller, 1969; Ryan, 1992). The distinguishing feature of the survival stage of teaching is that your concerns will focus on your own well-being more than on the teaching task or your learners. Bullough (1989) has described this stage as “the fight for one’s professional life” (p. 16). During this stage, you will typically have the following concerns:

Will my learners like me?

Will they listen to what I say?

What will parents and teachers think of me?

Will I do well when the principal observes me?

Will I ever have time to myself?

Typically, during this time you become so focused on behavior management concerns that you feel like you are struggling merely to survive the day-to-day give-and-take of classroom life. Listen to Kerrie, a first-year teacher, reflect on some assumptions she made during the fall semester of her first teaching assignment.

...I thought that if you planned the curriculum really well, the management just falls into place. I really thought that when I was student teaching. If you are not well planned you are going to have problems, but planning well doesn't solve those problems; you still have management problems. At first...I thought that you could plan your curriculum and [good] behavior would fall into place; you could handle it as it comes. But you really can't. The other half of planning is what you will require behaviorally and you can plan for that. Now [sixth month] I plan a lot more things, like transition time and walking into the other room [to check on students]. (Bullough, 1989, pp. 25–26)

The Task Stage

For most teachers, survival concerns and concerns about self begin to diminish rapidly during the first months of teaching, but there is no precise time when they are over. What signals their end is the transition to a new set of concerns and a gradual diminishing of concerns about your own well-being. This new set of concerns focuses on how best to deliver instruction. Various labels have been used to describe this second stage, such as the mastery stage of teaching (Ryan, 1992), consolidation and exploration (Burden, 1986), and trial and error (Sacks & Harrington, 1982). Fuller (1969) described this as the **task stage**: the stage in which the new teacher focuses on the teaching task itself.

At this stage you begin to feel confident that you can manage the day-to-day routines of the classroom and deal with a variety of behavior problems. You are at the point where you can plan your lessons without an exclusive focus on managing the classroom. Your focus turns toward improving your teaching skills and achieving greater mastery over the content you are teaching.

Typically, your concerns during this second stage of teacher growth and development are these:

How good are my instructional materials?

Will I have enough time to cover all the content?

How can I add variety to my presentations?

Where can I get some ideas for a learning center?

What's the best way to teach writing skills?

The Impact Stage

The final stage of teacher growth and development is characterized by concerns that have to do less with management and lesson delivery and more with the impact of your teaching on learners. This point in a teacher's career is sometimes referred to as the **impact stage**. At this time, you will naturally view learners as individuals and will be concerned that each of your students fulfills his or her potential. At this stage, your principal concerns might be these:

How can I increase my learners' feelings of accomplishment?

How do I meet my learners' social and emotional needs?

What is the best way to challenge my unmotivated learners?

What skills do they need to best prepare them for the next grade?

If you are a typical beginning teacher, your thoughts and concerns will focus at first on your own well-being and only later on the teaching task and your students. Fuller (1969), for example, found that during the early, middle, and late phases of student teaching, preservice teachers' concerns shifted from a focus on self (Will the students like me? Can I control the class?) to concerns that emphasized the teaching task (Are there sufficient instructional materials? Is there time to cover all the content?) to concerns that emphasized the needs of pupils (Are the pupils learning?

Can they apply what they've learned?). Fuller speculated that concerns for *self*, *task*, and *impact* are the natural stages that most teachers pass through, representing a developmental growth pattern extending over months and even years of a teacher's career. Although some teachers pass through these stages more quickly than others and at different levels of intensity, Fuller suggested almost all teachers can be expected to move from one to another, with the most effective and experienced teachers expressing student-centered (impact) concerns at a high level of commitment.

Concerns theory grew out of the analysis of recorded transcripts of interviews with student teachers. Over an extended period of time, these records were used to identify and classify problems that student teachers experienced and the concerns they expressed about these problems. These expressed concerns, when grouped into developmental and sequential stages, showed that student teachers with the least experience were concerned about self and self-survival, while student teachers with more experience and in-service teachers were concerned about student achievement and learning.

Stated in its simplest terms, concerns theory conceptualizes the learning process for a prospective teacher as a natural flow from concerns for self (teacher) to task (teaching) to impact (pupil). The physical, mental, and emotional states of the prospective teacher play an important role in the shift of focus from self to task to impact. The lack of adequate knowledge or emotional support during the critical preteaching and student teaching periods can result in a slower, more labored shift of focus to task. This, in turn, can result in failure on the part of the teacher to reach a concern for his or her impact on students.

Fuller's concerns theory has several other implications. A teacher may return to an earlier stage of concern, for example, from a concern for pupils *back* to a concern for task as a result of suddenly having to teach a new grade or subject. Or,

she may move from a concern for task *back* to a concern for self as a result of having to teach in a different and unfamiliar school. Thus, teacher concerns may not always be determined developmentally but can be context dependent as well. The time spent in a given stage the second time may be shorter than the first. Finally, the three stages of concern need not be exclusive of one another. A teacher may have concerns predominately in one area and still have concerns of lesser intensity in one or both of the other stages.

Educational Psychology and Teacher Growth and Development

An important question for any teacher is this: What type of knowledge and experiences are needed to pass successfully from an exclusive concern for self-survival to a concern for the impact the teacher is having on the students? Another question: What role can the study of educational psychology play in this passage from survival to impact?

Shulman (1992) identifies four types of knowledge that are crucial for teacher growth and development: (1) *practical knowledge*, which comes from student field experiences, student teaching, and regular teaching; (2) *case knowledge*, which comes from reading about what both successful and unsuccessful teachers have done; (3) *theoretical knowledge*, which comes from reading about important ideas, conceptual systems, and paradigms for thinking about teaching; and (4) *empirical knowledge*, which comes from reading what the research says about a particular subject and how to teach it.

Educational psychology is a discipline of inquiry that focuses primarily on the latter two categories of knowledge. In the remainder of this chapter, we'll look at how this knowledge is developed and used by educational psychologists to solve important classroom learning problems. But before learning how educational psychologists provide information to help teachers progress through the stages of

teacher concerns, you may want to determine your own levels of concern for self, task, and impact at this point in your teaching career. In the accompanying box you will find a *Teacher Concerns Checklist*. By completing this checklist and scoring your responses according to the directions provided, you can determine which stage of concern you presently identify with most closely. You may also want to complete the checklist again at the end of your educational psychology course and compare your scores to determine how much your levels of concern have changed from self to impact.

The Tasks of Educational Psychology

Below are some common classroom problems, followed by some possible ways to deal with them. Read these problems and choose the solutions that make the most sense to you. This is not a test!

1. Desi is a first-grader who likes to write simple stories but doesn't yet know the rules for spelling. So he spells what he hears: school is *skool*, home is *hom*, animal is *animl*, and mother is *mutha*. What should the teacher do when Desi makes these mistakes?
 - a. Point out the mistakes, give the correct spelling, and have Desi practice spelling the words correctly.
 - b. Don't correct the spelling mistakes. You want Desi to like writing and not worry about spelling at this point.
 - c. Point out the mistakes but don't ask Desi to correct them.
2. Mr. West is a ninth-grade Spanish teacher. Several of his first-period students come late and unprepared for class, and this delays the lesson for the rest of the class. Mr. West is considering a reward system for students who are seated and ready to work on time. For each day that every student

comes prepared and on time, he will set aside 10 minutes on Friday for high-interest activities. Should he use such a system?

- a. No. Most of the class comes prepared. Giving a reward for this behavior will diminish the students' internal motivation to follow class rules.
- b. Yes. The reward will help the students who are unprepared and will have no harmful effect on the rest of the class.
- c. Mr. West should use both a reward and a punishment system. Those who are unprepared should not only lose the reward but also experience logical consequences.

3. It is June and Ms. Washington is considering retaining some of her first-graders who are not ready for second-grade reading and math. What advice should we give her?

- a. Retain the students. Students who are retained generally master the skills they failed to learn in the previous grade.
- b. Retain the students. Retained students do better than students who were passed on but should have been retained.
- c. Don't retain the students. Students who were passed on but should have been retained learn more than their peers who were retained.

4. Cody frequently disrupts his seventh-grade art class. The teacher, Mr. Steinberg, is concerned because the other learners in Cody's art group are unable to concentrate and get work done. Mr. Steinberg thinks that an effective consequence for disrupting class would be to remove Cody to a "time-out" area.

- a. Time out is an effective consequence for reducing disruptive behavior like Cody's.
- b. Time out is not effective for reducing disruptive behavior.

- c. Time out is effective only when the purpose of the disruptive behavior is to get attention.

You may be surprised that there is no single correct way to deal with any of the above situations. Each has been the focus of research, and each requires more information about the situation in order to establish the best decision for learners. For example, correcting phonetic spelling mistakes has not been shown to help learners master the words they misspelled. On the other hand, allowing children to spell phonetically makes them more accurate spellers of unfamiliar spelling words (Maribeth, 1993).

Under certain conditions, rewarding children for engaging in expected behavior has no harmful effects on intrinsic motivation (Emmer, Evertson, Clements, & Worsham, 1994). But under another set of conditions, it does. Although some children benefit from retention, most do not (Doyle, 1989). The problem is knowing what learner characteristics make them more or less likely to improve if they are retained in a grade. Finally, removing a student from a classroom for disruptive behavior makes the behavior worse in some cases and decreases it in others (Brantner & Doherty, 1983). The key is understanding the function of the disruptive behavior. We will consider these problems in greater depth when we discuss motivation (Chapter 7), group process (Chapter 8), and conduct management (Chapter 9).

Although there are no clear-cut solutions to these and similar educational problems, this does not mean that any one approach to dealing with them is as good as any other. Likewise, this lack of certainty does not relegate all your efforts to help learners to the level of trial and error. It is possible to make informed decisions about the first steps to take in dealing with classroom challenges such as these.

This is where the study of educational psychology is of most benefit to teachers. While it may not give you a single “best” solution, educational psychology

will help you devise a plan of action and a rational way to go about accomplishing your classroom goals, whether these goals involve teaching spelling, managing the behavior of a group of learners, helping learners who have learning problems, changing disruptive behaviors, or enhancing self-esteem.

By giving you a knowledge base for making intelligent choices and showing you a process for making choices, educational psychology helps you improve and become more confident about your decision making. Thus, the tasks of educational psychology and the goals of this textbook are twofold: (1) to present the knowledge necessary to effectively teach diverse groups of learners and (2) to present a process by which this knowledge can be effectively implemented in the classroom. First, let's look at how this knowledge is constructed. Then we will describe the process for making the most use of it.

The Knowledge Base of Educational Psychology

We have organized this textbook into five units, each beginning with the phrase "What Teachers Need to Know About...." Each section reflects the wealth of knowledge educational psychologists have discovered about teaching and learning, prioritizes that knowledge, and presents it in a manner that is most relevant to the classroom. Since you will be using this knowledge base to make important decisions about your learners, you may well ask, "What confidence can I place on the information presented?" "How was it determined?" "How is it organized?" "Will it help me with specific and immediate problems or only with problems that have yet to occur?" The first two questions relate to the research techniques used by educational psychologists to assemble valid information. The last two questions pertain to the relevance to the classroom of theories of child development, teaching, and learning. Let's begin by examining how new knowledge about teaching and learning is acquired.

Building a Knowledge Base

Asking Questions. The process of knowledge building in educational psychology begins with a question about what works best for learners. For example, is it better to correct a first-grader's spelling mistakes or to ignore them? To retain learners or to pass them on? Have learners develop their own classroom rules or have teachers do this? Use rewards to encourage learners to complete homework correctly, deduct points when they don't, or use some combination of reward and consequence? Teach self-esteem by having learners repeat positive expressions about themselves or by helping them set realistic goals and showing them how to accomplish them?

These questions are just a small sample of those addressed by educational psychologists. Sometimes the question may spring from a classroom problem that the researcher has experienced or observed. Or a particular question may come from a theory of learning or development that the researcher supports and believes may be applicable to a certain classroom problem. In any case, formulating a question is the first step in the journey for knowledge.

Defining Variables. If you examine the questions above carefully, you will notice that they have one thing in common: a curiosity about how one thing affects another. For example, the question about correcting a first-grader's spelling errors really asks, "Does the manner in which you respond to a spelling mistake have an effect on learning to spell?" In other words, how does one thing (the way you respond to a spelling mistake) affect another (learning to spell). We typically call these things that affect each other **variables**.

Researchers study the way in which one variable—one teaching method, a particular classroom management technique—affects others—learning to spell, finishing seatwork. But in order to do this, they must define each variable precisely. In the question "Does the manner in which you respond to spelling mistakes have

an effect on learning to spell?” there are two variables: *manner of responding* and *learning*.

Before researchers can study “manner of responding” they must identify the precise variations in the conditions being implied. For example, the variable manner of responding may be defined like this: For one group of learners the teacher will make no response following a spelling mistake; for a second group of learners the teacher will point to the spelling mistake and say “You spelled that wrong,” and say no more to the learner; and for a third group of learners, the teacher will point to the mistake, say to the learner, “You spelled that word wrong,” and have the learner write the correct spelling five times.

Similarly, the variable “learning” may be defined as follows: All three groups of learners will take a test consisting of two groups of 20 spelling words. One group of words will have been taught and practiced in class; the other group will be unfamiliar to the learners. The test will be given orally by the teacher, who will say each word once, use it in a sentence, and give the learners 10 seconds to write down the correct spelling.

This process of clarifying exactly what you mean when you name a variable is called *operationally defining a variable*. An **operational definition** involves describing a variable in the precise manner in which you will measure it or demonstrate it. Giving variables operational definitions is essential if the research that studies that variable is to produce usable results. Consider the following variables and reflect on how you might operationally define them: *praising learners, learning ability, following rules, self-esteem, reading achievement, knowledge of addition facts, cooperation*.

Any variable can be defined as either a dependent or an independent variable. The **independent variable** (IV) is the one you believe will produce the effect or bring about the outcome you desire. It is the variable you manipulate, or change, in

your experiment. The **dependent variable** (DV) is the presumed effect of the independent variable. In other words, the independent variable is what the researcher believes will cause a change in the dependent variable. If the researcher is interested in how rewards affect motivation to learn, then the type of reward is the independent variable, and learning is the dependent variable. If we want to know the effect of grade retention on reading achievement, retention is the independent variable, and reading achievement is the dependent variable. In our previous example of spelling tests, the manner of responding to mistakes is the independent variable, and learning spelling words is the dependent variable.

Formulating Hypotheses. Once researchers have stated the question and operationally defined the variables, they are ready to pose their research hypothesis. A **hypothesis** is a prediction of the way in which the variables are related to one another. In other words, the hypothesis describes the relationship between the independent and dependent variables. Below are some examples of hypotheses. As you read them, notice how they differ from the questions from which the hypotheses were derived:

Learners learn unfamiliar spelling words (DV) better when spelling words are corrected (IV).

Retaining learners (IV) in the first grade results in lower reading achievement (DV) than if they are passed on.

Rewarding learners (IV) for behaviors they already perform makes them less likely to perform those behaviors (DV) when the rewards are taken away.

Notice that each hypothesis includes an independent and a dependent variable.

Testing the Hypothesis

Educational psychologists can choose from among a variety of methods to test hypotheses. These methods can be grouped broadly into two domains: **qualitative research**, which includes descriptive research, ethnography, and case studies; and **quantitative research**, which includes correlational and experimental studies. The distinction between these two general methods is the role played by hypotheses. Qualitative research is conducted primarily for the purpose of describing or creating hypotheses about the relationship between independent and dependent variables. Quantitative research is conducted primarily for the purpose of testing previously stated relationships between independent and dependent variables, often formulated from the results of qualitative studies.

Qualitative Research. The various types of qualitative studies include descriptive research, ethnographic research, and case studies.

Descriptive Research. Let's say that you are interested in studying your learners' attitudes toward providing health care services to recent immigrants, or in your fellow teachers' attitudes toward children with various types of disabilities, or in the grading methods used in your school. The purpose of your study is to describe what people do, or how learners think about a specific issue in your class or school. Such research is called **descriptive research**. Typically, you measure the variables of concern (attitudes, beliefs, grading practices) by means of questionnaires, interviews, systematic observation, or a combination of these practices. From the results you may choose to formulate specific hypotheses about the relationships between independent and dependent variables, which subsequently may be tested with the tools of quantitative research.

Ethnographic Research. In Chapter fifteen you will read about a year-long research study conducted in a classroom by a researcher who was interested in what

effective teachers do to motivate culturally different learners to excel in school (Dillon, 1989). The researcher observed a class and their teacher for an entire year. She made detailed notes of what she observed and recorded her conversations with the teacher, learners, and other school personnel. She posed questions about why this particular teacher was so successful, which later formed the basis for specific hypotheses that made explicit dependent and independent variables. She then collected data that could support or refute her hypotheses, thereby combining some features of the qualitative and quantitative approaches. This research technique is called **ethnography**. Typically, ethnographic studies concentrate on life in a particular classroom or school. The researcher acts as observer, recorder, and interpreter and makes explicit his or her point of view. The results of such studies help us understand how people in that particular situation interpret and make sense of daily events or circumstances in their lives.

Case Studies. **Case studies** intensively study persons or situations singly or in small numbers. As such, they usually do not involve as many individuals or as extensive a data-gathering process as ethnography. For example, Tombari, Fitzpatrick, and Childress (1985) programmed a computer to give out rewards in the form of video games and used it as part of a self-management intervention to help a disruptive child. Kamps et al. (1992) studied what one particular teacher did to teach an autistic child to interact with his peers. Trovato and Bucher (1990) described how a peer tutor taught reading skills to a fourth-grade classmate. These studies generated specific hypotheses and planned interventions to determine whether the hypotheses were supported. Hence, case studies may combine elements of both qualitative and quantitative approaches.

Quantitative Research. So far we have described types of research studies that are useful for generating hypotheses about relationships between variables in specific situations: the effectiveness of one teacher's methods, the effects of rewards in a

specific situation, the effects of peer tutoring in a specific classroom. While they often provide interesting hypotheses and lead researchers to ask interesting questions, such studies may lack generalizability. **Generalizability** refers to the ability to reproduce research results across contexts (e.g., laboratory conditions), settings (e.g., schools or communities), and learners (e.g., high and low achievers). To show that the results of their research are generalizable to a variety of settings, researchers must turn to quantitative research methods. We study two quantitative methods here: correlational and experimental studies.

Correlational Studies. As a prospective teacher you are probably interested in whether there is a relationship between hours spent doing homework and learner performance in school, especially since you will have to grade all that homework. Likewise, you may want to know whether there is a relationship between learners' self-esteem and their performance in school. Educational psychologists have studied these relationships and others, such as the relationship between family disruption and learner behavior problems in school (Christenson & Conoley, 1993), the number of changes in children's lives and their learning and adjustment to school (Eccles, 1990), and IQ scores and math achievement (Jensen, 1980). Research studies that seek to determine whether there is a relationship between two variables are called **correlational studies**. They make use of a statistical index called the correlation coefficient, which we will learn about in Chapter 11.

Whenever you read or hear about a correlation, it is important to remember that correlations do not tell you whether one variable causes the other. For example, a correlation between homework and learner performance does not mean that giving lots of homework will cause increased performance. It simply means that some relationship between the two variables exists. Thus a statement that a correlation exists implies not causality but relationship, which can be explored further through an experimental study.

Experimental Studies. In all the types of the studies we have described so far, researchers observe and measure the variables they are interested in but do not change them in any way. In **experimental studies**, however, researchers directly change one of the variables of interest—the independent variable—to see how the change influences another variable of interest—the dependent variable. Such studies use experimental groups and control groups; learners are assigned to either group on a random basis. The **experimental group** is given a program of instruction—or some other intervention—that presumably causes changes in the dependent variable. This program or intervention is intentionally withheld from a comparably chosen **control group** in order to provide a baseline against which changes in the experimental group can be compared. The process of **randomization**, which allows large numbers of individuals to have an equal opportunity to be chosen for inclusion in the study and for participation in either the experimental or the control group, increases the generalizability of the research findings to other research contexts and learners.

For example, suppose you were designing a study to determine the effect of correcting spelling errors. You would randomly assign children to one of three groups, and each group would experience a different type of error correction: Group 1 would be corrected but given no practice; Group 2 would be corrected and made to practice the mistake, and Group 3's mistakes would be ignored. This last group is the control group, against whose results the results of the other groups would be compared.

Most of the research you will read about in this text—research on how children learn, follow classroom rules, exhibit more motivation, improve self-esteem, and get along with classmates—has been accumulated by use of experimental research techniques. These studies have used the process of randomization to achieve generalizability of results to a broad population of classrooms and learners.

Theory Building

All of the research studies we describe in this book were carried out in the context of the results of previous research. Each study was preceded by other related investigations and is followed by yet others that revisit its results and follow up on it in turn. Research is an ongoing enterprise in which the researcher continually relates her particular study with other studies that came before it. The overall goal of the research process in any psychological discipline, such as educational psychology, is to assemble a related, coherent body of generalizations and principles that explain how people develop, learn, and are motivated. These internally consistent bodies of principles and generalizations that explain human behavior are called *psychological theories*.

In this book we will explore several important theories of development, learning, and motivation. These theories help researchers to organize information gained from their experiments and make decisions about other variables to investigate, and they also help the nonresearcher, including the classroom teacher, in two ways: (1) They help organize many seemingly unrelated facts about development, learning, motivation, and classroom management; and (2) they help us think about classroom problems in terms of previously discovered generalizations and principles that point the way to new solutions.

For example, in Chapter 7 you will learn about a particular theory of motivation called self-determination theory (Deci, Vallerand, Pelletier, & Ryan, 1991). This theory has been constructed carefully, fact by fact, over several decades. You will learn about many of these facts. But more importantly, the theory organizes these facts into generalizations, which help explain the critical attributes underlying learner motivation. When you are challenged by a learner who lacks motivation to do schoolwork, what you are likely to remember are not the isolated results of the individual research studies that contributed the facts, but the broad

principles that can explain human behavior and bring meaning and purpose to these facts. It is these principles that will guide your search for new solutions to existing problems.

Now that you are acquainted with how educational psychologists assemble their knowledge base and its potential usefulness for your teaching, let's turn to the second important way in which educational psychology can help you in your classroom: the search for solutions to classroom problems.

A Process of Solving Classroom Problems

At every stage of teacher development, your students will challenge you with their various needs for achievement, social development, friendships, willfulness, and enjoyment. While most of your learners will thrive under your leadership, some will not. Learners bring to the classroom a host of individual differences, which no one program of instruction can meet. A challenge may come from a learner who is gifted in reading or math, or from a child who can't sit still, won't do work, or is considering dropping out of school. Or you may be challenged by a learner who has a strong desire to do things on her own and won't accept your authority.

Some teachers, when faced with these and other formidable challenges during the first year of teaching, become dismayed by the complexity of classroom life. They seek to return to the self-protective concerns of the survival stage of teaching. Borich (1993) describes this as turning up your "numbness amplifier" to blot out the seemingly intractable problems of your classroom rather than realizing that you can have an impact on the problem regardless of how difficult it may initially appear. Some teachers believe that the only solution is special class placement, psychological counseling, or a classroom transfer. Others know that while these interventions might be necessary for a given individual, the teacher also has a critical

role to play in solving the problem. During this problem-solving process, educational psychology has much to offer the classroom teacher.

Figure 1.1 describes what this problem-solving process involves. The boxes in the diagram describe actions you can use to think about and solve everyday classroom problems. The oval above the boxes reflects your thoughts or considerations at different stages of problem solving. Let's look briefly at the steps you would take and the questions you would ask at each stage.

Observe Behavior

First, ask yourself what the learner is doing that is the source of the problem. Be clear about exactly what you are seeing that troubles you. Operationally define expressions such as these: She's bored; he's immature; she has no motivation; he's withdrawn. Also, be specific about your goals or objectives for the learner. Don't consider only what you want the learner *not* to do. Make yourself specify what you want the learner to do. And don't forget that your goal should be operationally defined and measurable.

Understand Learner Characteristics

Once you are clear about the problem and your goals, ask yourself how the problem and your goals relate to the developmental level of the learner (see Chapters 2 and 3). Is the behavior you see typical or atypical of the learner's age, culture, gender, or educational history? Are the goals realistic, developmentally appropriate, culturally compatible? Might there be other reasons (e.g., medical) for the behavior?

Reflect on Theories of Development, Learning, and Motivation

What are some historical and concurrent explanations of the behavior you are seeing? What learner needs may not be met? What forces outside the classroom may be playing a role in the learner's classroom behavior? What classroom conditions could be contributing to the problem? How does the learner perceive the problem? And what is he or she willing to contribute to its solution? We will consider theories of development in Part I of this book and theories of learning and motivation in Part II.

Choose and Implement a Classroom Strategy

At this stage, ask yourself what you know from research about changing this learner's behavior. What does research say is important for achieving these particular goals? What changes need to be made in classroom structure, rules, rewards, consequences, and activities to meet your own and the learner's expectations? What support can you get from the family? Part III of this book is concerned with practical application of theoretical knowledge to classroom situations.

Evaluate Impact

What does research suggest should be an adequate time to expect to see some results? What records should I keep or what records can the learner keep to document the results? How do I protect against biases that may influence me to see improvements when none occur or not to see change when change occurs? How will I know if the changes I observe are due to what goes on in my classroom and not to some influence outside the classroom? Parts IV and V of this book are concerned with evaluation of learning, the special needs of learners, and the home-

school partnership. Studying these topics will provide you with a broad knowledge base against which to judge the effectiveness of your interventions.

This model of problem solving suggests that there is no classroom problem you will encounter that you cannot help resolve. A successful resolution, however, will require that you obtain the requisite knowledge and skill to *make* it happen. The course of study in which you are now enrolled and your own ongoing field experiences will start you on the path to acquiring the motivation, knowledge, and skills needed to have a lasting impact on your learners.

Summing Up

This chapter introduced you to the study of educational psychology. Its main points were these:

- New teachers pass through three interrelated stages of development, characterized by their concerns about survival, about tasks, and about the impact they are having on their learners.
- Educational psychology is a discipline that focuses on theoretical and empirical knowledge about instruction. The tasks of educational psychology are (1) to provide a knowledge base teachers need to teach diverse groups of learners and (2) to present a process teachers can use to implement this knowledge in the classroom.
- The knowledge base of educational psychology is developed through the research process, which begins with asking questions, defining variables, and formulating hypotheses.
- Educational psychologists may test hypotheses by using qualitative research methods such as descriptive studies, ethnographic studies, and case studies, or by using quantitative methods, which include correlational methods and experimental studies.

- The goal of educational psychology is to bring together the findings of many different research studies into a coherent body of theoretical knowledge about development, learning, and motivation.
- The goal of this book is to teach you to approach classroom problems by means of a problem-solving process that includes the following steps: (1) observing learner behavior, (2) understanding learner characteristics, (3) reflecting on theoretical knowledge, (4) choosing and implementing a classroom strategy, and (5) evaluating the results of the chosen strategy.

For Discussion and Practice

- *1. State the three stages of teacher development and give an example of the kinds of tasks you would focus on at each stage.
- *2. Define concerns theory. How did it evolve? What implications does it have for expert teachers as well as for those who are just starting out?
3. Give one example of how you have used or will use practical knowledge and case knowledge in your student teaching.
4. State a classroom problem you have encountered, either in your own education or in student teaching. Formulate a research question based on that problem.
5. Using the research question you stated in answer to question 4, define the variables involved in your problem. What is your independent variable? Your dependent variable?
6. Using the variables you defined in answer to question 5, formulate a hypothesis that states how your variables are related.

7. Is your research question most amenable to qualitative or to quantitative research? Explain your answer. What specific research method would be most useful for studying your problem?

Suggested Readings

Borich, G. (1996). *Effective teaching methods* (3rd ed.). Columbus:

Merrill/Macmillan (Chapter 3). This chapter on teacher planning sets out a framework for using the concerns theory and your level of concerns for instructional planning.

Fuller, F. F. (1969). Concerns of teachers: A developmental conceptualization.

American Educational Research Journal, 6, 207–226. This article, which won the best research article of the year from the American Educational Research Association, describes the original research with student teachers that led to the development of the concerns theory.

Shulman, L.S. (1991). Classroom casebooks. *Educational Leadership*, 49 (3), 28–

31. This article illustrates how “case knowledge” is acquired and used to promote instructional theory and methods.

Student teachers can quickly move from concerns about self and self-survival to concerns about student achievement and learning.

What stages of development can I expect to pass through during my first year of teaching?

Survival stage. The first stage of teaching during which beginning teachers focus primarily on their own well-being rather than on their learners or the process of teaching.

Task stage. The second stage of teaching in which a teacher's concerns focus on improving his or her teaching skills and mastering the content being taught.

For most teachers, concerns about survival or self diminish rapidly after several months of teaching. What follows is a new set of concerns about how to best help students learn.

Impact stage. The stage of teaching when instructors begin to view their learners as individuals with individual needs.

Concerns about the impact of instruction on learners' growth and development typify the final stage of the teacher's growth and development.

Concerns theory. A view that conceptualizes the teacher's growth and development as a process of passing through concerns for self (teacher) to task (teaching) to impact (pupil).

How can the study of educational psychology help me develop into an expert teacher?

Educational psychology. A discipline that focuses on theoretical and empirical instructional knowledge.

Applying Your Knowledge:

Teacher Concerns Checklist

Directions. This checklist explores what teachers are concerned about at different stages of their careers. There are no right or wrong answers, because each teacher has his or her own concerns. Following are statements of concerns you might have. Read each statement and ask yourself: WHEN I THINK ABOUT TEACHING, AM I CONCERNED ABOUT THIS?

If you are not concerned, or the statement does not apply, write 1 in the box.

If you are a little concerned, write 2 in the box.

If you are moderately concerned, write 3 in the box.

If you are very concerned, write 4 in the box.

If you are totally preoccupied with the concern, write 5 in the box.

- u 1. Insufficient clerical help for teachers.
- u 2. Whether the students respect me.
- u 3. Too many extra duties and responsibilities.
- u 4. Doing well when I'm observed.
- u 5. Helping students to value learning.
- u 6. Insufficient time for rest and class preparation.
- u 7. Not enough assistance from specialized teachers.
- u 8. Managing my time efficiently.
- u 9. Losing the respect of my peers.
- u 10. Not enough time for grading and testing.
- u 11. The inflexibility of the curriculum.
- u 12. Too many standards and regulations set for teachers.
- u 13. My ability to prepare adequate lesson plans.
- u 14. Having my inadequacies become known to other teachers.

- u 15.Increasing students' feelings of accomplishment.
- u 16.The rigid instructional routine.
- u 17.Diagnosing student learning problems.
- u 18.What the principal may think if there is too much noise in my classroom.
- u 19.Whether each student is reaching his or her potential.
- u 20.Obtaining a favorable evaluation of my teaching.
- u 21.Having too many students in a class.
- u 22.Recognizing the social and emotional needs of students.
- u 23.Challenging unmotivated students.
- u 24.Losing the respect of my students.
- u 25.Lack of public support for schools.
- u 26.My ability to maintain the appropriate degree of class control.
- u 27.Not having sufficient time to plan.
- u 28.Getting students to behave.
- u 29.Understanding why certain students make slow progress.
- u 30.Having an embarrassing incident occur in my classroom for which I might be judged responsible.
- u 31.Not being able to cope with troublemakers in my classes.
- u 32.That my peers may think I'm not doing an adequate job.
- u 33.My ability to work with disruptive students.
- u 34.Understanding ways in which student health and nutrition problems can affect learning.
- u 35.Appearing competent to parents.
- u 36.Meeting the needs of different kinds of students.
- u 37.Seeking alternative ways to ensure that students learn the subject matter.
- u 38.Understanding the psychological and cultural differences that can affect my students' behavior.

- u 39. Adapting myself to the needs of different students.
- u 40. The large number of administrative interruptions.
- u 41. Guiding students toward intellectual and emotional growth.
- u 42. Working with too many students each day.
- u 43. Whether students can apply what they learn.
- u 44. Teaching effectively when another teacher is present.
- u 45. Understanding what factors motivate students to learn.

The following items on the Teacher Concerns Checklist represent dimensions of *self*, *task*, and *impact*:

Self: 2, 4, 8, 9, 13, 14, 18, 20, 24, 26, 28, 30, 32, 35, 44

Task: 1, 3, 6, 7, 10, 11, 12, 16, 21, 25, 27, 31, 33, 40, 42

Impact: 5, 15, 17, 19, 22, 23, 29, 34, 36, 37, 38, 39, 41, 43, 45

To determine your score, total the number of responses in each of the three categories of concern—self, task, and impact. The higher your score in a category (out of a maximum 75 points), the more you are identified with that stage of concern. Also, by summing responses to items in each category and dividing by the number of items completed, you can compute an average rating for each of the three areas.

The sum of the scores for each of the three areas of concern can be recorded in the format below, shown here with some sample data:

Stage	Beginning	End	Change
<i>Self</i>	60	45	215
<i>Task</i>	45	60	+15
<i>Impact</i>	15	30	+15

This example shows a shift of concern from self to task and impact, which is typical of student teachers who spend about a semester in a field experience. Smaller shifts following this same pattern are not uncommon, however, after a semester of in-school observation without practice teaching. Larger shifts, particularly from task to impact, are frequently noted for beginning in-service teachers during their first two to three years of teaching.

Concerns Theory References

- Borich, G. (1993). *Clearly outstanding: Making each day count in your classroom*. Boston: Allyn & Bacon (Chapter 8).
- Borich, G. (1994). *Observation skills for effective teaching*. (2nd ed.). Columbus: Merrill/MacMillan (Chapter 4).
- Borich, G. (1995). *Becoming a teacher: An inquiring dialogue for the beginning teacher*. Washington, DC/London: Falmer Press Ltd.
- Borich, G. (1996). *Effective teaching methods*. (3rd ed.). Columbus: Merrill/MacMillan (Chapter 3).
- Fuller, F.F. (1969). Concerns of teachers: A developmental conceptualization. *American Educational Research Journal*, 6, 207–226.
- Fuller, F., Brown, O., & Peck R. (1966). *Creating climates for growth*. Austin: University of Texas, Research and Development Center for Teacher Education. ERIC Document Reproduction Service, ED 013 989.
- Fuller, F., Pilgrim, G., & Freeland, A. (1967). *Intensive individualization of teacher preparation*. Austin: University of Texas, Research and Development Center for Teacher Education. ERIC Document Reproduction Service, ED 011 603.
- Hall, G.E., & Hord, S.M. (1987). *Change in schools: Facilitating the process*. Ithaca: State University of New York Press.
- Hord, S.M., Rutherford, W.L., Huling-Austin, L., & Hall, G.E. (1987). *Taking*

charge of change. Alexandria: Association for Supervision and Curriculum Development.

Rogan, J., Borich, G., & Taylor, H. (1992). Validation of the stages of concern questionnaire. *Action in teacher education*, 14 (2), 43–49.

Rutherford, W.L., & Hall, G.E. (1990). *Concerns of teachers: Revisiting the original theory after twenty years*. Paper presented at the annual meeting of the American Educational Research Association, Boston. (Available from W. Rutherford, College of Education, The University of Texas at Austin, Austin, TX 78712.)

Source: From Borich, 1996.

How can I evaluate the knowledge acquired through the study of educational psychology and decide whether to apply it in my teaching?

The study of educational psychology can provide teachers with research-based knowledge that can help them make important decisions and solve significant classroom problems.

Variables. Variations in conditions in a given situation.

Operational definition. The description of a variable in the precise manner in which it will be measured or demonstrated.

Independent variable. A variable that is thought to produce a desired effect or outcome.

Dependent variable. The variable that is the presumed effect of an independent variable.

Hypothesis. A prediction about how the variables in a question are related to one another.

Qualitative research. Research conducted to describe or create hypotheses about the relationship between independent and dependent variables.

Quantitative research. Research conducted to test previously stated relationships between independent and dependent variables.

Descriptive research. A means of measuring variables through questionnaires, interviews, or systematic observation, or a combination of these practices.

Ethnography. A research technique in which the researcher acts as an observer, recorder, and interpreter and makes his or her point of view explicit.

Case study. An intensive study of persons or situations singly or in small numbers.

Generalizability. The reproducibility of research results across contexts, settings, and learners.

Correlational study. Research that tries to determine whether a relationship exists between two variables.

Experimental study. Research in which the independent variable is changed so that its effects on the dependent variable can be seen.

Experimental group. A group that is given a stimulus (such as a program of instruction) that presumably causes a change in the group members' behavior.

Control group. The baseline group against whom changes in the experimental group are compared. The experimental group's stimulus is withheld from the control group.

Randomization. A process to help insure experimental generalizability by giving large numbers of individuals an equal opportunity to be included in a study in either the experimental or the control group.

Questions marked with an asterisk are answered in the appendix.