

What is **educational psychology**? Educational psychology is the study of learners, learning, and teaching. However, for students who are or expect to be teachers, educational psychology is something more. It is the accumulated knowledge, wisdom, and seat-of-the-pants theory that every teacher should possess to intelligently solve the daily problems of teaching. Educational psychology cannot tell you as a teacher what to do, but it can give you the principles to use in making a good decision and a language to discuss your experiences and thinking (Ormrod, 2016; Woolfolk, Winne, & Perry, 2015). Consider the case of Ellen Mathis and Leah Washington. Nothing in this or any other educational psychology text will tell you exactly how to teach creative writing to a particular group of third-graders. However, Leah uses concepts of educational psychology to consider how she will teach writing and then to interpret and solve problems she runs into, as well as to explain to Ellen what she is doing. Educational psychologists carry out research on the nature of students and on effective methods of teaching in order to help educators understand principles of learning and give them the information they need to think critically about their craft and make teaching decisions that will work for their students.

WHAT MAKES A GOOD TEACHER?

Everyone knows that good teaching matters. One recent study found, for example, that a single year with an outstanding (top 5%) teacher adds \$50,000 to a student's lifetime earnings! (Chetty, Friedman, & Rockoff, 2014). But what is it that makes a good teacher so effective? Is it warmth, humor, and the ability to care about students and value their diversity? Is it planning, hard work, and self-discipline? What about leadership, enthusiasm, a contagious love of learning, and speaking ability? Most people would agree that all of these qualities are needed to make a good teacher, and they would certainly be correct. But these qualities are not enough.

Knowing the Subject Matters (But So Does Teaching Skill)

There is an old joke that goes like this:

Question: What do you need to know to be able to teach a horse?

Answer: More than the horse!

This joke makes the obvious point that the first thing a teacher must have is some knowledge or skills that the learner does not have; you must know the subject matter you plan to teach. But if you think about teaching horses (or children), you will soon realize that although subject matter knowledge is necessary, it is not enough. A rancher may have a good idea of how a horse is supposed to act and what a horse is supposed to be able to do, but if he doesn't have the skills to make an untrained, scared, and unfriendly animal into a good saddle horse, he's going to end up with nothing but broken ribs and teeth marks for his trouble. Children are a lot smarter and a little more forgiving than horses, but teaching them has this in common with teaching horses: Knowledge of how to transmit information and skills is at least as important as knowledge of the information and skills themselves. We have all had teachers who were brilliant and thoroughly knowledgeable in their fields but who could not teach. Ellen Mathis may know as much as Leah Washington about what good writing should be, but she started off with a lot to learn about how to get third-graders to write well.

For effective teaching, subject matter knowledge is not a question of being a walking encyclopedia. Libraries of books and the magic of the Internet make vast amounts of knowledge readily available, so walking encyclopedias are not much in demand these days. What makes teachers effective is that they not only know their subjects, but also can communicate their knowledge to students. The celebrated high school math teacher Jaime Escalante taught the concept of positive and negative numbers to students in a Los Angeles barrio by explaining that when you dig a hole, you might call the pile of dirt 11, the hole 21. What do you get when you put the dirt back in the hole? Zero. Escalante's ability to relate the abstract concept of positive and negative numbers to everyday experience is one example of how the ability to communicate knowledge goes far beyond simply knowing the facts.

Mastering Teaching Skills

The link between what a teacher wants students to learn and students' actual learning is called *instruction*, or **pedagogy**. Effective instruction is not a simple matter of one person with more knowledge transmitting that knowledge to another (Baumert et al., 2010; Gess-Newsome, 2012). If telling were teaching, this book would be unnecessary. Rather, effective instruction demands the use of many strategies.

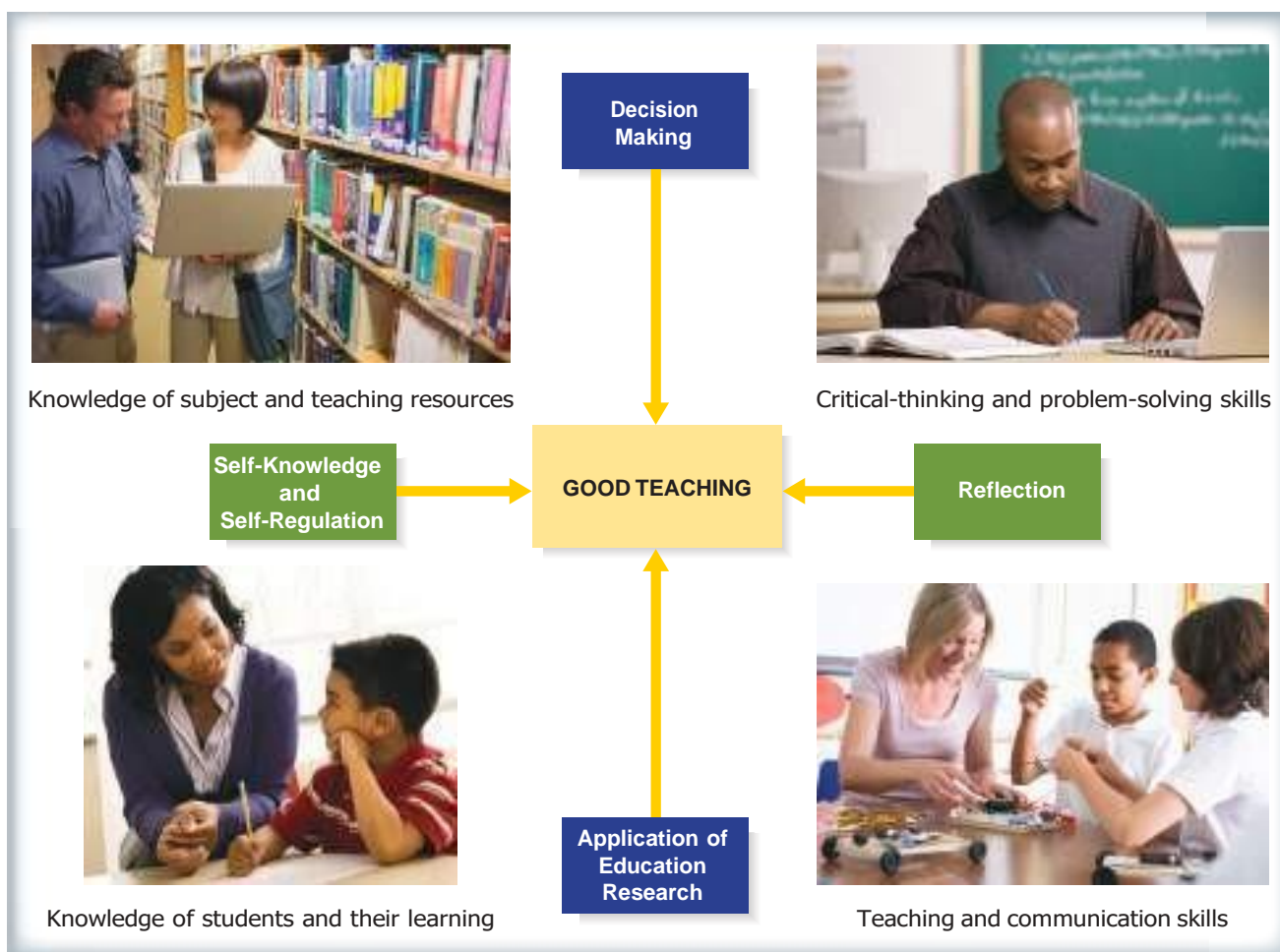
For example, suppose Paula Wilson wants to teach a lesson on statistics to a diverse class of fourth-graders. To do so, Paula must accomplish many related tasks. She must make sure that the class is orderly and that students know what behavior is expected of them. She must find out whether students have the prerequisite skills; for example, students need to be able to add and divide to find averages. If any do not, Paula must find a way to teach students those skills. She must engage students in activities that lead them toward an understanding of statistics, such as having students roll dice, play cards, or collect data from experiments; and she must use teaching strategies that help students remember what they have been taught. The lessons should also take into account the intellectual and social characteristics of students in the fourth grade and the intellectual, social, and cultural characteristics of these particular students. Paula must make sure that students are interested in the lesson and motivated to learn statistics. To see whether students are learning what is being taught, she may ask questions or use quizzes or have students demonstrate their understanding by setting up and interpreting experiments, and she must respond appropriately if these assessments show that students are having problems. After the series of lessons on statistics ends, Paula should review this topic from time to time to ensure that it is remembered.

These tasks—motivating students, managing the classroom, assessing prior knowledge, communicating ideas effectively, taking into account the characteristics of the learners, assessing learning outcomes, and reviewing information—must be attended to at all levels of education, in or out of schools. They apply as much to the training of astronauts as to the teaching of reading. How these tasks are accomplished, however, differs widely according to the ages of the students, the objectives of instruction, and other factors.

What makes a good teacher is the ability to carry out all the tasks involved in effective instruction. Warmth, enthusiasm, and caring are essential (Cornelius-White, 2007; Eisner, 2006; Marzano, 2011b), as are subject matter knowledge and understanding of how children learn (Baumert et al., 2010; Carlisle et al., 2011; Wiggins & McTighe, 2007). But it is the successful accomplishment of all the tasks of teaching that makes for instructional effectiveness.

The Intentional Teacher

There is no formula for good teaching, no seven steps to Teacher of the Year. Teaching involves planning and preparation, and then dozens of decisions every hour. Yet one attribute seems to be characteristic of outstanding teachers: **intentionality**. Intentionality means doing things for a reason, on purpose. Intentional teachers constantly think about the outcomes they want for their students and about how each decision they make moves children toward those outcomes (Fisher & Frey, 2011). Intentional teachers know that maximum learning does not happen by chance.



Yes, children do learn in unplanned ways all the time, and many will learn from even the most chaotic lesson. But to really challenge students, to get their best efforts, to help them make conceptual leaps and organize and retain new knowledge, teachers need to be intentional: purposeful, thoughtful, and flexible, without ever losing sight of their goals for every child.

The idea that teachers should always do things for a reason seems obvious. Yet in practice, it is difficult to constantly make certain that all students are engaged in activities that lead to important learning outcomes. Teachers very frequently fall into strategies that they themselves would recognize, on reflection, as being time fillers rather than instructionally essential activities. For example, an otherwise outstanding third-grade teacher once assigned seatwork to one of her reading groups. The children were given two sheets of paper with words in squares. Their task was to cut out the squares on one sheet and then paste them onto synonyms on the other. When all the words were pasted correctly, lines on the pasted squares formed an outline of a cat, which the children were then to color. Once the children pasted a few squares, the puzzle became clear, so they could paste the remainder without paying any attention to the words themselves. For almost an hour of precious class time, these children happily cut, pasted, and colored—not high-priority skills for third-graders. The teacher would have said that the objective was for children to learn or practice synonyms, of course; but in fact the activity could not possibly have moved the children forward on that skill. Similarly, many teachers have one child laboriously work a problem on a whiteboard while the rest of the class has nothing important to do. Some secondary teachers spend most of the class period going over homework and classwork and end up doing very little teaching of new content. Again, these may be excellent teachers in other ways, but they sometimes lose sight of what they are trying to achieve and how they are going to achieve it.

Intentional teachers are constantly asking themselves what goals they and their students are trying to accomplish. Is each portion of their lesson appropriate to students' background knowledge, skills, and needs? Is each activity or assignment clearly related to a valued outcome? Is each instructional minute used wisely and well? An intentional teacher trying to build students' synonym skills might have them work in pairs to master a set of synonyms in preparation for individual quizzes. An intentional teacher might have all children work a given problem while one works at the board, so that all can compare answers and strategies together. An intentional teacher might quickly give homework answers for students to check themselves, ask for a show of hands for correct answers, and then review and reteach only those exercises missed by many students to save time for teaching of new content. An intentional teacher uses a wide variety of instructional methods, experiences, assignments, and materials to be sure that children are achieving all sorts of cognitive objectives, from knowledge to application to creativity, and that at the same time children are learning important affective objectives, such as love of learning, respect for others, and personal responsibility. An intentional teacher constantly reflects on his or her practices and outcomes (Fisher & Frey, 2011; Marzano, 2011b).

An extract from Educational Psychology: Theory and Practice, 12th edition by Robert E. Slavin