Cristina Salinas-Grandy

Cristina began teaching in 2006 in a kindergarten inclusion classroom in Corpus Christi, Texas. While there she enrolled in a master’s program for teachers at Texas A & M Corpus Christi, to gain more knowledge of teaching and how schools are organized. Cristina’s teaching career ranged from second grade, to teaching computer enrichment courses to high school students, to students aged four through 13. She taught first graders how to type and middle school students how to conduct research. Once she had experienced working with students of all ages she went back to college to earn a second master’s degree in educational administration, and received a principal’s license. Cristina then moved to Las Vegas to enroll in a Ph.D. program at the University of Nevada, Las Vegas. She began teaching courses for future teachers and developed a passion for teaching teachers. Cristina attributes her success as an educator to the mentors that she had along the way. In her own words, “Without the mentor teachers who had years of experience in the profession, administrators who helped me understand what it means to be a school leader and principal, and professors who have helped me develop my goals of earning my Ph.D. in teacher education, I don’t think I would be where I am today. It really is true: teachers who care, make a difference!”

Q: What was your school/community like in Corpus Christi?

A: Corpus Christi is a small city on the coast of Texas, with a strong sense of community. While living there, I worked for both a public and a private school, and noticed that in both schools the goal was always to develop students’ strong love of learning through academics as well as through developing a person of strong character. When I teach today, I always strive to think of students as whole individuals who need teachers that can lead them in both areas. Students need to be prepared to be leaders and servants of the local and global communities where they will live.

Q: What do you do to make certain that all of your students are learning?

A: I always try to ensure that students understand that I am interested in them as individuals and as learners. Once students feel comfortable in the classroom environment and we have developed trust in the classroom community, then learning becomes easier.

Questions to Consider

1. What are some of the strategies the teachers you know use to engage students in learning? What did a teacher do to encourage you to learn something?

2. Why might learning be more fun for students who have a trusting relationship with their teacher?

3. Cristina finds joy in teaching when her students ask her questions and when they seem interested in what she is teaching. What kinds of questions do students ask when they are trying to learn something?

4. Why is it important for a teacher to know how to use a variety of teaching strategies?

5. Have you had a teacher who believed you could learn something even when you didn’t believe you could? How did that make you feel?
Q: What brings you joy in teaching?
A: When students make progress and connections in their learning, that brings me joy. When I see students asking questions that demonstrate their interest in what I am teaching and ultimately what they are learning, then I am happy.

Q: What advice about teaching strategies do you have for those who are studying to become teachers?
A: There is no magic teaching strategy! Teachers need to have a repertoire of teaching strategies that they can draw from. Teachers can learn a variety of teaching strategies from their professors and mentors. Try different strategies to see what works and be willing to change your strategy when it isn’t working. Different subjects and students may require different strategies, so it is important for you to know how to use as many strategies as you can so that you are prepared for any situation in your classroom.

Q: In what ways have you used technology to improve teaching practices?
A: Technology is a wonderful tool in the classroom; a computer (and the Internet) can give you access to a world you may have only been able to read about. I have used technology as a way to present information to students. Video clips, movies, maps, interactive learning games have all helped my students gain a better understanding of the subjects I was teaching. I have also helped students learn how to use the technology themselves as a tool for their own learning and research methods.

Q: How would you describe excellence in teaching?
A: An excellent teacher is one who possesses both the knowledge to teach students and the belief that every student in each classroom can learn. Teaching is an honorable and demanding profession that is also rewarding. Teachers who love learning and who continue to develop their skills as teachers in order to give their students the very best education they can give them are the epitome of excellence in teaching.

Learning Outcomes

After reading this chapter, you should be able to do the following:

1. Describe some of the strategies teachers use to prepare students for learning and determine which ones you would be comfortable using.
2. Explain why some teaching strategies appear to work better with one content area than another.
3. Determine how and when to apply different teaching strategies for different purposes.

Master these objectives using an online action plan at edge.sagepub.com/hall2e
INTRODUCTION

The Art and Science of Teaching

The artistic side of teaching requires a habit of instinctual mindfulness that relies on empathy and quick thinking. You might well ask what that looks like in a classroom: the answer is that it can look as many different ways as the teachers who have developed such habits. Think about instructors you have had who momentarily stopped whatever they were doing and then continued along a different line of explanation with different examples or different demonstrations. Teachers who possess instinctual mindfulness may have noticed a confused look on a student’s face or an “I have seriously checked out” look on more than one face in the classroom. Being attuned to students’ reactions to the lesson, and being able to shift gears when it appears the lesson isn’t going so well, is what thoughtful and quick-minded teachers constantly do. One of my favorite quotes is, “Don’t finish a lesson that is bombing.”

New teachers work hard to develop their lesson plans so they may forge ahead with the attitude that “it is my lesson and I am going to finish it” even when the students are not learning. Don’t be that teacher. Be aware, be mindful, be quick to pick up on the subtle and sometimes not-so-subtle messages your students are sending you regarding what may or may not be happening in their heads.

One of the things that makes teaching so much fun is that even though there are recipes to follow, for every group of students, in every place the teacher teaches a lesson something in the recipe has to be changed. Such moments come and go in the blink of an eye, like Higgs Bosons. Expert teachers know these moments are always likely to pop up, and they anticipation them and use them to make learning come alive. It’s not an easy habit to learn, and it is not a behavior that is easy to see. But it happens in teaching all the time.

This habit of thoughtful quick-mindedness can be developed through a process of reflection that is automatic and continuous, and that draws on all manner of sensory awareness of the multitude of stimuli emanating from learner/teacher interactions. As teachers practice their art and reflect on the outcomes of that practice, they construct a framework for instinctive and spontaneous actions that promote student learning. Although it may seem that spontaneity and quick-mindedness are random, they are not. Some beginning teachers walk into the classroom with a well-developed sense of mindfulness. However, most teachers develop instinctive quick-mindedness from experience and over time.

Teaching as a science is evident in the strategies that teachers learn to use to achieve desired results in student learning. Strategies are used to capture and hold student attention, to direct...
that attention to a specific detail of knowledge, or to develop a skill students will begin to incorporate into their own framework for learning. Some strategies help students practice and connect new bits of information to what they already know and to what they will be expected to know in the future. These and other strategies are all part of the science of teaching.

The science of teaching is concerned with keeping track of where students are in the learning cycle (Lawson, 1995), which student has just fallen off the cart and which has already made a leap of learning to dimensions beyond the scope of the lesson. The science of teaching is in the planning, the tactical adjustments teachers make in action, and in documenting the teachers' own progress and performance and that of the students.

When you ask your college instructor for a definitive answer about what particular strategy will work in a classroom and the instructor answers, “Well, it depends,” your frustration at such an equivocal answer may not be entirely warranted. What your instructor knows is that skill in teaching is developed through experience; since nearly every day in the classroom represents a different set of experiences, how a teacher might respond in any given situation often depends on an unpredictable set of conditions. Your instructor also knows that the science of teaching can be learned, and that what will work for you in a classroom will depend on how well you learn to use a range of teaching strategies and how well you monitor the effects of the applied science of your teaching.

You have probably heard the comment that teachers are born, not made. The truth is that some people are born to be teachers with all the natural talents necessary to produce excellent results in student achievement. However, most of us must learn to teach by practicing the science of teaching—that is, the skills that together make up the characteristics of excellent teachers. We also learn through persistence, practice, and patience to develop the same art of teaching talent that others may be born with.

This chapter will introduce you to a variety of teaching strategies that work in classrooms, and will help you understand a scientific approach to teaching. You will also learn ways specific strategies can be used to meet the learning needs of the range of student abilities most commonly found in a single classroom. You will develop the art of teaching as you practice these skills in classrooms.

WHAT ARE TEACHING STRATEGIES?

Mr. Jason Choi, a science teacher at Sleepy Hollow High School in Sleepy Hollow, New York, offers his perspective on teaching strategies. “In education, it seems as if every year or two, a new theory or instructional model appears on the horizon. I think it is important to realize that there is no cure-all or panacea for struggling students. I believe that good instructional strategies, whether in science, mathematics, English, or foreign language, all resemble one another. The students are engaged, challenged, and supported; the teachers are passionate, enthusiastic, and believe that teaching is the only profession for them” (Choi, 2012, p. 386). Hear and see more of Jason Choi on the video and audio links in this textbook.

Any teaching strategy certainly falls into the category of something that is carefully planned—a method or a stratagem for reaching a desired goal. The word stratagem has a somewhat negative connotation, defined as being a cleverly contrived trick or scheme for gaining a desired end or outwitting an opponent, but effective teachers know they have to invent all manner of activities to encourage their students to drink from the fountain of knowledge. Consider the admonition, “You can lead a horse to water, but you can’t make it drink.” Well it's a smart farmer who sprinkled alfalfa sprouts on the watering trough, or a Mary Poppins who figures out a clever
way to “help the medicine go down.” Teaching strategies properly used make it possible for teachers to help students acquire useful and necessary information, sometimes contrary to the students’ desire.

Since the emergence of the first human societies, knowledge and skills have been handed down from one generation to another in different modalities. The apprentice model worked for the culture of knights and their squires. Even today some aspiring potters spend weeks, months, or even years carrying the master teacher’s clay from the source to the wheel to the kiln before ever trying to form a pot. In Iran students learn the Persian alphabet through repetition and spend hours each day at a table writing a single Arabic symbol over and over until it is so etched in the mind that only an act of Allah could erase it. Children in school in China or Japan must learn more than 2,000 kanji (written symbols) to properly communicate in an educated society; they copy these symbols until every individual brush stroke becomes as natural as taking a breath. Students do not come to your classroom knowing how to participate in the strategies that you will want to use to help them learn the content. You will also have to teach your students the guidelines for behavior inherent in each strategy. A useful rule of thumb when introducing a group of students to new instructional strategies is this: Never teach a new strategy with new content.

Generic Teaching Strategies

In their Framework of Universal Teaching Strategies, Freiberg and Driscoll (2004) describe generic instructional strategies along a continuum that ranges from a teacher focus or teacher-centered perspective to a student focus or student-centered perspective (see Figure 12.1). The strategies are truly universal, cutting across grade levels and content areas. The strategies described by Freiberg and Driscoll consider the context of teaching situations, the curriculum to be taught, and the diverse learners present in classrooms. At the end of this chapter you will be directed to visit https://www.teachingchannel.org/videos. When you do so, you will see how teachers learn to use different strategies for student learning.

The lecture is the strategy used most often in classrooms and provides the teacher with the most immediate control over what content the students are exposed to, the expected behavior of the
students, and that most valuable commodity—time. When teachers are expected to cover a set amount of curriculum in a specified period, the lecture is often the favored strategy. David Ausubel, an educational psychologist that you read about in Chapter 7 of this text, argued that lectures provide the most efficient use of time when trying to impart large amounts of information to a group of students. Since teachers and students have the gift of language, Ausubel’s (1963) contention was that teachers should use language to impart knowledge.

At the student-centered end of the strategies continuum described by Freiberg and Driscoll (2004), students interact with books, audio and videotapes, computer programs, and the Internet. Students use these resources to investigate topics assigned by the teacher or topics that interest them and that they are highly motivated to learn. Nancie Atwell’s writings on teaching and conducting workshops in the Edgecomb, Maine, K–8 demonstration school (Atwell, 2015), bring practical application to the idea that if teachers want students to read and write, then they should encourage students to read and write about something that interests them. Using student-centered strategies to help students requires a high level of teacher competence and knowledge of a range of subjects and of what kind of resources are available. The teacher must be able to guide students to resources that will give them adequate, useful, and accurate information.

It is easy to see the logical organization to the strategies on the continuum. Since students can’t be expected to discuss what they know nothing about, inputting information is important, and is usually done most efficiently through lecture or presentation. Teachers need to help students understand what they need to know, then to show the students how to learn what they need to know, and then to assess how much of what they needed to know the students learned.

Group work also requires that the students know how to ask questions of one another and discuss topics in a civilized manner. Role-playing and drama require students to demonstrate their knowledge of a subject using higher-level thinking skills. Students who engage in inquiry need to know how to access information, what to do with it, and how to synthesize it. All learning has to begin with some level of knowledge. As you progress through your teacher education program, you will learn more details of a range of teaching strategies and the optimum application of each for specific content areas. Remember all instructional strategies resemble one another in some way, but it is the teacher who determines which strategy to use and how best to use it. The Iowa Area Education Agency website (https://www.aea267.k12.ia.us/curriculum/) provides examples of many teaching strategies and suggestions for working with students with disabilities and with English language learners (ELLs). At https://www.youtube.com/user/AEA267Iowa you will be able to view the results that expert use of teaching strategies can produce.

Lecture

We’ve all had the experience of being talked to. Sometimes we have been inspired by being talked to, and sometimes not. There were probably even times when we had no idea what the lecturer was talking about. I had that experience in a statistics class. Fortunately or unfortunately, the lecture teaching strategy has survived for more than 2,000 years and is used in all content areas and at all grade levels. When the teacher is presenting information through...
a lecture, the students are in a passive role, and passively receiving information can hinder learning. The one-way communication of a lecture does not allow for any verbal feedback, although students can nod or shake their heads. When delivering a lecture the teacher must activate instinctual mindfulness to be aware of any student problems with the material and to be able to check for student understanding. While the lecture may not always enjoy a favorable reputation, it can be effective in both elementary and secondary settings.

Teachers talk about the short attention span of their students. There is hardly a classroom that doesn’t contain at least one student who has been assessed with attention deficit disorder. It’s highly unreasonable to expect the kid who can’t sit still, can’t stop talking, and can’t stop fidgeting with whatever is within reach to attend to the lecture teaching strategy. To gain information from a lecture, the listeners must attend to what the speaker is saying and, in the case of a presentation, be able to see what the lecturer is talking about. Think about that demonstration in the supermarket when everyone was crowded around the man with the super juicer and you couldn’t see what was happening because of all the people in front of you. Students have to see what is going on as well as hear it. Al Capp, the creator of the Li’l Abner comic strip, once said in an interview that the length of time a person could attend to a lecture was equal to their age: one minute for every year, and that most people, despite their age, can seldom listen for more than 20 minutes.

The unfavorable reputation the lecture seems to have as a teaching strategy could be, in part, a result of the failure of teachers to recognize and use the guidelines that help make this teaching strategy effective. Professional speakers would never consider giving a boring speech: watch Mike Rowe, for instance, the host of the Dirty Jobs show on the Discovery Channel, talk about the nature of hard work (www.ted.com/talks/mike_roweCelebrates_dirty_jobs). Nothing boring there. You may have ample opportunities to present information or give a talk on a specific subject during your teacher education program. Think of such opportunities as mini lectures that provide practice for that time you’re in front of a truly hard audience (your seventh-grade history class), and take some time to reflect on how successful you are at giving information and telling stories in a lecture format. Some teacher education programs even require that candidates take a speech class to improve their skills in public speaking and—trust me—there is nothing quite as public as a classroom.

There are many ways to enhance student interest in a lecture by following the five elements of an effective lecture. The lecture teaching strategy is an expeditious way to impart information to students.
The research on effective instruction provides guidelines for delivery of lectures and presentations (Rosenshine & Stevens, 1986). For the teacher education candidate or beginning teacher who is just becoming familiar with delivering a lecture or presentation, these guidelines can be reduced to five major elements essential for planning and delivering a lecture that instructs entertains and sticks (see Table 12.1).

The following illustrates how a teacher might develop a lecture around these five elements to help students learn.

**Audience.** A class of fifth-graders in St. Louis is learning about the Westward Migration during the 19th century in the United States. The students have already had lessons on the Westward Migration and have talked about why people in the 1800s chose to leave their homes in the East and head westward. The teacher knows that her students will be able to listen for about 10 minutes at the most, so she has planned her lesson accordingly. Two objectives the teacher has for this lecture are for her students to be introduced to the major routes followed by the pioneers as they left Independence, Missouri, and headed westward, and to recognize and remember place names and why certain places along the routes became settlements.

**Focus.** To generate interest, the teacher relates how the pioneers prepared for their cross-country trek to how her urban students might prepare for a vacation or trip to some other part of the country. She relates details about the rigors of the pioneers’ journey to what it might be like for her own students to walk across Missouri today, and lists some of the dangers and hardships both sets of travelers might face.

**Organization.** The teacher reminds the students of previous learning and gives each student a map with certain routes outlined with dots and lines for students to write place names and dates. As the teacher talks about the three major trails pioneers could take—the Oregon Trail, the Santa

<table>
<thead>
<tr>
<th>Table 12.1</th>
<th>Know Your Students</th>
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<tbody>
<tr>
<td><strong>Audience</strong></td>
<td>Know what is developmentally appropriate for your students. Be aware of their interests, their abilities, and what prerequisite skills and knowledge they need to have to understand what you are talking about.</td>
</tr>
<tr>
<td><strong>Focus</strong></td>
<td>Know your subject, be enthusiastic about it, and stick to it. We all can be seduced into talking about things we really don’t know much about. Everyone wants to have an opinion, but an educative lecture should be a learning experience for the listener, not just an opportunity for the speaker to spout his or her opinion. Present ideas in small chunks, one idea at a time. Make sure your students are with you; keep their attention.</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>Know how to introduce the topic, to expand on it, and to summarize what has been talked about. Know when to change pace and when to stop.</td>
</tr>
<tr>
<td><strong>Clarity</strong></td>
<td>Know how to present an idea from the listeners’ perspective. Provide examples that are relevant, make the subject come alive through explanations that are colorful, unusual, or startling.</td>
</tr>
<tr>
<td><strong>Pacing</strong></td>
<td>Know when to shift gears, check for understanding, and bring an idea to its logical conclusion. Make students think about what you are saying by having them take notes, for example by writing down the names of important people or important dates. Provide students with an outline of your lecture before beginning so that they can follow along and make notations.</td>
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</table>
Fe Trail, and the California Trail—students mark the starting points for these trails on their individual maps and identify where the trails meet up or split, and the forts that were established along the way.

**Clarity.** There is a large map in the front of the room that the teacher refers to during the lecture. The teacher also writes the names of places on the board when the students are expected to mark them on their individual maps.

**Pacing.** The teacher ends the lecture by asking questions to help students recall the information and extend their thinking. The teacher tells the students that the next time they meet they will be placed in small groups to gather detailed information about the experiences pioneers had on their journeys crossing the rivers, plains, and mountains. The teacher has provided a special selection of books on the Westward Migration for students to browse through at the end of the lesson. Students are also directed to the simulation Oregon Trail loaded on the classroom computers. While the students look at the books and run the simulation, the teacher plays music from the soundtrack *The Way West*, by Brian Keane (1995).

The lecture strategy can be a very effective teaching tool. Using a lecture makes it possible for teachers to present information in the least amount of time. All members of the class as well as the teacher hear the same information at the same time. And a lecture can be a perfect beginning to a unit, or it can introduce a new concept. However, when using the lecture strategy, it is difficult to address individual needs since the information is presented to all students in the same mode.

**Questioning and Discussions**

We all learn from the questions we ask and from the questions others ask us. We have questions we want answered, we have questions we are sometimes afraid to ask, and sometimes people ask us questions for which we have no answers. People ask questions to gain information, to increase understanding, and even to draw attention to themselves. Some of the questions people ask are silly, some are shocking, and some are just downright wrongheaded. Sometimes teachers are so concerned with answers that they miss the importance of questions, of asking the right questions, and of listening to and learning from the questions their students ask of them.

Teachers ask questions of their students for many reasons. Questions such as, “Have you ever had an alligator nibble at your toes?” are asked to generate interest and gain student attention. Teachers ask questions to check for student understanding, to encourage student thinking, and to structure and redirect learning. Questioning is used by teachers as a diagnostic tool in determining the level of instruction at which students need to begin learning. Questions asked to manage student behavior or classroom organization are usually intended to help students remember rules, while some questions allow students to express their own feelings and opinions. Eleanor Duckworth has said, “Getting people to think about what they think, and asking them questions about it, is the best way I know how to teach” cited in (cited in Kamenetz, 2014).
A Questioning Exercise. In collaboration with one or more of your classmates, write five questions that you believe teachers should never ask students. Then share these questions with the rest of the class and explain why you decided these questions should never be asked. A discussion of the types of questions teachers should avoid will help you think about questioning in general. Learning the art of asking the right question at the right time and in the right way can be one of the most challenging aspects of teaching.

Guidelines have been created to help teachers with this task. Decades ago, John Dewey (1933) developed an “Art of Questioning Guide” that still holds true today. The following guidelines have been reworded from Dewey’s questioning guide:

- Questions should direct students to a deep understanding of a subject rather than focusing on facts related to that subject.
- Questions should avoid emphases on literal and direct responses over personal interpretations.
- Questions should be part of sets of questions that spark discussion and lead students to new and more complex questioning.
- Questions should include important points from earlier material to help students incorporate previous information into current content. Teachers should periodically review important points so that old, previously discussed material can be placed into perspective with that which is presently being studied.
- Questions should help students summarize what they learned and think about how the present learning might be integrated into future learning.
- Questions should not elicit fact upon fact, but should be asked in such a way as to delve deeply into the subject; that is, to develop an overall concept of the selection.
- Questions should not be asked randomly so that each is an end in itself, but should be planned so that one leads into the next throughout a continuous discussion.
- Teachers should bring closure to the experience by guiding students to summarize the main points. This is a way of helping students understand.

Other classification systems, taxonomies, have been created to aid teachers in developing questions for multiple purposes. There are multiple ways of organizing questions to encourage higher-order thinking skills, but you will most likely be introduced to Benjamin Bloom’s (1956) taxonomy in your teacher education course work, or to Norman L. Webb’s depth of knowledge (DOK) taxonomy (http://www.steveventura.com/files/dokflip.pdf). Bloom’s taxonomy was based on three levels of cognitive processes, from lower-level to higher-level thinking skills. Webb’s DOK taxonomy was originally designed for mathematics and science standards, and represents the degree of understanding that a student needs to correctly respond to assessment items.
The original six levels of Bloom's (1956) classification system were identified as knowledge, comprehension, application, analysis, synthesis, and evaluation. In 1990 the levels of Bloom's taxonomy were renamed to (1) remembering, (2) understanding, (3) applying, (4) analyzing, (5) evaluating, and (6) creating. Table 12.2 shows the types of questions that elicit different responses from students and that require differing types of cognitive activity.

There are both less-than-productive and unproductive questions. Teachers should never ask unproductive questions. Time for learning in classrooms is at a premium, and not a minute should be wasted. When teachers ask irrelevant questions, questions that are too complex, trick questions, or questions that humiliate, the flow of any lesson is disturbed, and students can become confused and/or embarrassed. A too-complex question can be less than productive because it is usually impossible to answer intelligently during a rapid-paced question-and-answer exchange. Such a question has the negative effect of slowing a lesson down to the point that students' attention drifts. Teacher-answered questions need no explanation. Once a teacher starts answering his or her own questions, its game over for effective questioning strategies.

An important component of asking questions is wait-time. Sometimes in the fast-paced lives we lead it is difficult to wait for anything, but effective teachers know that giving students ample time to process a question before they answer it is absolutely necessary. Practice your ability to wait for someone to answer your questions by silently counting from 1,000 to 1,003. Waiting any longer than three seconds is not necessarily productive and may result in your students asking you if anything is wrong. There are two types of wait-time, wait-time I and wait-time II. Teachers use wait-time I for someone to answer a direct question. Smart teachers then use wait-time II to see if anyone else would like to add something to the first response. Teachers who consistently use the second wait time during questioning are encouraging a form of mini discussion, and students become comfortable contributing to comments from their peers.

One purpose of asking questions is to promote thought. When teachers ask questions that promote thoughtful responses, the students are encouraged to develop the habit of thinking. Grant Wiggins and Jay McTighe's text *Understanding by Design* (2004) introduces the concept of big ideas and that the questions essential to any unit of study need to be identified before instruction for the unit begins.

<table>
<thead>
<tr>
<th>Question Type</th>
<th>Student Performance</th>
<th>Examples</th>
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<tbody>
<tr>
<td>Remembering</td>
<td>Retrieve, identify, match, select, label</td>
<td>Name the first four presidents of the United States.</td>
</tr>
<tr>
<td>Understanding</td>
<td>Compare, explain, present</td>
<td>Describe the stages of the water cycle.</td>
</tr>
<tr>
<td>Applying</td>
<td>Illustrate, demonstrate, use</td>
<td>What is the slope of the following equation?</td>
</tr>
<tr>
<td>Analyzing</td>
<td>Organize, attribute, distinguish</td>
<td>When did you know that Goldilocks was tired?</td>
</tr>
<tr>
<td>Evaluating</td>
<td>Assess, hypothesize, defend</td>
<td>What is the best air route to take from Tokyo, Japan, to Disney World in Florida? Why?</td>
</tr>
<tr>
<td>Creating</td>
<td>Design, invent, compose, revise</td>
<td>If you could build the perfect community, what five organizations would you have to include?</td>
</tr>
</tbody>
</table>
From Questions to Discussions. A lot of talk goes on in classrooms. Productive talk in the classroom is structured by the teacher and engaged in by the students. Teachers who understand the art of questioning teach their students how to answer and ask thoughtful questions in a courteous manner. This prepares students to engage in productive discussions with their peers to solve problems, attain goals, develop concepts, and become actively engaged in the content they must learn. Through discussion students can learn to think and value their own ideas as well as those of others.

Effective teachers prepare their students for participation in discussions. Knowing how to participate in a productive discussion is a necessary step toward learning how to be a productive member of a cooperative learning group. Students may find it difficult to work productively in groups if they do not understand that discussions require active listening, respect for the ideas of others, and noninterference when others are speaking. Even very young students can be taught how to exchange ideas with others if they are given time to practice the guidelines for a successful discussion.

Teachers who want their students to engage in meaningful discussions let them practice the discussion skills. Teachers make certain all students understand the skills they have been practicing by asking the following questions:

1. Were your comments relevant to the current discussion?
2. Were your comments supported by facts?
3. Did you consider the importance of your comment before you made it?
4. Did your comment broaden the discussion or clarify a point being discussed?
5. Were your comments complete and concise?

The Fishbowl. The fishbowl gives students the opportunity to be both contributors and listeners in a discussion. What follows is a brief explanation of how the fishbowl strategy can help students learn discussion techniques and see what a discussion should look like. In preparing for the fishbowl, students sit in two circles—an inner circle and an outer circle. The inner circle of students is the discussion circle and the outer circle is the observation circle.

The steps in setting up a fishbowl are these:

1. Select a topic that allows for multiple perspectives and opinions.
2. Provide space for the fishbowl: a circle of chairs (6 to 12) and room for observers outside the circle of chairs.
3. Once a topic has been selected, allow time for students to prepare ideas and questions.
4. Establish the fishbowl format and rules. (You might wish to have the observers note specific aspects of the process of the discussion.)
5. Have the inner circle hold a discussion while the outer circle observes silently.
6. Debrief the discussion. Provide comments on what was learned, the quality of the discussion, and the behavior of the participants.

More information about the fishbowl strategy for discussions can be found at https://www.facinghistory.org/for-educators/educator-resources/teaching-strategies/fishbowl.

Grouping

Humans are not born with the ability to collaborate, though learning to cooperate has been a major factor in the survival of our species. We have to learn how to get along with others even
though it may take much energy and patience. Parents remind their children to share, to take turns, and to let someone else be first. Teachers organize classroom activities and playtime so that students have opportunities to practice behaviors necessary for life in a community and in a democracy. Working together may not come naturally for everyone, but through every step of formal education students are prompted to develop more and more skill at becoming productive members of a group. The seminal research of Johnson and Johnson (1990) emphasized that the skills needed to interact effectively with others need to be taught just as systematically as the skills needed for math or social studies.

Formal group work has been a teaching strategy used in schools since the early 1800s. Grouping students for instruction usually involves grouping students by age to form grade-level classes and then within-class grouping by ability. (Do you remember the reading group you were in during elementary school? Were you a bluebird or a vulture?) Students can be grouped to study specific subjects, for tutoring purposes, and to learn together (e.g., in cooperative learning groups).

When teachers think of grouping students it is usually to accomplish a specific goal and to provide students increased opportunity to learn both academic content and group participation skills. Johnson and Johnson (1999a) define cooperative learning as the instructional use of small groups so students work together to maximize their own and each other's learning. Slavin (1993) provided an organizational structure for managing cooperative learning in the classroom. Table 12.3 provides an overview of the characteristics of grouping students for cooperative learning.

Early socializing activities can begin by teachers handing out cards with numbers or symbols. Students find the classmates with the same number or symbol, form groups, and start to get

<table>
<thead>
<tr>
<th>Table 12.3 Common Characteristics of Cooperative Learning</th>
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</thead>
<tbody>
<tr>
<td><strong>Heterogeneous groups</strong></td>
</tr>
<tr>
<td><strong>Positive interdependence</strong></td>
</tr>
<tr>
<td><strong>Verbal face-to-face interaction</strong></td>
</tr>
<tr>
<td><strong>Individual accountability</strong></td>
</tr>
<tr>
<td><strong>Social and academic goals identified</strong></td>
</tr>
<tr>
<td><strong>Group processing conducted</strong></td>
</tr>
</tbody>
</table>

Deeper Look 12.2
Read more about cooperative learning.

Video Case 12.1
Effective Grouping Arrangements
1. What strategies for successful cooperative groups do the teachers in this video suggest? How do they consider the needs of their students when planning groups?
2. How do you see cooperative groups used in the video? How do the students respond to this instructional practice?
Using Third-Grade Math Scores on a Unit Test to Create Cooperative Learning Groups

The following data provide the individual scores of third-grade students on an end-of-unit test. It has been determined by the teacher that a majority of the students could benefit from review work on regrouping when subtracting three-digit numbers. The teacher has decided to place the students in heterogeneous groups for cooperative group work, or cooperative learning groups. The purpose of the group work will be to provide students with the opportunity to ask questions of one another and to practice and develop skill in regrouping.

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Test Score</th>
</tr>
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<tbody>
<tr>
<td>Caitlin</td>
<td>100</td>
</tr>
<tr>
<td>Lucia</td>
<td>60</td>
</tr>
<tr>
<td>Tiffany</td>
<td>40</td>
</tr>
<tr>
<td>Carl</td>
<td>96</td>
</tr>
<tr>
<td>Carla</td>
<td>88</td>
</tr>
<tr>
<td>Nancy</td>
<td>24</td>
</tr>
<tr>
<td>Neil</td>
<td>76</td>
</tr>
<tr>
<td>Pete</td>
<td>68</td>
</tr>
<tr>
<td>Andrew</td>
<td>84</td>
</tr>
<tr>
<td>Timette</td>
<td>74</td>
</tr>
<tr>
<td>Richard</td>
<td>72</td>
</tr>
<tr>
<td>Jaylynn</td>
<td>88</td>
</tr>
<tr>
<td>Patrick</td>
<td>28</td>
</tr>
<tr>
<td>Stacy</td>
<td>68</td>
</tr>
<tr>
<td>Kenneth</td>
<td>80</td>
</tr>
<tr>
<td>Angelica</td>
<td>64</td>
</tr>
<tr>
<td>Marilyn</td>
<td>52</td>
</tr>
<tr>
<td>Susan</td>
<td>48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Test Score</th>
</tr>
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<tbody>
<tr>
<td>Nei</td>
<td>92</td>
</tr>
<tr>
<td>Pete</td>
<td>68</td>
</tr>
<tr>
<td>Andrew</td>
<td>84</td>
</tr>
<tr>
<td>Timette</td>
<td>74</td>
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<tr>
<td>Richard</td>
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<td>Susan</td>
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</tr>
</tbody>
</table>

End-of-Unit Test Scores on Regrouping During Subtraction of Three-Digit Numbers

Your Task

Establish cooperative learning groups of three or four students that are heterogeneous, reflecting high- and low-performing students as well as gender differences. Once you have done this, read below to see how the teacher decided to organize the students into groups.

What Did You Learn From This Exercise?

Teachers must constantly assess student learning through reflection on data and then organizing that data in useful ways. The teacher of this class has decided to put the students into cooperative learning groups so that the students can have more practice in using regrouping strategies. Teachers always know, or should know, more about their students than raw data can show, and so they may make decisions based on personal experience rather than entirely on what the raw data indicate. This is a teacher's professional right and one that all effective teachers exercise from time to time.

The teacher of the class has decided to put one high-performing student in each group. There were 25 items on the test, and the teacher also considers the number of questions missed along with the raw score.

- Caitlin missed no problems and works well with all other students in the class, even with Neil, who can sometimes be a behavior problem, so the teacher has placed Caitlin, Neil, and Nancy in one group. The teacher wants Nancy to have as much practice as possible during the group work time and so has decided that a smaller group will be better suited to Nancy's needs. Also, a smaller group may give Neil less opportunity to act out.
- Carl is also an excellent student, though sometimes he disregards others' feelings. The teacher is placing him with Timette, who has a calming personality, and with Patrick, who is Carl's friend, and with Susan. The teacher believes a larger group with numerous interactions will engage Carl's helper potential.
to know one another. An “In the Bag” activity has small groups of students working together to blow a paper cup into bags taped at the edge of their desks or tables. In a strategy called “Number Heads Together,” each student in the group has a number. The teacher asks a question and then says, “Put your heads together and make sure everyone knows the answer.” Students discuss the answer, then the teacher calls a number, and that student answers.

In high school classes students are often given the task of working together to solve problems or complete lab assignments. Group activities of this nature can provide a virtual experience for students’ future roles as citizens in the larger community of their city or state or country. Such activities also make learning fun. When students learn the strategies and skills necessary to work together in productive groups, the result can be enjoyable and intrinsically rewarding. Initial group activities should be short and simple and should concentrate on positive social interaction. Assessment of academic work in groups should not be addressed until students have learned to successfully interact with one another.

The Learning Together Model of Johnson and Johnson (1999a) contains five key steps:

1. Teacher presents students with a specific academic learning task.
2. Students understand the social skills necessary to complete the task through group effort.
3. Teacher checks for student understanding of both academic and social skills.
4. Groups work together demonstrating a high level of verbal interaction and positive interdependence.
5. Teacher assesses individual accountability for the academic task and initiates a class discussion of the group process.

The following scenario is an example of how a teacher designs, implements, and coordinates cooperative group learning. Clearly, preparing for effective cooperative learning groups in the classroom is no small undertaking.

**A Teacher’s Preparation for Group Work**

One evening during a unit on anatomy in her seventh-grade curriculum, Ms. Lynn drives across town with two large, well-iced cool cans in her pickup truck. She collects sterilized pigs’ hearts from the local meat processing plant through an arrangement she has made with the school administration, the PTA, the parents and students in her seventh-grade science classes, and the managers of the processing plant. The next day her students, already aware of their task for the day, don medical gloves and aprons and get into their appointed groups around the tables in the science lab.
Ms. Lynn states the plan for the day, placing special emphasis on the timing of the lesson since there will be no opportunity for students to complete their work at a later date. She questions the students to make certain they understand their assignment and the role each will assume in the group. As the students dissect the hearts and identify the parts, one member of each group uses a scalpel, one takes notes, another draws pictures, while another offers suggestions from a sheet handed out by Ms. Lynn, asks the other group members questions, and keeps an eye on the clock. Ms. Lynn circulates among the lab tables, stops to praise a group for their progress, prompts them to look at specific areas, and moves on to the next group. She allows the students to work at their task for most of the period, reminding them that they will debrief the lesson the next day.

Cleanup is handled efficiently, with all heart parts placed back in the cool cans. Ms. Lynn tells the class she is checking for fingers and toes before she closes the lids. Just before the bell rings she asks the students to place their index and middle fingers on the wrist of one of the other members of their group, making a circle of heartbeats. She thanks them for their contribution to today’s lesson. As the students leave the lab, there is much chatter and excited energy from the lesson today and even some anticipation of exciting lessons to come.

Before groups of students can work together successfully, they must learn the skills of cooperative work, communication, and division of labor. Before teachers can implement cooperative learning strategies effectively, they must know how to organize materials, equipment, and workspace. Teachers must carefully plan and schedule group work. For your benefit, at http://math.sfsu.edu/hsu/talks/asilo-groupthoughts.html, Eric Hsu, a math teacher, poses and answers questions on teaching with group work.

Marzano, Pickering, and Pollack (2001) say that cooperative learning activities instill in learners important behaviors that prepare them to reason and perform in an adult world. Teachers are expected to pose problems for students to solve. When students can work together to find solutions to problems that may emerge through other sources, they are using critical-thinking skills in interactions with others.

**Role-Play, Simulation, and Drama**

Teaching strategies that involve students in acting a part or responding to a specific set of circumstances are perhaps the most emotionally charged of all teaching strategies. Role-playing, simulations, and drama allow students to experience tough, real-life problems in a controlled environment. Students in a first-aid class learn to resuscitate drowning victims and administer CPR with the assistance of lifelike dummies whose touch and response is similar to that of a living person. Second-graders learn to “drop and roll” to extinguish flames on their clothes, and to crawl along the floor of an escape route to exit a burning building.

Through role-play we learn how to act in places we have never been and how to negotiate unknown territory. Simulations can help students learn empathy, to understand the predicaments life creates for others. In simulations students are faced with dilemmas. They must make choices, take action, and then experience the consequences of their actions. Training for medical triage groups and rescue teams relies heavily on simulation and role-playing. Role-play, simulation, and drama can help students learn by doing, thinking, feeling, or responding and develop their own knowledge, skills, and dispositions. They allow students to have
vicarious experiences that can substitute for firsthand experiences that may be impossible to achieve. Teacher education candidates often cite field experience as the most informative and influential part of teacher education coursework. Perhaps that's because fieldwork puts them in the "role" of teacher.

**The Powerful Effect of Role-Play and Simulation.** An infamous simulation exercise, “Blue-eyed/Brown-eyed,” had its birth in 1968, in Jane Elliott's fourth-grade classroom in Riceville, Iowa. Following the assassination of Martin Luther King Jr., when one of her students asked why this had happened, Elliott decided to provide her students with firsthand knowledge of racial discrimination. Since Elliott's students lived and attended school in an all-white community, she had to create a hypothetical situation that would demonstrate to her students what racial discrimination looked and felt like and the demoralizing effects it could have on individuals. Blue-eyed and brown-eyed students in her classroom were assigned to two groups; one group was not allowed to enjoy the benefits enjoyed by others in the classroom, and one group enjoyed all of the benefits plus special considerations. After a time of being in one group, students switched roles.

Elliott's Blue-eyed/Brown-eyed simulation exercise is a classic in teaching about racial discrimination and a perfect example of the impact a well-planned teaching strategy can have on students. Elliott's simulation was such a powerful piece of teaching that her students will always remember it. Read more about Elliott's lesson at [http://www.janeelliott.com/](http://www.janeelliott.com/) or check out stories of Jane Elliott's lesson on racial discrimination, *The Angry Eye*, *The Eye of the Storm*, and *The Stolen Eye* on YouTube. The website [http://www.simulations.com](http://www.simulations.com) offers educators and students a wide range of well-planned simulations to explore. The website [http://www.virtlab.com/?gclid=CLqzlZb1gcgCFUNcFgdrVYNEw](http://www.virtlab.com/?gclid=CLqzlZb1gcgCFUNcFgdrVYNEw) introduces students to a virtual laboratory. Such websites can make it unnecessary for the teacher to create a complete classical lab for experimentation.

**Reflective Learning/Inquiry**

Discovering something for yourself is intrinsically rewarding because you are actively involved in exploring and manipulating your environment. Most people love a well-planned scavenger hunt and movies that have the hero fight nature, the forces of evil, and doubting Thomases to finally discover some wondrous prize. It's the reason scientists of all kinds spend long hours laboring over test tubes, ancient texts, or computer programs to finally solve a puzzling piece of nature, history, or engineering—to be able to say "I did it."

Reflective learning strategies deal with a problem or problems the students must solve. In reflective learning students are often asked to contend with circumstances that lie outside the range of what is commonplace and normal to them. Students involved in reflective learning must discover facts and concepts and knowledge that are new to them. They also have to compile evidence to support or refute a solution. Students must develop hypotheses.
One well-known reflective learning teaching strategy is the Social Inquiry Model, described by Joyce and Weil (2008). This model, specifically developed for the social studies curriculum, has six phases that help students develop cooperation and collaboration skills in addition to the cognitive benefits of the inquiry process:

1. Orientation: Presentation and clarification of a puzzling situation
2. Hypothesis: Development of a hypothesis to structure an exploration or solution to the problem
3. Definition: Process of defining, clarifying, and understanding the hypothesis
4. Exploration: Looking for the assumptions, implications, and logical validity of the hypothesis
5. Evidence: Assembling relevant facts and evidence to support or refute each hypothesis
6. Generalizations: Arriving at an acceptable solution based on evidence

**Viewing Teaching Strategies as Direct or Indirect Instruction**

Teaching strategies can also be grouped into two overarching categories of direct or indirect instruction, sometimes referred to as explicit and implicit instruction. Explicit instruction can be viewed as instruction that helps students increase and broaden their existing knowledge or skills. Teaching strategies that are explicit or direct are successful in helping students acquire information that is highly structured. Implicit teaching strategies are intended to assist students in thinking about their own thinking (also called metacognition), deciding on a specific choice or solution, and acting on their decisions. Each area of instruction requires different behaviors from teachers and responses from students.

Direct instruction represents a teacher-centered approach with the teacher providing the instructional input. The teacher's role in direct instruction is to pass facts, rules, or action sequences on to students in the most direct way possible (Borich, 2011). Direct instruction has been shown to correlate highest with student achievement as measured by standardized tests emphasizing facts, rules, and sequences. Direct instruction strategies make it possible for teachers to serve up information in chunks palatable to students, to make dry, boring information interesting, and to help students master content.

Rosenshine and Stevens (1986) wrote a seminal essay on the power of direct instruction that has provided a framework for understanding the components of direct instruction. Additionally, Carnine, Silbert, Kame'enui, Tarver, and Archer (2012) provide many examples of the use of direct instruction strategies. Remember the lecture on the Westward Migration referred to earlier in this chapter, and the way the teacher provided stimuli to pique student interest and attention.

Indirect instructional strategies help students work together to solve existing problems. Indirect teaching strategies encourage students to think beyond the facts given, to draw conclusions, or to make generalizations. Teachers who use direct instruction focus learner attention on a problem and then provide students with background information (Woolfolk, 2004). This approach activates the cognitive processes required to form concepts and to recognize patterns and abstractions. Borich and Tombari
(2003) suggest that indirect teaching functions are most useful in providing behaviors that students will use in their adult lives. Reaction to the world outside the classroom requires students to be able to analyze situations, make decisions, organize information, and adapt. These skills are not learned through memorization of rules and facts but must be constructed through experiences demanding higher-level thinking. They are using information to draw conclusions, and they are thinking. When students think well while learning, they learn well.

**A Constructivist Approach to Teaching**

As you learned in Chapter 7 of this text, a constructivist approach to teaching is built on the idea that each student actively creates, interprets, and reorganizes information in ways that are unique. Present knowledge is used to achieve predetermined educational goals. Students engage in problem-based learning, inquiry activities, and dialogues with others to connect elements in the learning environment. They come together in communities of learners with an opportunity to think critically by challenging and explaining their thinking to one another. Students experience the ideas, phenomena, and artifacts of the discipline before having formal explanations of them.

In a constructivist environment teachers do not prescribe, but instead are more likely to respond to the needs of learners, the content, and the context. The teacher’s role is that of a facilitator of learning, one who responds to the students' needs in a flexible manner. By allowing students to construct knowledge as learners, teachers help them think critically about concepts, and to design and sequence lessons that encourage learners to use their own experiences to actively construct meaning. Constructivist teaching strategies also work great with technology. Individuals can connect through technology to exchange ideas and solve problems.

There are many constructivist strategies that a teacher might employ when teaching a particular content area. **Scaffolding** allows the learner to make sense of a complex task. **Modeling** requires teachers to think aloud about the process they have gone through to solve a problem. Teachers probe students’ thinking through coaching, guiding, and advising. To create a constructivist learning environment, teachers must clearly understand how the theory of constructivism translates into practice (Windschitl, 1999).

**Activity Learning**

Simply put, the activity approach to teaching is exactly what it implies. Students develop understanding of the link between the conscious and the objective world by engaging in activities. Through the manipulation of objects and tools, students can gain knowledge in a variety of domains. Piaget (1985) proposed that individuals gain knowledge through active exploration in which they form schemes, cognitive structures that help them organize patterns, or thoughts to interpret their experiences. A teacher might allow a student to choose either a pictorial or a concrete representation to solve a math problem (e.g., $2 \times 3$). The student then can either make two groups with three cubes in each group or draw two circles with three boxes in each, thus discovering the answer is six. The objective of the activity is achieved through a physical or mental product.

When teachers plan an activity for their students, they consider the curriculum objectives for that activity, what resources should be available, and what prerequisite knowledge the students must have to complete the activity. Teachers take into account the context in which the activity will take place.

Teachers know that as students become actively engaged things will happen that may change the intended outcome, and that sometimes students will come up with solutions or answers that the teacher may not have considered. Teachers using constructivist and activity teaching strategies must be both well prepared and flexible. That is not a contradiction: it is just one of the phenomena of teaching from a constructivist perspective.
Never Just One

It would be nearly impossible to use only one teaching strategy in a single lesson. Even lectures usually include some questions. Discussions are loaded with questions. When students work together in groups, they share information with one another, ask questions, carry on discussions, and sometimes try to lecture other members of the group. Inquiry, whether done individually or in groups, depends on questioning and working through hypotheses, and sometimes acting out a problem. Role-playing, simulations, and drama draw on any number of teaching strategies to achieve desired results. When students are using resources, audiovisual equipment, computers, and the Internet, they are receiving lectures of sorts from books and videos, asking and answering questions, and sharing their information through discussions and presentations with their classmates.

Teachers who use a variety of strategies are likely to have a high degree of instructional success since students learn in so many different ways. Selecting the best teaching strategy to match students with
subject matter is a teaching skill not easily mastered. But it can be accomplished when a teacher keeps in mind the needs and abilities of the learners, the content goals to be achieved, and the time and resources allowed by the context. Teachers must make hundreds of decisions a day regarding what they are going to teach and how they are going to teach it. Teacher knowledge of the best uses for a particular teaching strategy, how to most effectively implement the strategy, and the learner response to a particular approach are the key ingredients in any instruction.

“Watching a wide range of teaching styles is a great learning experience. I encourage all my teachers to visit other classrooms; and this year, I gave the teachers a list of periods that I would cover so that they could visit other teachers. Unless the culture of the school encourages and supports peer visitations and observations, it is difficult to implement. Peer visitations are a requirement of the inquiry program. Each class presents a unique challenge and a unique experience. Teachers should continually try to improve lessons and revise the curriculum. I try to implement technology into my classes when it proves useful. Technology can help engage students, allow for differentiated structure, and provide multiple opportunities” (Choi, 2012, pp. 401–402).

**Technology for Teaching Strategies**

Teachers have a wealth of entertaining resources at their fingertips through websites. Some are free. Some are not. Once you start to visit different sites you will become a regular, looking for new interactive content and resources. You likely use a variety of technology tools for personal needs. Technology is all around us, and we use it for our personal pleasure and business without giving a moment’s thought to how or why it works. In fact, the only time we really think about it is when it doesn’t do what we want it to. Digital media in our homes comes at us constantly through music, voice, data, and video. The kids and young adults in the digital generation have no problem watching TV, listening to music, e-mailing friends, or surfing the Internet to see what’s happening—all at the same time. Multitasking is a new vocabulary word, and for many it has become habitual. It is not always safe, and it sometimes causes important pieces of information to be missed, but it is a part of our culture.

Switching perspectives from using technology for personal need or pleasure to using it in a classroom to augment student learning requires attention to what the technology does and what it can be used for. A beginning teacher who is digitally oriented may need to change her mind-set toward technology tools. Integrating technology into teaching requires knowledge and skill. Perhaps more important, though, it requires that teachers who wish to integrate technology into teaching possess a curiosity about new ways of doing things and a willingness to learn how to do something they haven’t done before. Teachers who grow with the changes in their profession will find joy in the amazing technology tools that become available to them. Following are some examples of ways teachers can use common technology tools and applications in instruction and managing a classroom.

**SMART Boards, MP3 Players, and Tablets**

Regardless of their product name, SMART Board, Promethean Interactive Whiteboard, or just Whiteboard, the technology behind the product provides an interactive display connected to a computer and projector. Users are able to control the display using a pen, a finger, or a stylus. Since, in this case, a video is better than words, go to [https://www.youtube.com/watch?v=0U05WeXPgIk](https://www.youtube.com/watch?v=0U05WeXPgIk) or simply search YouTube for other videos about SMART boards to see teachers use interactive whiteboards for a variety of purposes.

From numerous cell phones and stereo systems, MP3 players can be found just about anywhere. MP4 players will play files that are audio or video, or a combination. iPads are MP4 players. They can deliver highly compressed digital files such as movies, games, books, and a wealth of applications.

Tablets provide easy access and freedom of use through their connectivity and light and robust casings. Teachers can keep track of student assignments, check the library for availability of specific...
Digital Cameras

Will Weber, a professor in the College of Education at University of Houston, would tell his college classroom management students to “catch students being good.” He said that positive reinforcement is the most powerful management tool in a teacher’s possession. Take pictures of your students being wonderful and load the pictures on a computer and project them to the SMART Board so everyone can see. Selfies are all the rage. Have students take snaps of themselves doing something great. When things get a little out of hand in the classroom, run the photos as a slide show. Soon all students will get the picture, and order will be restored without you having to say a word. A picture really is worth a thousand words.

In the process of helping your students see themselves in action, it is important to remember that such pictures or videos are not for viewing outside of the classroom or for the other-than-intended purpose. Teachers must always protect students’ privacy and never share pictures of students without permission from parents or from the students themselves.

An opposite approach would be to take a series of pictures of a classroom out of control, put them on a computer monitor, and ask the students to explain what’s happening and what can be done so it does not happen again. Students sometimes think they are invisible to the all-seeing eyes of a teacher. They’re wrong, of course, but showing the students what the teacher sees, rather than just telling them, can be a mighty behavior management tool.

Digital pictures can be used to show student progress and what it looks like when students are learning and growing. Teachers take pictures of class accomplishments and create slide shows. With current technology it is easy to share these slide shows with parents and other teachers. Each student can have a photo journal of his or her personal record of achievement.

Pictures can provide background for a story or lesson. If you are teaching a story set in Yosemite National Park, you can download pictures of Yosemite from the Internet and create a slide show so the students have visual images of the park during the reading of the story and afterward during questions about the story. Maybe no one in the class has actually been to Yosemite, but the addition of pictures provides a virtual trip for all students and adds an engaging dimension to the story.

Video Recording

In addition to the video recording capacity of most digital cameras, nearly all cell phones have camera and video recording applications. Gone are the days of having to tape an event with a cumbersome tape recorder. At any school performance parents have their cell phones and small video recorders ready to capture images of their children. Teachers can also record students’ performances in the classroom. Sometimes it is difficult to record students and teach them at the same time, but more than likely even elementary students will have no difficulty assuming the role of photographer to assist the teacher. Filming lessons can make learning entertaining. Imagine the titles “Kate Learns to Add,” “Shannon and Sean Build an Ant Farm,” “Room 68 Crosses the Potomac,” and “Terry Totally Rocks at Soccer.” The possibilities are endless, and the learning potential through technology is exceptional. When capturing student learning in pictures or videos, teachers must remember to also respect students’ privacy.
WHAT MAKES TEACHING STRATEGIES WORK?

Teacher knowledge, skill, dedication, disposition, enthusiasm for helping students learn, and ability to assess student learning are the catalysts that can bring any teaching strategy to its full potential. Teachers who can motivate students to learn by making the content engaging and meaningful, who can use the context in which the students must learn to best advantage, and who understand the needs of the students, use a variety of teaching strategies.

Knowing a variety of instructional strategies and having the flexibility to change them both within and among lessons are two of the greatest assets a teacher can have (Emmer, Evertson, & Worsham, 2003). Without variety and flexibility to capture the interest and attention of students, it is unlikely that any other key behavior, however well executed, will have the desired effect (Borich, 2011).

During your first attempts at teaching a small group of students or an entire class, it may be that you will feel more confident and competent with only one teaching strategy. The fear of losing control, that the students won't pay attention to you, or that they won't learn what you need to teach them may keep you locked within the parameters of this one teaching strategy. That's natural. We begin learning in small chunks, and we feel very comfortable when we know how to do something, so we practice it and get better at it and feel even more confident as we continue to practice that particular skill. However, the research base in education tells us that teachers who use a range of teaching strategies have a greater chance of meeting the learning needs of their students and of helping students develop academically. It becomes every teacher's responsibility to develop skill in using a variety of strategies to help students connect with the content. Over time, effective teachers learn to make any teaching strategy work for them.

The Importance of Planning

Planning is of the utmost importance in making a variety of teaching strategies work for you and the students. Some types of plans work better with some types of teaching strategies. You will hear and read about the importance of planning in nearly all of your teacher education course work. In your personal life you have no doubt had much opportunity to plan, but as a student you have been mainly concerned with enacting the plans of others. Your teachers have told you what they expect you to do, and in best-case scenarios have provided you with examples, directions, and a time line for achieving the objective. In becoming a teacher, you will need to make the shift from enacting the plans of others to creating plans for others to follow.

Plans need to be detailed, thorough, and doable. Plans must be based on accurate content information, a comprehensive understanding of the context, and both theoretical and practical knowledge of learner capabilities and potential. Plans must include objectives that will meet established curricular goals. In other words, they must make sense across many dimensions.

There are many lesson plan formats for teacher education candidates to follow. Teacher Planet’s website at http://www.lessonplans4teachers.com/templates.php offers a variety of lesson plan templates for you to follow. Often individual teacher education programs and specific content area instructors will provide a homegrown lesson plan format that they expect all of the candidates to use. The concept of what should be included in a lesson plan has a theoretical base, while variations on the concept are widespread among educators.
Challenging Assumptions

Is cooperative group work beneficial to high-performing students?

The Assumption

High-performing students do not benefit from working cooperatively on group projects with students who are achieving at lower levels. Students, and occasionally their parents, may complain that by being placed in groups with lower-achieving students they simply end up doing the work for others and are not challenged to learn at the high levels that they are capable of.

The Research

The benefits of cooperative learning have been extolled through extensive research. It has been claimed that cooperative learning is one of the best researched of all teaching strategies. The research indicates that cooperative learning consistently improves achievement and that students who learn cooperatively have greater retention of the information learned. Working in cooperative learning groups has been shown to encourage positive relationships among all students, improved relations among different ethnic groups, and improved relationships between mainstreaming students with learning disabilities and others. Cooperative learning groups also promote positive feelings about learning and about one’s own abilities. Higher-level thinking is promoted through cooperative group learning.

Implications

While the reasons to use cooperative learning groups in a classroom are clear, the potential for individual student success of any cooperative learning group often rests directly on a teacher’s ability to plan tasks that require input from each student and address individual needs. In addition to planning appropriate tasks, a teacher must make certain that all students have the opportunity to stretch their learning and reach ever-increasing levels of achievement.

1. Have you ever worked in a cooperative group where one member did no work? What did you do?
2. What might a student of high ability learn from working in a group with a person who always received low scores?
3. What might be the result of having all top-scoring students work together in a group?


Instructional Theory Into Practice

Educator Madeline Hunter (1994) proposed seven basic elements of an effective lesson—(1) anticipatory set, (2) instructional objective, (3) instructional input, (4) example of intended learning outcome, (5) check for understanding, (6) guided practice, and (7) independent practice—help form the foundation for any plan involving any teaching strategy. These elements might not be arranged in the same order, and some of the elements might not be shared with the students to encourage discovery or inquiry learning. Whether all of Hunter’s seven basic elements of an effective lesson are shared with the student, they should be part of the instructional plan in one form or another.

Jarolimek, Foster, and Kellough (2005) define a lesson plan as a step-by-step plan of action, or a trip map through the lesson that can be followed easily while the lesson is being taught. Beginning teachers and teachers in training need to keep their plans close by for easy reference. How many of us have had the experience of driving to a new destination, map on the car seat...
next to us if we have no GPS navigator, checking reference points, and trying to read street signs? Cell phones can be used to get directions when we're on the road, but most school administrators would frown on teachers phoning out to get advice on exactly how to proceed with a lesson in progress. Plans help teachers reach benchmarks and goals and bring the students along. It is complex and time-consuming task to write a lesson plan. One reason for developing the skill of writing effective lesson plans early in your career is so that once you do write a plan, use it, and judge it as top-notch you won't have to write the whole plan over again and again, though you may have to modify it for different groups of students. The Internet is a rich resource of lesson plans to provide examples and get you started on planning your own lessons.

The Planning Cycle

Effective teachers are always planning. They think through the design and implementation of lessons long before it is time to actually teach them. They collect artifacts, talk to other teachers and friends about what they want to do, and maybe even try out a plan for a lesson on an unsuspecting family member. Freiberg and Driscoll (2004) explain teacher planning through four phases of a planning cycle (see Figure 12.2).

The first phase, preplanning, may find a teacher sitting quietly in a backyard swing looking at a sky full of clouds and listening to the sound of the wind in the trees. He starts to think about ways to teach a unit on climate and weather to next year’s third-graders. What do the Common Core Standards for science say that eight-year-olds need to know about weather? What would they find most interesting about weather? How would it be possible for them to experience weather conditions in other parts of the world? How many children's books does the school library have on weather? Questions come together in ideas, and ideas spur teachers on to action. The teacher collects and organizes resources. Before you know it, it is fall, the school year has begun, and it is time to teach a lesson on weather.

![Figure 12.2 - A Lesson Planning Cycle](image-url)

The active planning phase of Freiberg's cycle is when teachers actually write the lesson plans they intend to teach. The teacher opens the mental box of weather lessons that has been created in the brain, or filing cabinet, or computer program where all the ideas collected during the preplanning stage have been stored, and begins to write the actual plan.

Ongoing planning takes place while the teacher is actually teaching the lesson. A student's question may prompt the teacher to include a bit of information that wasn't in the original plan, or to read an excellent book recommended by the school librarian, or to show the children an unusual and exciting weather pattern that develops outside the school. The world is full of reasons teachers need to be ready to include ongoing planning in their teaching strategies repertoire.

Postplanning is what teachers do when the lesson is over, the school is quiet, and most everyone has gone home for the day except the custodian and the principal, and a few dedicated teachers. In postplanning the teacher asks if the goals of the lesson were achieved, if necessary standards were covered, if student learning met expectations, and if there are changes that should be made next time the lesson is taught. In postplanning the teacher is engaging in reflection on practice. After this period of reflection the planning cycle begins again as the teacher considers how this lesson might be taught in the future.

Experienced teachers will suggest that it's a good idea to plan more than you actually expect to teach. Teachers should also let the students know the plan. No one likes to be kept in the dark. In explaining or discussing the plan with the students, the teacher may become aware of an approach or idea that the students or a particular student may be interested in that the teacher had not included. Through interactions with students about plans, an opportunity to uncover the curriculum may present itself.

Whatever teaching strategy is used for the lesson, there must be planning. I remember once hearing a teacher say that they were going to “wing it,” for an upcoming lesson. No doubt that teacher believed spontaneity was going to get the students where they needed to be. Teachers don't have wings and they don't fly: they soar on well-thought-out plans. Every student deserves a teacher who knows what the students need to learn, has planned how best to engage them in the process of learning, and knows how to determine if the students have learned the lesson content. Anything short of that just doesn't work in a teacher's world of accountability.

Getting Students Ready to Learn

One of the most critical parts of any teaching strategy is how it is applied in the beginning of the lesson. How do your university instructors begin their lectures? With stories? With anecdotes? By directing your attention to a picture or a chart? Did math classes you attended begin with a “stumper” problem on the board for you to try to solve in the first few minutes of class? When you entered your psychology class, was there a sealed envelope on each desk with instructions not to open it until an exact moment? Such simple devices can capture our attention. They are often mysterious, and frequently so compelling that we don't need to be reminded to pay attention. Our own internal monitoring devices are turned on, and learning has us in its grasp.

Attention-getting activities may include a quick demonstration with an unexpected outcome or asking students to close their eyes and visualize an unlikely event. Riner (2000) says that gaining attention need not be elaborate, but the event should cause all students to become involved.
Bracketing, or, Let’s See, Where Was I?

Did you ever walk into a room in your own house and wonder why you were there? Have you ever forgotten something you went to the store to buy? Have you ever left your house and worried that maybe you forgot to turn off the stove? Of course you have. Some students come to school and can’t remember what you talked about the day before. So much has happened to them in the interim that they may have misplaced the last bit of information they received at school before heading home, or to their part-time job, or to soccer practice. There’s a lot going on in teachers’ and students’ lives. Part of a teacher’s job is to help the students remember where they are in the process of learning in school.

Bracketing is a strategy that teachers can use at the beginning of a lesson or at the end of the lesson. Teachers talk the students through the process of bracketing what happened between yesterday’s lesson and today’s lesson and set it aside so that the ideas from content studied previously can be easily associated with the ones they are about to learn. For example, a teacher reminds students of the class discussion on magnets held the previous day. She acknowledges that after class the students were engaged in activities unrelated to the discussion and that particles of information from other experiences may have gotten mixed in with the information the students were carrying around about magnets. Then she tells the students it is time to organize the information and ideas surging around in their thinking. Find all the information about magnets, focus on it, and attempt to set aside unrelated information to access at a later time. Bracketing used often becomes a habit of mind and can aid considerably in focusing attention on instruction.

Sponges

Another simple yet effective technique used by teachers to gain student attention at the beginning of a lesson, or to keep student attention during the lesson, is the sponge. This term describes review or extension activities that help to keep learning on track. Sponges can also be used effectively to summarize a lesson through an enjoyable activity. For example, at the end of a lesson on parts of speech or sentence construction, have students in the classroom call out four letters as you write them on the board or overhead projector. Then ask the students to come up with a four-word sentence where each word in the sentence begins with the letters written on the board. It may take a few seconds for the first sentence to be formed, but once you have written two or three sentences on the board the students’ ideas will come at you like wildfire. Such an activity could be used to introduce a lesson or as a wrap-up. Visit A to Z Teacher Stuff at http://www.atozteacherstuff.com/Tips/Sponge_and_Transition_Activities/ for additional ideas on sponge activities. The A to Z website has a wealth of ideas about everything you might want to do in the classroom. Twenty-first-century teachers should make use of the wealth of information on the Internet.
Evaluating Learning

The purpose of assessment is to measure student learning. Since different teaching strategies tend to stimulate different types of learning, it is important for teachers to learn about and be able to use a wide variety of assessment strategies. It would be illogical to evaluate student learning following a role-play situation with a multiple-choice test. And a test on the facts and rules of one content area would not work for a classroom of students who were researching different subjects. Assessment should become a part of every teacher’s repertoire of teaching strategies so that teachers apply knowledge of assessment in planning, in decision making, and in communicating with students.

Knowledge about learners is gained through interactions with and observations of the students. Teachers need to observe students, to record their observations, and to seek information about students from outside the classroom. Teachers also need to be clear about the methods of assessment they are using and to what end they are using them. You will learn more about assessing student learning in Chapter 13 of this text; as you do, keep in mind the connection between the content, the context, the learner, and assessment and teaching strategies.

Teacher Work Sample or Analysis of Student Work

Teachers can also document student work and their own effectiveness as teachers by a process of work samples. Perhaps you have already been introduced to Teacher Work Samples (TWS) or Analysis of Student Work (ASW) in your teacher education program. The process of developing a TWS or ASW offers evidence of your ability to design and implement standards-based instruction, assess student learning, and reflect on the teaching and learning process. These products also provide credible evidence of your ability to facilitate learning of all students. TWSs and ASWs are sources of evidence your instructors and supervisors use along with classroom observations and other measures to assess your performance as a teacher relative to national and state teaching standards.

Understanding the Connection Between Teaching Strategies and Curriculum

In Chapter 10 of this text you were introduced to the role curriculum plays in instruction and learning. What we discover in learning about teaching strategies is that they share a symbiosis with curriculum. Teaching strategies cannot really exist without curriculum and vice versa. They rely on one another for successful delivery; they are different sides of the same coin. Of what use would a teaching strategy be if there was no purpose for using it? Curriculum supplies the purpose. Curriculum is what we teach. Instruction is how we teach the curriculum.

In many ways the teacher is in control of the curriculum, though sometimes it may seem otherwise, given the heft of district curriculum guides and state and federal curriculum policies. Curriculum materials can be used in different ways. Teachers use curriculum materials according to their own personal practical knowledge. They consider how curriculum can be applied in the context and best meet the needs of the students. Teachers use different approaches to teaching to make the relevance and significance of curriculum apparent to the students. Teachers have to be able to visualize what written curriculum looks like in action. The talent it takes to make the transition from text to action is much greater than the talent it takes to recognize the curriculum action once it occurs, but a teacher must possess both talents.
HOW ARE DIFFERENT STRATEGIES USED FOR DIFFERENT PURPOSES?

We all remember clearly the teachers we had who were able to help us “see” and understand concepts that were new to us or difficult for us to grasp—teachers who used all manner of paraphernalia to help us connect what we already knew about the world in general to what we had to learn specifically. These were the teachers who carried schoolbags full of objects they had collected that we could hold and manipulate, while they talked us through ideas, lessons, and experiments.

Doing math is different from teaching math. Teaching math, as well as other subjects, is as much an art as it is a science. Teachers must train themselves to think like artists at times. They must constantly draw on creativity in their approach to teaching. If you approach teaching strictly from an empirical perspective, you’re painting by the numbers. Art is a creative way of organizing reality. The logic of teaching is the logic of the well-organized artist whose palette is arranged methodically so that his or her creativity can have free rein.

Culturally Relevant Teaching Strategies

Culturally relevant teaching strategies refers to the ways generic strategies are modified or implemented to address the fact that students’ orientations to learning may be influenced by their cultural backgrounds. The ways in which students interact with one another and with the teacher also may be influenced by their cultural background (Irvine & York, 2001). Students who live in an Italian or Jewish neighborhood in New York City, students from a fishing town in Florida, students who attend an inner-city school in Chicago or Los Angeles, and students from a small mining town in a remote area of northern Nevada will bring different backgrounds to school and have different orientations to learning. Teaching strategies that accommodate the ways student learning is influenced by cultural background have a greater chance of meeting students’ needs for learning.

Some students require less structure and want to solve problems on their own with a minimum of teacher help. Planning lessons that provide opportunities for students to learn within differently structured contexts is part of what makes teaching such an interesting and engaging profession. In her book Culturally Responsive Teaching: Theory Research and Practice (2010), Geneva Gay describes the diverse roles and responsibilities teachers must assume in a culturally responsive classroom.

Multiple Orientations to Learning

Learners view the world from different perspectives and react to it with differing abilities. You read about Howard Gardner’s (1999) belief that children develop abilities, or intelligences, by their own spontaneous interaction with the world in which they live. According to Gardner, curriculum and teaching strategies should respond to the individual differences in intellectual potential related to the seven intelligences he identified: (a) linguistic, (2) musical, (3) logical-mathematical, (4) spatial, (5) bodily-kinesthetic, (6) interpersonal, and (7) intrapersonal. Later he added (8) naturalistic intelligence and (9) existentialist intelligence. People generally possess all intelligences, and these intelligences interact with one another. Yet individuals are likely to be more highly developed in some of the intelligences than others. Some students perform well on standardized tests, and some don’t. Students who have not yet mastered computation skills but perform well on story problems may be using their ability to understand the meaning and order of words rather than mathematical skills to solve problems.
Inclusion Strategies: Least Restrictive Environment (LRE)

As a teacher, you will be expected to create a classroom environment that provides all students with equal access to learning. An intended goal of federal and state special education requirements has been to afford opportunities for students with disabilities, to the maximum extent possible, to interact with their nondisabled peers. The Individuals with Disabilities Education Act (IDEA) of 1990 presumes that all children with disabilities are, to some extent, educated in regular classes. Special education and related services provided to special needs students are to be in addition to and affected by the general education curriculum, not separate from it.

Response to Intervention (RTI)

Response to intervention (RTI) is an instructional program that guides teachers in making instructional decisions for students who may not be able to access information at the same rate as other students in the classroom. The program involves data-based problem solving, monitoring of student progress, and universal screening. When specific students are identified as benefitting from RTI, the intensity and duration of additional instruction is determined. The implementation of RTI has provided evidence that through additional high levels of instruction the learning abilities of struggling students can be improved.

Strategies for English Language Learners (ELLs)

Many students in your future classrooms will have limited or no English language capacity. You will be responsible for helping these students learn the content. Since the role of language has a strong influence on student learning and may place students who do not speak, read, or understand English at a disadvantage, you will be expected to implement strategies that diminish this disadvantage. Some schools may use a “pullout” approach, allowing limited English proficient (LEP) students to spend part of the day in a special bilingual class. However, chances are that all teachers will need to possess some skill in using strategies to help LEP students learn. The first step in teaching LEP students should always be to show respect for students’ cultural backgrounds. It doesn’t take much energy for a teacher to learn how to pronounce a student’s name correctly, but the effort will make a world of difference in the student’s attitude toward the teacher and consequently toward learning.

Homework as a Teaching Strategy

One of the best pieces of advice I received from an experienced teacher when I began my professional career was to never have students do homework that they had not started in class or that they weren’t sure how to complete. No teacher wants a student to go home and report, “I don’t know why I’m doing this, and I don’t understand it at all.”

Homework is a form of interactive practice in which the learner is interacting with the content. When the teacher is not present to mediate this interaction, though, the student had better be absolutely clear about what needs to be done and why. Homework is an extension of classroom learning and when planned carefully can assist student achievement; but like every other strategy a teacher uses, homework should fit the content, the context, and the learner. If practice makes perfect, then it becomes a teacher’s responsibility to somehow monitor the practice that occurs during homework so that it will not become imperfect practice. One educator suggests that no homework should be assigned until the teacher has completed the same work. A flipped classroom puts homework exercises in the classroom and makes the traditional teacher lecture or video something students can watch at home or on their own before engaging in activities related to the content under the supervision of a teacher. Visit http://www.edutopia.org/blogs/tag/flipped-classroom to learn more about the strategy of flipping a classroom.
This chapter introduced you to some of the teaching strategies that teachers employ in the classroom. There are many reasons teachers use a variety of teaching strategies to help students access information. As you visit classrooms for observation and practice, be alert to the rationale a teacher might have for using one strategy over another. Here are some ideas to help focus your observations.

1. Students do not all learn in the same manner.
2. Learning skills and facts are more easily facilitated by some strategies than others.
3. Space and time have major influences on the strategies teachers can use.
4. Materials and resources may influence the strategies teachers use.
5. Most effective lessons utilize more than one teaching strategy.
6. A teaching strategy should always match the method by which students will be assessed.

SUMMARY

Understanding that instruction is the systematic delivery of content to a unique set of individuals in a specified context is part of the specialized knowledge of a professional teacher.

- What are teaching strategies? A teaching strategy is the yeast in the lesson that makes it rise to meet students' interests and abilities. Teaching strategies provide the pedagogical framework for the professional teacher to deliver the content and to build instruction and activities around standards and the required curriculum.

- What makes teaching strategies work? Part of making teaching strategies work is being able to assess their impact on student learning, so teachers have to collect data and use that data to guide future practice. Teaching strategies used correctly have the power to transform a ripple on a pond to wavelength and frequency in a student’s mind.

- How are different strategies used for different purposes? We’re not the same as people or as learners. Each of us sees the world from a single perspective born of a million different influences and effects. Not all students discover the same bit of information simultaneously, if at all. Teachers must always look through the eyes of their students to see where learning connects for each of them.

CLASS DISCUSSION QUESTIONS

1. It would be unreasonable to expect a novice practitioner to enter the classroom highly knowledgeable of and skilled in the use of multiple approaches to teaching. Which teaching strategy would you like to learn first? What advice is of most worth in this process? How might you practice a teaching strategy even before you have a classroom of your own?

2. Resources are like advice: they fall into categories of useful and not so useful. What types of resources are most likely to help teacher education candidates increase their knowledge of teaching strategies? What are some ways to store and organize resources so they will be readily available when needed?
3. The diversity of student characteristics in a classroom can make some teachers lack confidence in their ability to meet the learning needs of all students. What examples have you seen when the strategy clearly matched the students’ backgrounds?

4. Helping students identify and build on their strengths is an often underemphasized tenet of teaching. Recognizing one’s own strengths can lead to confidence. Feeling confident when teaching a group of students leads to competence. Consider your strengths: How will these help you in teaching? Which strategies do you believe will benefit most from the strengths you possess?

**KEY TERMS**

- activity approach 421
- cooperative learning groups 416
- direct or explicit instruction 420
- fishbowl 414
- indirect or implicit instruction 420
- learning cycle 406
- metacognition 420
- modeling 421
- problem-based learning 421
- reflection 405
- scaffolding 421
- strategy 406
- taxonomies 412
- wait-time I 413
- wait-time II 413

**SELF-ASSESSMENT**

**WHAT IS YOUR CURRENT LEVEL OF UNDERSTANDING AND THINKING ABOUT TEACHING STRATEGIES?**

One of the indicators of understanding is to examine how complex your thinking is when asked questions that require you to use the concepts and facts introduced in this chapter. After you answer the following questions as fully as you can, rate your knowledge on the Complexity of Thinking rubric to self-assess the degree to which you understand and can apply a variety of instructional strategies.

1. What ways would a teacher have to plan differently for a lecture and organizing cooperative group work?
2. What is the planning cycle that teachers use in lesson implementation?
3. What activities might teachers use to get their students ready for learning?
4. Why should teachers be aware of Howard Gardner’s multiple intelligences when planning lessons?

Assess your current level of understanding of how the teaching strategies can improve student learning.
### Complexity of Thinking Rubric

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Parts &amp; Pieces</th>
<th>Unidimensional</th>
<th>Organized</th>
<th>Integrated</th>
<th>Extensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parts &amp; Pieces</td>
<td>E1: Elements/concepts are talked about as isolated and independent entities.</td>
<td>U1: One or a few concepts are addressed, while others are underdeveloped.</td>
<td>O1: Deliberate and structured consideration of all key concepts/elements.</td>
<td>I1: All key concepts/elements are included in a view that addresses interconnections.</td>
<td>E1: Integration of all elements and dimensions, with extrapolation to new situations.</td>
</tr>
<tr>
<td>Using teaching strategies to improve student learning</td>
<td>U2: Able to name one or two phases of the planning cycle.</td>
<td>C2: Can describe the planning necessary for use of one strategy but does not compare this process to another strategy.</td>
<td>O2: Is articulate in describing ways teachers' knowledge of strategies can promote student learning.</td>
<td>I2: Combines knowledge of strategies and students' learning styles.</td>
<td>E2: Adjusts planning and teaching strategies to students' learning styles to prepare students for learning.</td>
</tr>
</tbody>
</table>

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**FIELD GUIDE**

for Learning More About...

Teaching Strategies

Go back and read the introduction to the Field Guide in Chapter 1. Think about what you are learning about teaching and what you might include in your field guide related to the topics in this chapter.

Ask a Teacher

Ask a teacher what her favorite teaching strategy is and why she prefers it over others. Have her tell you how she learned it and developed skill in using it. Also, ask the teacher if the strategy is most effective with any particular content area.

Make Your Own Observations

Plan a short lecture on a subject you feel will be of interest to students at a specific grade level. Be sure to follow the five guidelines discussed in the chapter (audience, focus, organization, clarity, and pacing). Make an outline of your lecture. Visit a classroom when the teacher is delivering a lecture. Compare your lecture structure to the one the teacher used. If the teacher used a lecture structure different from the one you outlined, ask why.
Reflect Through Journaling

Think of something you learned and who taught it to you. For example, how did you learn to tie your shoes, scramble an egg, play a musical instrument, dance, or wash a load of clothes so all the clothes didn’t come out some shade of pink or dusty brown? Describe the process. How did the person who helped you learn teach you? What strategies did he or she use? Did the teacher use repetition, written instructions, or a demonstration? Did you have to practice on your own or did the teacher work through the process with you? Write a brief description of the learning process you went through. What teaching strategies work best for you?

Build Your Portfolio

Teachers who continue to grow and learn access the resources available to them, work with other professionals, and collect data representing their teaching performance and the performance of their students. You have no doubt already begun a professional development portfolio. This is a perfect place to keep a record of your growth in understanding and using an array of teaching strategies. Make a list of the key components of one teaching strategy you have observed and understand. Describe how you might have used it in one of your practicum experiences.

Select a content area (e.g., reading, math, science, social studies, art, or music) that you are interested in teaching. Write six questions you could ask to elicit differing levels of student thinking. Make certain the questions you write will help the students achieve the objective of a particular lesson. Write one question for each of the levels in Bloom’s (1956) taxonomy.

Read a Book

Everyone who teaches should read Enhancing Teaching, by Madeline Hunter (1994, Macmillan). It is easy to read, addresses many aspects of designing instruction to help students achieve success in school, and is written from the personal perspective of an educator who understands the teacher’s role.

Read What Great Teachers Do Differently, by Todd Whitaker (2007, Taylor & Francis). This second edition of Todd Whitaker’s book focuses on the specific things that great teachers do . . . that others do not, and lists 17 things that matter most in classroom teaching. The book describes the beliefs, behaviors, attitudes, and interactions that form the fabric of life in our best classrooms and schools. You can watch Todd Whitaker talk about the practices of great teachers on YouTube at https://www.youtube.com/watch?v=VXCl2fMsdTU
Search the Web

Visit http://visibleclassroom.com/ for a look at ways to have your teaching evaluated through distant technologies. This program is out of the University of Melbourne in Australia. It is intended to help you see your use of teaching strategies. Seeing your own teaching and watching video demonstrations of effective teaching can help you improve your practice. And it is interesting to see ways teachers in other countries use teaching strategies to help students learn.

Visit https://www.teachingchannel.org/videos for examples of teacher training, real-life applications, and discussions of teaching strategies in the planning stages and in action.