

The self is no ordinary piece of information. . . . In fact, it contains [almost] everything . . . that passes through consciousness: all the memories, actions, desires, pleasures, and pains are included in it. And more than anything else, the self represents the hierarchy of goals that we have built up, bit by bit over the years. . . . At any given time we are usually aware of only a tiny part of it. (p. 34)

Since Csikszentmihalyi's comments, some psychologists have postulated that the self-system is made up of two major structures—the "me" self and the "I" self (McCaslin et al., 2006; McCombs, 2001; Roeser, Peck, & Nasir, 2006). According to McCaslin and colleagues:

Self system structures consist of the "I" self and the "me" self. The "I" self is the source of more enduring, natural, and higher-order self-concept; the "me" self is more task or domain specific. . . . The "me" self is a sort of working self-concept that is the source of motivation and self-regulatory strategies in a particular context. The "me" self can get in the way of the "I" self. (p. 228)

The "me" self is fairly specific to situations. For example, from a "me" self perspective, a student may have a very low opinion of her ability to do well in a specific mathematics class. Consequently, topics addressed in that particular mathematics class would not be inherently engaging to her. The "I" self is a more generalized construct that includes all those elements considered important to an individual (McCombs, 2001). The "I" self is the composite of everything we find personally interesting and valuable. For example, an individual might consider physical prowess or musical prowess as a part of the "I" self along with the values of honesty and integrity. One might say that the "I" self is the focal point of human attention. Anything that is considered a component of the "I" self is of immediate interest.

Mild Pressure as a Stimulus for Engagement

It is certainly true that anxiety has a negative effect on people. Jensen (2005) cites evidence that stressful events lead to the secretion of hormones that are deleterious to not only learning but well-being in general (Ito, Larsen, Smith, & Cacioppo, 2001; Roozendaal, 2003). However, it is also true that under the right circumstances mild pressure can have a positive influence on learning. The reason is that mild pressure forces attention on the source of the pressure. If pressure becomes too intense or prolonged, thinking and learning are inhibited. Again, Jensen (2005) offers supporting evidence (Cahill, Gorski, & Lee, 2003; Shors, Weiss, & Thompson, 1992; Van Honk et al., 2003). In terms of student engagement, then, pressure should be at the right level of intensity and for the right duration of time.

Relative to classroom instruction, appropriate pressure can be generated during questioning. Specifically, if students realize that there is a moderate chance

of being called on to answer a question, it will likely raise their level of attention. This general notion is supported by a good deal of theory on effective teaching (Becker, 1988; Skinner, Fletcher, & Hennington, 1996). Indeed, increasing the rate at which students respond is a commonly mentioned technique for capturing students' attention and enhancing achievement (Good & Brophy, 2003).

Even after a question has been asked, the teacher can employ techniques that help hold students' attention. Specifically, a fair amount of research indicates that *wait time* focuses students' attention (Atwood & Wilen, 1991; Rowe, 1987; Tobin, 1987). Although wait time typically is thought of as the interval of time between a teacher's question and a student's answer, Stahl (1994) has identified a number of adaptations, which are reviewed in Action Step 3.

Mild Controversy and Competition as Stimuli for Engagement

When orchestrated well, mild controversy can enhance student engagement. Jensen (2005) refers to such behavior as "engineered controversy" (p. 79). He explains that when controversy is not too strong, such as in the form of a structured debate, it can enhance learning (Cahill, Prins, Weber, & McGaugh, 1994). Good & Brophy (2003) describe controversy strategies in the following way: "Controversy strategies include eliciting divergent opinions on an issue and then inviting students to resolve their discrepancies through sustained discussion" (p. 240).

Mild competition can also be used as an engagement activity. Good and Brophy (2003) describe the benefits of mild competition in the following way:

The opportunity to compete can add excitement to classroom activities, whether the competition is for prizes or merely for the satisfaction of winning. Competition may be either individual (students compete against everyone else) or group (students are divided into teams that compete with one another). (p. 227)

As in the case of mild pressure, qualifications apply to the use of competition. First and foremost, it should not cause embarrassment for losing teams (Epstein & Harackiewicz, 1992; Moriarty, Douglas, Punch, & Hattie, 1995; Reeve & Deci, 1996). In response, members of losing teams might feel devalued and even scapegoat individuals they believe are responsible for the team loss (Ames, 1984; Grant & Dweck, 2001; Johnson & Johnson, 1985).

Action Steps

Action Step 1. Use Games That Focus on Academic Content

There are many types of games that can be used to engage students. Games stimulate attention because they involve missing information. Based on an analysis of

93 studies, Walberg (1999) reports an effect size of 0.35 for the use of games. This translates into a 14 percentile point gain. It is important to note that games should focus on academic content so that they represent a form of review. Marzano and Pickering (2005) have identified a number of formats around which games can be structured, and four of them are discussed here.

What Is the Question?

Just like the popular television game show *Jeopardy!* the game What Is the Question? requires a simple matrix like the one in Figure 5.2. A teacher can use a whiteboard, an overhead transparency, or presentation software such as PowerPoint to create this matrix. Words, or pictures, or a combination of both can be used in the cells; initially all cells are covered either by slips of paper or using software animation. As the teacher reveals each term, students indicate they understand the meaning by stating a question for which that concept would be the answer. For example, for the term *earthquake*, several questions would be acceptable, including, "What is measured on a Richter scale?" or "What do people in California fear will happen because of the San Andreas Fault?" For the answer "O. Henry," students could reply, "Who wrote *The Cop and the Anthem*?" or "What writer was known for surprise endings?" The teacher decides whether a student's question represents an adequate understanding of the term.

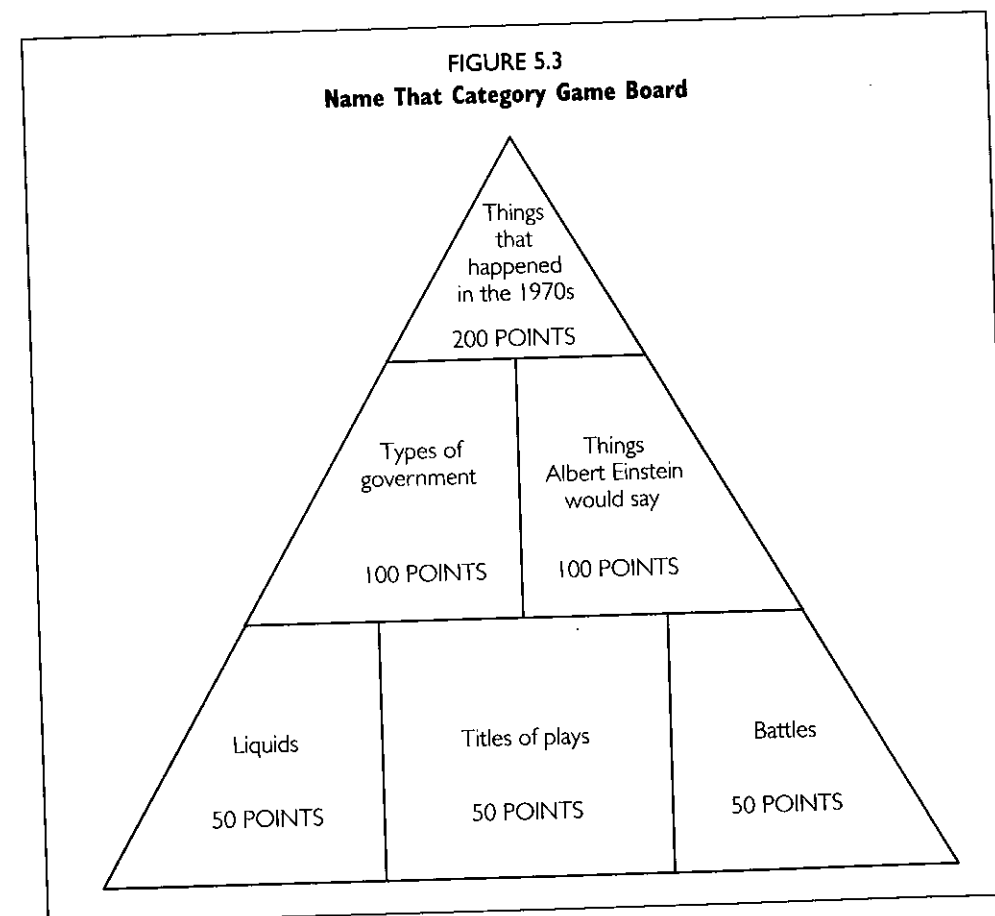
Name That Category

The game Name That Category is modeled after the television show *The \$100,000 Pyramid*. This game helps students focus on the attributes of concepts represented by or associated with terms as they try to determine what the terms in a list have

FIGURE 5.2 Matrix for What Is the Question?					
	Science	Math	Language Arts	Sports/Arts	General
100					
200					
300					
400					
500					

in common. In the example provided in Figure 5.3, a board game in the shape of a triangle is used (note the board can be of any shape). The object of the game is for the clue giver, who sees one category at a time on the game board, to list words that fit that category until teammates correctly identify the category name.

At the beginning of each round, the teacher hides the category names, perhaps with sticky notes or animation features. One player on each team, the clue giver, is able to see the game board. Other students, the guessers, cannot see the game board. As the teacher reveals the first category, clue givers begin to list terms that pertain to that category. For example, for the first category shown at the bottom of Figure 5.3, the clue giver might say, "water, milk, soda, tea, coffee" and keep listing terms until the guessers name the category—in this case, liquids.



Source: Reprinted from Marzano & Pickering, 2005, p. 60.

The teacher reveals the next category as soon as she sees that a team has correctly identified the first category and is ready to move to the next.

Talk a Mile a Minute

In this game, teams of students are given a list of terms that have been organized into categories. The words in the list represent related items such as parts of a circle or things associated with the planets. To play each round, each team designates someone as the talker, who receives a list of words under a category title, such as the one shown in Figure 5.4. The talker tries to get the team to say each of the words by quickly describing them. The talker is allowed to say anything about the terms while "talking a mile a minute" but may not use any words in the category title or any rhyming words. The talker keeps talking until the team members identify all terms in the category. If members of the team are having difficulty with a particular term, the talker skips it and comes back to it later. The first few teams to identify all terms receive points.

Classroom Feud

Classroom Feud is a game modeled after the popular television quiz show *Family Feud*. It can be played with teams put together on the spot by randomly organizing students into two teams. It can also be played with teams that have been set up for an extended period of time, such as for an entire unit. To prepare the game, the teacher constructs at least one question for every student in class. Any or all of the following question formats can be used: multiple choice, fill in the blank, and short answer. In general, if one type of question is asked of one team, then the same type of question should be asked of the other team. That is, if a

multiple-choice question is asked of one team, a multiple-choice question should be asked of the other team. There should be an even number of questions of each type and at least enough questions to ask each student one question.

Questions are asked of each team in an alternating pattern. The teacher functions as the question asker and the judge of whether answers are deemed correct or incorrect. One student from each team serves as the responder for the group. Students on each team take turns being responders in some systematic fashion. For example, when first organized into groups, students might simply count off

FIGURE 5.4
Talk a Mile a Minute List

Types of Animals
mammal
reptile
amphibian
bird
insect
fish
spider

Source: Reprinted from Marzano & Pickering, 2005, p. 64.

1, 2, 3, and so on. The number each student receives represents his or her turn as responder.

The teacher presents a question to the responder for a team. The responder then turns to her team members and shares with them the answer she thinks is correct or tells her team that she does not know the answer. Team members either agree with the responder and provide support for her answer or offer suggestions as to the correct answer. The responder has 15 seconds to decide which answer to offer as the correct answer. When the answer is offered, the teacher determines whether it is acceptable as a correct answer or not. If the answer is acceptable as correct, the team receives a point. If the answer is not acceptable as correct, the other team has an opportunity to answer the question. The most recent responder for that team again acts as responder for the group. He or she has 15 seconds to come up with an alternative answer, again taking suggestions from the team. If the answer is correct, the other team gets the point and is asked the next question. If a correct answer is not offered by the challenging team, no point is awarded. When every student on both teams has functioned as the responder, the team with the most points wins.

Action Step 2. Use Inconsequential Competition

As its name implies, inconsequential competition means that students compete, but the competition is done in the spirit of fun. It draws on the principle of mild pressure discussed in the research and theory section. This is best accomplished if the teacher periodically organizes students in small groups. Group membership should be systemically changed so that students who exhibit high mastery of the content are matched with those who do not. In this way, over time every student will probably be on a winning team, and every student will probably be on a losing team. Inconsequential competition obviously aligns nicely with the use of games and puzzles (Action Step 1). As games are played, the top team or teams are assigned team points. For example, a teacher might play games two or three times a week and assign 5, 4, 3, 2, and 1 points, respectively, for the first five teams. At the end of the unit, team points are totaled, and the two (or more) teams with the highest points are singled out for some minimal reward such as coupons for movie rentals, coupons for fruit drinks from the cafeteria, and so on. As discussed in the research and theory section of the chapter, competition should be kept light and inconsequential. The purpose of the rewards is to stimulate fun.

Action Step 3. Manage Questions and Response Rates

Questions can stimulate engagement for two reasons at least. First, they are a form of missing information; second, they tend to put mild pressure on students. When

used effectively, questioning techniques can be one of the most flexible and adaptive tools in a teacher's arsenal. This action step addresses four aspects of effective questioning: wait time, response cards, choral response, and response chaining.

Wait Time

Stahl (1994) has identified a number of types of wait time that can help focus students' attention. I describe five of them here:

- **Post-Teacher-Question Wait Time.** After teachers ask a question of a student, they typically wait from 0.7 to 1.4 seconds before continuing to talk or calling on another student. Teachers should allow at least three seconds for a student to respond. The teacher might even remind students to take a moment to think before they answer.
- **Within-Student Pause Time.** When students are answering a question, they sometimes pause. The general practice of teachers is to interrupt or cut students off from completing their response even when a pause is as short as 0.5 seconds. Students should be provided with adequate time to think during such pauses. Again, three seconds is advisable. The same situation occurs when students are asking a self-initiated question. Teachers will tend to interrupt when students pause even briefly during these questions. They should allow processing time to formulate or reformulate such questions.
- **Post-Student-Response Wait Time.** After a student has completed a response and while other students are considering volunteering their reactions, a small pause of a few seconds helps focus attention and sharpen students' thinking.
- **Teacher Pause Time.** This type of pause time occurs when a teacher is presenting new information and allows students a few seconds to process what was just presented and formulate their thoughts and questions.
- **Impact Pause Time.** Impact pause time occurs when the most dramatic way to focus attention at a given time is to provide uninterrupted silence. This creates a sense of anticipation on the part of students as to what will occur next.

Response Cards

Response cards can be a particularly powerful way to engage all students when asking questions (Narayan, Heward, Gardner, Courson, & Omness, 1990). To use response cards, every student must be equipped with a small (e.g., 12-inch by 12-inch) chalkboard or whiteboard and appropriate material for writing and

erasing comments. If these reusable materials cannot be provided, the teacher might simply use blank pieces of paper on which students write their responses in pen or pencil. The backs of paper from discarded assignments can work well.

When the teacher asks a question, each student in class records his or her answer individually. (A variation is to organize students in dyads or triads. Responses are then recorded by each dyad or triad.) On a cue from the teacher, the students hold up their response cards. It is sometimes useful to have students present their response cards in such a way that only the teacher can see. In this way, students feel less threatened because their answers are not public. The teacher uses the group feedback from response cards to guide her subsequent interaction with students. Of course, the teacher must structure the questions to allow for short answers that can be written on a 12-inch by 12-inch response card. To this end, the most useful type of question is forced choice.

Forced-choice questions include true/false, multiple choice, and fill-in-the-blank formats. True/false questions require students to indicate whether a statement or statements are true or false. For example, a teacher reviewing the proper procedure for shooting free throws in basketball might pose the true/false question:

Is this statement true or false? When shooting a free throw, the elbow of the hand that will actually push the ball toward the basket should be as far out to your side as possible. Write a T on your response card if you think it is true. If you think it is false, write F.

True/false questions are fairly easy to design while planning a lesson and can even be thought up spontaneously as a teacher interacts with the class.

Multiple-choice questions provide students with a series of options from which to choose. For example, a teacher focusing on a unit on the cell might present students with a question that has four options for the correct answer. Students record the letter of the option they believe to be accurate on the response card. Multiple-choice questions are very effective but require preparation before their use in class.

Fill-in-the-blank questions present students with a partial statement and require students to fill in the rest of the information. For example, a social studies teacher might provide students with the statement: "One characteristic of a constitutional democracy is _____." Students then record their responses on the response cards. As with true/false questions, fill-in-the-blank questions are easy to construct and can be designed on the spot.

A final variation on the response card is a class vote. Here students simply raise their hands to signal their acceptance of a specific response. No response cards per se are used in this technique, but the net effect is the same. Students

signal the response they believe is correct. For example, if the teacher has provided a true/false statement, she simply asks for a show of hands from those who believe the statement is true and a show of hands from students who believe it is false. The same process is used with multiple-choice items. The teacher asks for a show of hands representing those who believe each alternative is correct. With fill-in-the-blank questions, voting is a little more difficult. The teacher must provide possible responses and ask students to vote for the response they believe is correct—in effect turning the fill-in-the-blank question into a multiple-choice question.

Choral Response

Unfortunately choral response (also referred to as unison response) is associated by some with ineffective didactic instruction. However, when used appropriately it can be an effective way of engaging students (Becker, 1988). It is best accomplished when important information is stated in a short phrase or sentence and students appear to be having difficulty with the information. To illustrate, assume that a social studies teacher has addressed the generalization that subcultures can be associated with regions, ethnic origins, social class, and values. She has asked a number of questions that can be answered with this generalization, but students seem confused and are not responding well. To use choral response effectively, she might engage in the following type of dialogue:

We all seem to be missing the point here. Let me tell you the answer to the questions about subcultures: Subcultures can be associated with regions, ethnic origins, social class, and values. Now everyone say that all together. . . .

Again. . . .

One more time. . . .

It is important to note that the teacher would review and exemplify the various components of a subculture because the students' lack of response shows that they do not understand the range of subcultures. The purpose of choral response, then, is not to have students memorize verbatim answers. The purpose is to review an important generalization or principle about which there seems to be some confusion.

Response Chaining

Response chaining refers to linking or chaining students' responses. Response chaining begins by asking a question to which a specific student responds. The teacher then asks the class as a whole to vote regarding the accuracy of the student's response using three options: the answer was correct, partially correct,

or incorrect. The teacher selects a student who has voted correctly. If the original student's response was incorrect, the teacher asks the newly selected student to make the necessary corrections in the first student's response. When the correction is made, a new question is asked. If the original student's response was partially correct, the teacher asks the newly selected student to identify what was correct about the response and what was incorrect and provide the missing correct information. Again, a new question is then asked. If the original student's response was completely correct, the newly selected student is asked another question.

Obviously, response chaining should be done in such a way that it does not embarrass students who have answered a question incorrectly. This means that the teacher must take care when responding to an incorrect answer. A number of techniques for doing so are described in Chapter 9.

A simple but highly engaging variation on response chaining is to use a small foam ball to signal the transfer of responsibility from one student to another. For example, the original student who has answered the questions starts with the foam ball that has been passed to her by the teacher. When a new student is selected to respond, the ball is thrown to him by the student who currently holds it.

Action Step 4. Use Physical Movement

Physical movement refers to any activity that allows students to move their body position. As discussed in the research and theory section, physical movement enhances student engagement because it increases their energy. There are a number of ways this might be done:

- **Stand up and stretch.** The most obvious way to promote physical movement is to periodically ask students to stand up and stretch. For example, noticing that students are particularly lethargic during a class, a teacher asks students to stand next to their desks and leads them through some simple stretches.
- **Body representations.** This technique refers to students briefly acting out important content. For example, in a mathematics class the teacher asks the whole class to stand. She then asks each student to act out the following: radius, diameter, and circumference. One student uses her left arm outstretched to show radius, both arms outstretched to signify diameter, and both arms forming a circle to show circumference. An alternative is to have dyads or triads act out specific terms.
- **Give one, get one.** This technique is best done when students are using academic notebooks. The entire activity should be done with students in

a standing position. Periodically, each student is asked to stand and find a partner with whom he compares notes. The students take a moment to identify the information they have recorded in common. Each student also identifies something he did not record but his partner did. This new information is then recorded in each student's notebook. In effect, each student gives one and gets one. A variation on this theme is for pairs to report out to the entire class regarding what they gave and what they got.

- **Vote with your feet.** Class votes were addressed in the previous action step within the discussion of response cards. Voting can be easily turned into an activity that involves physical movement by students. The teacher posts three signs in different parts of the room: the answer is incorrect; the answer is partially correct; the answer is totally correct. The teacher provides a possible answer to a question he has asked or a student has asked. Sometimes the teacher provides an answer that is correct; sometimes the teacher provides an answer that is partially correct; and sometimes the teacher provides an answer that is incorrect. The students "vote with their feet" by standing under the sign representing their perception of the accuracy of the teacher's response.

Action Step 5. Use Appropriate Pacing

Pacing and flow of activity are mentioned in almost every discussion of effective classroom management. Pacing will not be negatively affected if a teacher has well-established procedures for common administrative tasks such as the following: handing in assignments, distributing materials, storing materials after an activity, and getting organized into groups. Many of these rules and procedures are addressed in Chapter 6.

In addition to the effective execution of administrative tasks, pacing involves transitions from one activity to another. There should be an overall logic to the manner in which a lesson proceeds, and that logic should be discernable to students. The design of a good lesson is discussed in depth in Chapter 10. Briefly though, one might think of a lesson as involving segments. Typically, every lesson will involve administrative segments such as those just mentioned. Every lesson will also involve segments devoted to content knowledge. Sometimes these content segments will involve providing students with new information in the form of critical-input experiences (see Chapter 2); sometimes they will involve activities designed to help students practice and deepen their understanding of new knowledge (see Chapter 3); and sometimes those segments will be devoted to activities designed to help students generate and test hypotheses about new knowledge (see Chapter 4). Transitions between these content segments should have an internal logic. For example,

if a teacher has begun class with a critical-input experience involving reading a textbook section on overpopulation, it would not make much sense to then jump to a segment devoted to providing practice in reading a contour map. It would make more sense for students to engage in some type of activity designed to deepen their understanding, such as creating metaphors involving overpopulation.

Action Step 6. Demonstrate Intensity and Enthusiasm for Content

Good and Brophy (2003) stress the importance of verbal and nonverbal behavior to communicate intensity and enthusiasm for content. They describe intensity in the following way:

An intense presentation will begin with a direct statement of the importance of the message ("I am going to show you how to invert fractions—now pay close attention and make sure you understand these procedures"). Then, the message itself is presented using verbal and nonverbal public speaking techniques that convey intensity and cue attention: a slow-paced, step-by-step presentation during which key words are emphasized; unusual voice modulations or exaggerated gestures that focus attention on key terms or procedural steps; and intense scanning of the group following each step to look for signs of understanding or confusion (and to allow anyone with a question to ask it immediately). In addition to the words being spoken, *everything about the teacher's tone and manner communicates to the student that what is being said is important and that they should give it full attention and ask questions about anything they do not understand.* (2003, p. 238)

These behaviors should be reserved for those situations that are critical for student learning. If used too frequently or for content that is tangential, the impact of teacher intensity and enthusiasm might be diminished.

It is worth noting that Good and Brophy (2003) also point out what intensity and enthusiasm are not:

In suggesting that teachers project enthusiasm we do not mean pep talks or unnecessary theatrics. Instead, we mean that *teachers identify their own reasons for viewing a topic as interesting, meaningful, or important and project these reasons to the students when teaching about the topic.* (p. 238)

They provide an example of a history teacher demonstrating enthusiasm for the topic being taught by his detailed knowledge and use of anecdotes and stories not found in the textbook.

Action Step 7. Engage Students in Friendly Controversy

As its name implies, friendly controversy refers to engaging students in dialogue regarding topics about which they have different opinions. It is important to emphasize the adjective *friendly* within this action step. The dialogue regarding differences of opinion should not become too heated. If so, the attention of

students will be on their growing sense of frustration and anger as opposed to the content. Thus, to effectively execute this action step, a teacher must carefully select those issues about which to have a friendly controversy. For example, in a science class a teacher might realize that an upcoming section of the science text includes a detailed treatment of global warming. She is aware that although all students in class believe that global warming is in fact occurring, they disagree on how imminent the danger is and how quickly action should be taken. She plans to ask specific students their opinions regarding this issue, making sure she calls on two students with very different opinions on the matter.

The overall intent of a friendly controversy is to engage as many students as possible in the debate. A variation on this theme is to ask students who take one position on the issue to stand on the left side of the classroom and those who take the opposite position to stand on the right side of the classroom. Those who are not attached to either position are asked to stand in the middle. The teacher then asks students who represent one position to present their case. This is quite informal, in that any student who wishes to can provide support for the position. Students on the other side of the room representing the opposite position also are asked to provide support for their position. All throughout the discussion students from the middle can elect to go to one side of the room or the other, indicating that they have been persuaded by the evidence they heard from a particular side of the room. The discussion continues until all students in the middle have been convinced to move to one of the sides of the room. To ensure that the activity does not take up too much time, the teacher at any point can ask those in the middle to select one side or the other: "Even if you aren't totally convinced that one position is superior to the other, pick a side to go to right now that represents the one that you think gave the best evidence for their position."

Action Step 8. Provide Opportunities for Students to Talk About Themselves

The research and theory section of this chapter discussed the nature of the "I" self and its importance in motivation. People like to talk about themselves and those things that interest them. One simple technique for engaging students and enhancing their level of energy is to create situations that allow them to talk about their interests. A straightforward way to facilitate this discussion is to ask students to relate academic content to their interests. For example, assume that a physical education teacher has presented a technique for stretching before running. She might ask students to think of something they are interested in that is related to this technique in any way. A student who is interested in playing the trumpet might say that it is like warming up your lips before you begin to

play. A student who is interested in cars might say that it is like getting all the tools out and organized before working on the car. A student who is interested in crossword puzzles might say that it is like getting a feel for the whole puzzle before trying to solve individual elements. These connections have two benefits. First, they relate academic content to students' personal interests. Second, and equally if not more important, they allow students to discuss something of personal interest. Ideally, the teacher capitalizes on this opportunity to learn about individual students. She might ask a student to provide more information, for example, about how the topic is like warming up your lips.

Action Step 9. Provide Unusual Information

Unusual information is a form of missing information. To illustrate, consider the following facts:

- Take your height and divide by eight. That is how tall your head is.
- No piece of paper can be folded in half more than seven times.
- The first product to have a bar code was Wrigley's gum.
- Earth is the only planet not named after a pagan god.
- A Boeing 747's wingspan is longer than the Wright brothers' first flight.
- Venus is the only planet that rotates clockwise.
- Three percent of pet owners give Valentine's Day gifts to their pets.
- Thirty-one percent of employees skip lunch entirely.
- According to research, Los Angeles highways are so congested that the average commuter sits in traffic for 82 hours a year.
- The 1912 Olympics was the last Olympics that gave out gold medals that were made entirely out of gold.

Even though these facts have little practical value, they tend to capture one's attention. They fill in information for the reader that is unexpected. Teachers can systematically provide interesting facts related to topics being addressed in a unit of instruction.

For example, a literature teacher focusing on the book *The Old Man and the Sea* might begin lessons by telling students interesting anecdotes about Hemingway's personal life: Hemingway's mother wanted twins; when this did not happen, she dressed him and his sister in similar clothes with similar hairstyles. He received numerous awards, including the Silver Medal of Military Valor in World War I, the Bronze Star in 1947, the Pulitzer Prize in 1953, and the Nobel Prize in Literature in 1954 for *The Old Man and the Sea*. He suffered from myopia all his life, but he would not be fitted with glasses until he was 32.

As another example, a physical education teacher addressing how to play defense in basketball might tell students anecdotes about the history of basketball: Basketball was invented by Dr. James Naismith, a Canadian physician at McGill University and minister on the faculty of a college for YMCA professionals, in December 1891. He designed the game to help keep his students occupied and physically fit during New England's long winters. According to legend, basketball is an adaptation of a Mayan game. Naismith wrote the basic rules and nailed a peach basket onto the 10-foot elevated track of the YMCA gymnasium; balls scored into the peach basket had to be poked out with a long stick each time. The first official basketball game was played in the YMCA gymnasium on January 20, 1892, with nine players, on a court that was half the size of a present-day NBA court. The name *Basket ball* was suggested by one of Naismith's students.

The teacher is not the only one who can provide unusual information. Students can be asked to bring in interesting facts about the topic of a lesson or unit. At the beginning of class, time might be allotted for students to share the facts they have discovered. If students have been assigned to teams, the responsibility for bringing in interesting information might shift weekly from team to team.

On a lighter note, Jonas (2004, pp. 135–136) recommends connecting fun facts, such as the following, to content whenever possible:

- Falling is the most common nightmare.
- Americans consume five tons of aspirin a day.
- Most men part their hair to the left for no apparent reason.
- Sixty-seven percent of Americans think they are overweight.
- Americans throw away 27 percent of their food each year.
- Twenty-five percent of all people snoop in friends' medicine cabinets.
- People typically spend a year of their lives looking for things they have lost.
- One out of every 10 children sleepwalks.
- Thirty-six percent of people choose pizza for the one food they would eat if they could only eat one food.

Summary

When considering the fifth design question—What will I do to engage students?—teachers should think about stimulating students' on-task behavior via high energy, missing information, the self system, mild pressure, and mild controversy and competition. Teachers should plan to use action steps that can promote physical movement, challenge students' thinking, and stimulate their attention to the task at hand.

6

What will I do to establish or maintain classroom rules and procedures?

Up to this point all design questions have dealt with content issues and instructional issues. This question deals with a staple of classroom management—the design and implementation of classroom rules and procedures. Regardless of how well behaved students in a given class might be, they still need rules and procedures. Although rules and procedures should be established at the beginning of a school year, there are many times throughout the year when students need reminders or when rules and procedures must be added or altered. Without effective rules and procedures, teaching (and consequently learning) is inhibited.

In the Classroom

In our classroom scenario, Mr. Hutchins spends substantial time crafting classroom rules and procedures during the first week. He announces to students that he has two rules only: treat each other with respect, and make the classroom a place of learning. He leaves it to the students to come up with specific behaviors, routines, and processes to ensure that these rules are followed.

On occasion throughout the year, he finds that one or more of the routines and processes require alterations. For example, initially he and the students establish the procedure that students must raise their hands and be called on before they can speak. However, he observes that this protocol seems to stifle discussions. He brings this up to students in a class meeting. Most students agree with his perception. As a result of a fairly lively discussion, the procedure is