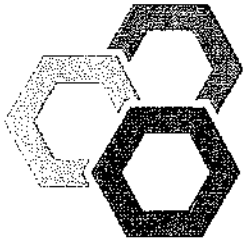
Section II



37 Classroom-Ready TPTs

3

TPT Tools and Supplies

I love the idea of having everything in one place . . . already inside the folder and ready to go. . . . I like anything that is this organized, that I can use at a teachable moment in a lesson. It is easy to ask everyone to open the folder, grab the True/False Cards, and then review the new material just covered in class.

—Matt Baker, 8th grade English teacher

Once you start implementing TPTs, our hope is that the experiences will change your expectations regarding students' demonstrations of learning. Meghan Babcock noticed this change as a result of her consistent implementation of TPTs. According to Babcock,

> Your expectations change as you start looking at what you call evidence of learning. Thinking about the way you gather evidence, making it more deliberate, sets an overall greater expectation. It becomes a habit. . . . What's neat for me is that when I go into classrooms and generally see teachers calling on a few volunteers, I'm now looking at other kids and wondering what they're thinking, and whether or not they're thinking about the content. Doing the TPTs, you're really finding out what all of them are thinking.

Developing a TPT Mindset

When we think about a traditional question-and-answer session in which three or four hands go up, what does that say about the students who don't have their hands up? Is it possible that only three or four of your students can answer your question? If so, that ought to raise some red flags in your teaching. Start thinking

"Show me" as you place greater expectations on student participation and on all students providing you with evidence of cognitive engagement. Consider posting the directions of some of the on-the-spot TPTs (see Chapter 4) around the room. As you find yourself needing a quick, unplanned TPT, take a look at the options you have posted.

The TPT Folder

One way to make TPTs run smoothly with minimal interruptions is to create individual TPT folders or envelopes where students can store materials that they may need for their TPTs. Folders can be simple pocket folders or manila envelopes. If you choose to go with manila envelopes, consider laminating them and then slitting the laminated sealed opening with a sharp tool (only the outside of the envelope will be laminated). Laminated envelopes will last longer than nonlaminated ones. Here are some suggested items to place in your TPT envelopes:

- **A laminated piece of light-colored construction paper**—This serves as a simple whiteboard for students.
- **A flannel square or sock**—This serves as a dry eraser for your construction paper whiteboards.
- **A dry-erase pen**—This can be used with the construction paper whiteboards and is available in thin styles to cause less bulk in the envelope.
- **True/Not True Hold-Up Cards**—These simple hold-up cards work for any content area and can be used repeatedly (see Figure 5.3).
- **Multiple-Choice Hold-Up Cards**—These simple hold-up cards also work for any content area and can be used repeatedly.
- **Emotion Hold-Up Cards**—See Courtney Cislo's sample lesson in Chapter 2 (Figure 2.1).
- **Decks of paper-clipped Number Cards**—These cards are for hold-ups or for laying the numbers on student desks in response to a TPT (see Figure 5.2).
- **A completed Appointment Agenda**—This chart is useful for grouping students (see Figure 6.2). Student names should have already been filled out. The same agenda can be used repeatedly.
- **The Processing Card**—This card allows teachers to know where students are in their thinking (see Figure 4.4).

- **A laminated hundreds chart**—For elementary-aged children, this chart allows you to plan activities that build number sense. For example, you can have students use the dry-erase pen and the chart to circle the common multiples of selected numbers; circle the common factors of selected numbers; circle the prime numbers between two specific numbers; skip count; and do any other activities that build number sense by visually seeing the numbers laid out on a number chart.
- **A laminated A–Z chart**—For early childhood classrooms, this chart allows all students to point to initial, middle, and ending sounds, and to find letters and sounds as directed by the teacher.
- **Laminated content-related charts**—Examples of these are a periodic table of elements chart, a timeline, a map, a metric conversion table, or any content-specific tool you would like students to use repeatedly. The lamination allows students to write on these using dry-erase pens.
- **A smaller envelope with pieces of scrap paper or index cards**—These are useful for Quick-Draws, Quick-Writes, and on-the-spot Hold-Ups, and for recording questions from guided note-taking activities. The envelope will keep these contained and control the clutter.
- **Bounce Cards**—These are useful for facilitating talk between students (see Figure 6.3).
- **Guided note-taking templates**—If you find yourself repeatedly using specific guided note-taking templates from Chapter 7 (for example, Picture Notes, Lecture T-Charts, or Debate Team Carousels), we encourage you to make sets of these for students to have readily available within their TPT folders. This will allow you to use these on the spot as well as for preplanned activities.

Keely Potter points out that for teachers who do not have a classroom to call their own, the folders help them stay organized. As a reading specialist, Potter travels to different classrooms. Leaving the folders in one central location in host classrooms, or traveling with one class set, eliminates the possibility of forgetting to bring materials for planned or on-the-spot TPT activities.

As you read about the various techniques presented throughout this book, ask yourself what should go inside your TPT folders. Folders should contain items that you can use with many TPT activities to efficiently eliminate the passing out of papers and unnecessary prep that would be needed otherwise.

Thinking Outside the Pencil Box

To be TPT-conducive, you're going to need more than paper and pencils. We have a box with about 100 glue sticks that we bring along to workshops and demonstrations. We'll never forget one participant's comment as he reflected on the limitations of one of the examples we demonstrated and how it would never work in his classroom: "It's high school. We don't use glue sticks." Now, this participant's comment may not reflect every secondary teacher's thoughts on resources, but it is indicative of a mentality that glue, scissors, markers, and crayons belong only in elementary schools; that by the time students have gotten to the secondary grades, they have outgrown their need for artsy demonstrations of learning. But as 8th grade history teacher Liz Lubeskie says, "To be good at it, you have to love teaching first and then your content." You can really know and love biology or physics and be completely ineffective at teaching it. Good teaching results in student learning. And if glue sticks and scissors are a way to get students to learn more effectively, then you are never too old to use them. To minimize the searching for supplies, Lubeskie uses "resource boxes" placed at the center of each cluster of desks. These are simple plastic pencil boxes that are just large enough to hold four sets of scissors, glue sticks, highlighters, and one set of markers to be used by four or five students in a small group. We encourage you to use resource boxes, regardless of the age of your students, to enhance teaching and learning in your classroom.

4

On-the-Spot TPTs

You can have the best lesson and read the most intriguing stories, but if you've lost your students, your wonderful lesson wasn't as wonderful as you had hoped. For me that was a huge wake-up call, that one math lesson where I looked up from the overhead and realized no one was with me. See, in my head, it was going great! But it was going great for me, not for them!

—Courtney Cislo, 5th grade teacher

TPTs In This Chapter:

1. Think-Pair-Share
2. Quick-Writes
3. Quick-Draws
4. Chalkboard Splash
5. Thumbs-Up When Ready
6. Processing Cards
7. Similes
8. Ranking
9. Numbered Heads Together
10. Thumb Up/Down Vote

How many times have you looked up during your teaching only to wonder whether or not your students still had a pulse? Although that may be a bit of an exaggeration, have you ever stopped to wonder if your students were still with you, and whether or not they were processing or even comprehending what you were presenting? Rather than forge ahead with your presentation, we recommend that you stop and take the pulse of the class as a whole. On-the-spot TPTs allow teachers to quickly gauge the depth of student understanding of concepts being taught. They are activities that require little or no advance preparation. You can insert several in a lesson the minute you notice cognitive disengagement or disconnect. Or you can plan to include them strategically in select spots within your lessons.

As noted in the Introduction, we present each TPT activity in four sections. The first is a general overview of the activity, the second is the steps for "How It Works," the third is about "How to Ensure Higher-Order Thinking," and the fourth is titled "Pause to Apply," with reflective questions aimed at helping you to think through how each technique can be applied to your personal classroom situation and your curricular aims.

Think-Pair-Share

Think-Pair-Shares (Lyman, 1981) are an easy Total Participation Technique that you can start implementing tomorrow. For example, 5th grade teacher Mike Pyle uses Think-Pair-Shares several times daily in his classroom. During an observed lesson, he asked students to predict what the main character would do next and be able to explain why. He allowed a good pause, even though hands were going up, and then asked students to share their response with their neighbor.

According to 6th grader Abby, "I feel very good inside because when someone else hears my thoughts and understands them, then they tell me what was good about what I said." The Think-Pair-Share is a simple but powerful tool that should be used repeatedly and consistently throughout the day.

How It Works

1. Ask students to reflect on a question or prompt. Give them a brief amount of time (perhaps 30 seconds) to formulate a response.
2. Ask students to pair up or to turn to their assigned partner.
3. Ask them to discuss their responses.

Note: To avoid repeating directions, you can use Pair-Shares as a simple review of procedural directions you have just explained to students. A simple direction such as "Turn to your partner and explain what you have been asked to do first, second, and third" can ensure that all students understand their roles.

How to Ensure Higher-Order Thinking

As powerful a tool as the Think-Pair-Share can be, it is only as powerful as the prompt on which students are asked to reflect. Use prompts that require students to analyze the various points of view or the components that are inherent in your target standard. Ask questions that require students to explain how these components fit together or affect one another. For example, a teacher might ask, "How might the concept of an electoral college be considered undemocratic?" In responding, students must understand the intricacies of the electoral college and then contrast these with the various attributes of a democracy.

Ask students to evaluate something by defending it based on concepts learned. For example, a teacher might ask, "Up until now, multiplying numbers

has always resulted in a larger number. Using words and pictures, explain why multiplying by a fraction will always result in a smaller number." At times you may decide that after pair-sharing you would like students to join their pairs with other pairs, so that each student gets to hear and share with several peers rather than just one.

Pause to Apply

What are you teaching tomorrow? Start planning for inserting Think-Pair-Shares throughout your presentations. When might be a good time to try this simple but underused activity? Keep in mind that English language learners and students with certain special needs will benefit from bulleting or quick-writing their thoughts before the Pair-Share. In fact, we find that most of the time a Quick-Write will only enhance the Pair-Share, because students were given enough time to process their thinking.

Quick-Writes

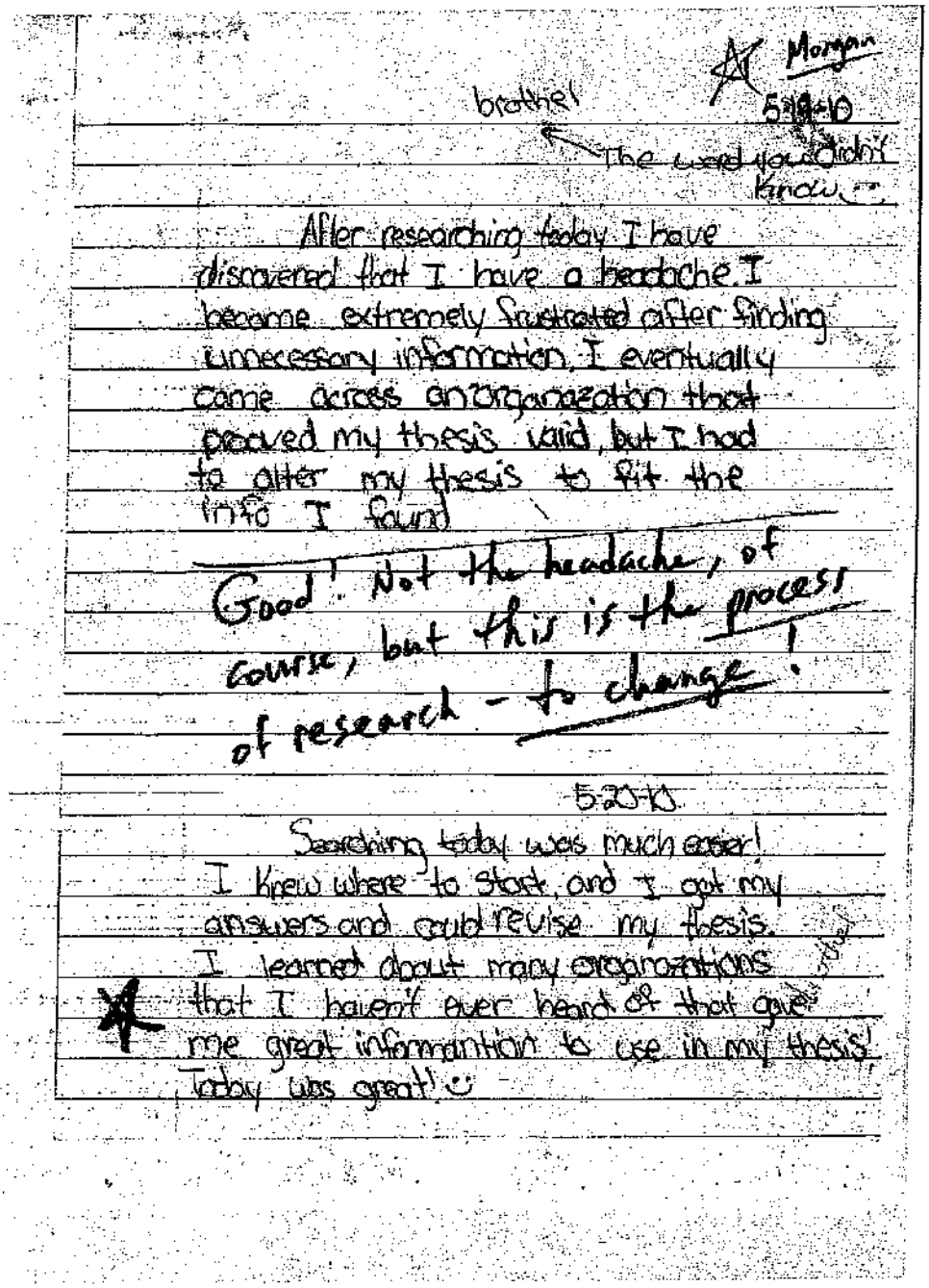
A Quick-Write is a brief activity that can be inserted at almost any point within a lesson or planned ahead using prepared prompts. It does not have to take long—just enough time for students to stop and reflect in writing on what they are learning (three minutes is usually sufficient). A teacher might say something like this: "For the next three minutes, jot down your reflections on how the Earth's shifting plates may have directly affected the landscape of where you live." Quick-Writes can also make use of word banks to ensure that students address important concepts learned. For example, teachers can identify a handful of words that they would like students to use within their Quick-Writes.

Quick-Writes can also be used as a way for students to analyze their own metacognitive thinking processes. Before dismissing his class, 8th grade English teacher Matt Baker asked his students to reflect on the process of conducting their research projects. Figure 4.1 is an example of Morgan's reflection on her own attempts at writing a thesis statement. This process of journaling provided valuable information for Baker as he conducted this quick progress-check on his students and responded to each student's status as a researcher.

How It Works

1. Select a prompt that you would like students to address.

Figure 4.1
Morgan's Quick-Write



2. Give students a specified amount of time to collect their thoughts and jot down a response (approximately three to five minutes).
3. Follow this up with a Pair-Share, a Networking Session (see Chapter 6), a Chalkboard Splash (presented later in this chapter), or another Total Participation Technique.

How to Ensure Higher-Order Thinking

Go beyond asking students to explain the meaning of a concept. Instead, ask students to make connections between the concepts and their effect on the world around them. Use wide-open questions. For example, get used to using questions that begin with phrases like "In what ways . . ." and "How might things be different if . . . ." Provide opportunities for students to understand the broader implications of what they are learning. Simple questions like "Why is this important?" and "How does it relate to our lives?" might help students stop and reflect on the deeper connections and purposes for what they are learning. Allow students opportunities to interact and listen to their peers as they share their Quick-Writes in small groups.

Pause to Apply

What are you teaching this week? What prompts can you interject throughout your teaching to ensure that students are understanding and making connections between what is being learned? Use a word bank to ensure that target vocabulary or concepts are embedded within the Quick-Write. We encourage you to make the Quick-Write a staple in your teaching. You will notice that many of the ideas presented in this book first rely on students having had an opportunity to process their thinking, preferably through a Quick-Write.

Quick-Draws

Quick-Draws (Himmele & Himmele, 2009) are opportunities for students to demonstrate their understanding of an abstract term or concept by representing it in a drawing. This TPT can be used with almost any age group, from young children through adults. Quick-Draws can be used in any content area, not only for vocabulary concepts like *renewable resource*, but also for abstract concepts like *sustainability*. We even use Quick-Draws in our university classes to ensure that students are able to understand and deeply analyze concepts. We are always amazed at

the depth and the variety of images that students create as a result of having to analyze and represent abstract concepts in a drawing.

How It Works

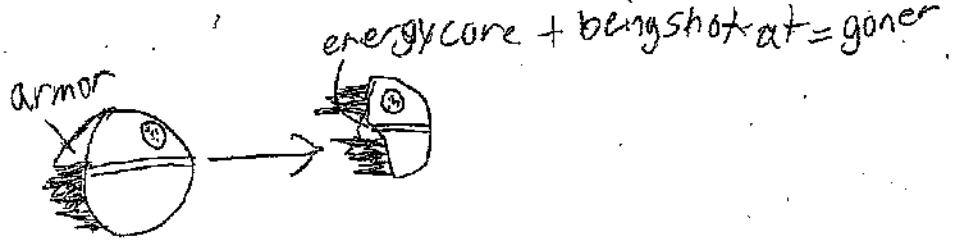
1. Select a "big idea" or major concept within your lesson.
2. Ask students to reflect on the meaning of the concept and create a visual image that represents that concept (allow approximately three to five minutes).
3. Have students share and explain their image with a partner, in a small group, or in a Chalkboard Splash (described next).

How to Ensure Higher-Order Thinking

The thinking processes that occur when you ask students to demonstrate an abstract concept in the form of a drawing lend themselves to the analysis of the different components that make up the meaning of the concept, as well as to the synthesis of these components into a visual representation. After students create their drawings, give them an opportunity to share and explain the reasons they chose their particular visual to represent the concept.

Figure 4.2 is Bram's Quick-Draw depiction of the term *vulnerability*, a major theme from Meghan Babcock and Keely Potter's unit on symbolism. In Bram's analysis, he explained that "the Death Star [in *Star Wars*] without the armor is vulnerable. But with the armor, it is not vulnerable." According to 6th grader Hannah, "What helped me out the most was the drawing and writing time [Quick-Draws with accompanying analyses] because it really made me think about the situation."

Figure 4.2
Bram's Quick-Draw of Vulnerability



Pause to Apply

If you're thinking that the Quick-Draw would not fit practically within the standards that you are teaching, stop to reflect on the specific topics you will be teaching this week. What big ideas and concepts do you hope that students will walk away with? How would you draw these? We think that most teachers would be surprised with how practical this activity is, even with concepts that don't seem to be easily captured in a drawing. Within the next week, when might you insert a Quick-Draw, where students can pause to synthesize their deeper understandings in the form of a visual representation?

Chalkboard Splash

"What have you noticed about yourself as a reader because of this unit?"

"What do you think the main character will wish for? What makes you think that?"

"What is the most important thing that you learned about today's topic?"

"Which of these forms of pest management do you think is the best? Why?"

These are all questions that you could ask students to consider in a Pair-Share or a Quick-Write, but if you want the entire class to see the collective responses of their peers, then the best way to ask these questions may be in the form of a Chalkboard Splash. In a Chalkboard Splash (which can also be a Whiteboard Splash or a Chart-Paper Splash), all the students record their responses (or copy their Quick-Writes or Quick-Draws) onto random or assigned spots on the room's chalkboards or whiteboards, or on pieces of chart paper. After recording their responses, students are asked to analyze peer responses for three things: similarities, differences, and surprises. If you don't have multiple chalkboards or whiteboards, or if you want to hold on to the comments for later reference, use several pieces of butcher paper or chart paper instead of the chalkboards or whiteboards.

For 5th grade student-teacher Heather Berrier, a Chalkboard Splash was a way to wrap up her lesson on Paul Revere's historic engraving of the Boston Massacre. After analyzing the event from two different points of view, students were asked to select a spot on the whiteboards and sum up their viewpoint with a Quick-Draw of their own engraving. Before students took their seats, they walked around to look at the various drawings representing their classmates' different points of view. In the classroom of 5th grade teacher Mike Pyle, the whiteboards were labeled with the names of five different characters from a historical novel

being read in class. After students analyzed character traits in small groups, they were asked to write these under the whiteboards that were designated for each character. Similarities and differences were discussed as students explained their reasoning for choosing specific character traits. Chalkboard Splashes provide a quick way to debrief student responses, Quick-Draws, or brief Quick-Writes.

We absolutely love Chalkboard Splashes and use them repeatedly at the university level. They give a community-of-learners feel to whatever we teach as students find themselves genuinely interested in what their peers wrote. They are perfect for times when you want to get a feel for how every student in the class would respond to a question.

How It Works

1. Create a sentence starter, prompt, or question for which you would like all students to see all of their peers' responses (these can also be used with brief Quick-Writes and Quick-Draws).
2. As students generate responses, ask them to copy their responses onto random or designated places on the chalkboards, whiteboards, or chart papers.
3. Debrief by asking students to walk around, analyze, and jot down similarities, differences, and surprises, perhaps using a form such as that shown in Figure 4.3.
4. Ask students to get into small groups and share what they noticed in terms of similarities, differences, and surprises, before asking for volunteers to share.

Figure 4.3
Chalkboard Splash Debriefing Form

Similarities	Differences	Surprises

How to Ensure Higher-Order Thinking

Chalkboard Splashes are great for addressing the big picture and the relevance factor with whatever topic you are teaching. For example, you may want to periodically use Chalkboard Splashes to address the following prompt: "So what? Why is this important?" For example, what is the purpose for learning about Paul Revere's historic engraving? For Heather Berrier, it was to help students understand that Revere's was one of many views that was represented at the time and that has affected how we view history today. Guide students to analyze their peers' entries. What were the similarities, differences, and surprises? What new questions emerge from the similarities, differences, and surprises?

Pause to Apply

This activity works really well when Quick-Writes and responses to prompts are kept brief. In fact, we will often create a sentence starter and ask the students to complete the sentence in the form of a Chalkboard Splash. For example, after introducing a specific teaching technique in our university classroom, we asked students to reflect on the effect that this technique would have had on their own learning in the mathematics classroom during their K–12 experience. Our sentence starter was simply "In my own experience, the use of this technique would have . . . ." Students completed the statement by personalizing it. What sentence starters could you use in the form of a Chalkboard Splash that will help students personalize or see the relevance in what you are teaching this week?

Thumbs-Up When Ready and Processing Cards

Allowing students to take even a brief time to process their reflections to a prompt is critical if you want to get quality responses—especially if you have students with certain special needs or English language learners in your class. Here are two ways to read each individual's progress as the students process their reflections. Both techniques also serve as great unspoken reminders to students that they should all be in the process of reflecting on the prompt.

How It Works: Thumbs-Up When Ready

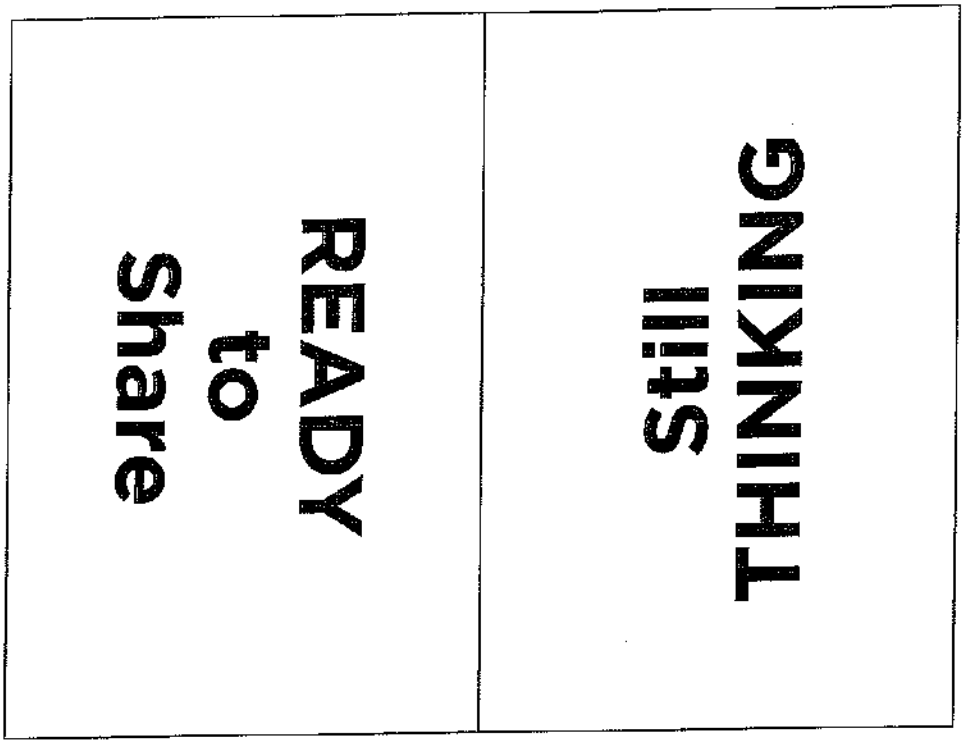
1. Ask students to reflect on your prompt.
2. Explain that when they have a thought, or are finished, they should put their thumb up as an indication that they are ready to move on.

3. Add a Pair-Share to allow time for students to share what they know.

How It Works: Processing Cards

1. Give students Processing Cards (see Figure 4.4). Processing Cards are index cards, laminated cards, or printed papers folded into "tents" that on one side say "Still Thinking" with a yellow highlight or a picture of a yellow circle or square, and on the other side say "Ready to Share" with a light-green highlight or a picture of a green circle or square.
2. Ask students to place the card on the edge of their desk, with the side that says "Still Thinking" facing up or out.
3. As soon as students have completed their task, they should flip the card over so that the side that says "Ready to Share" is facing out or up.
4. Decide on an in-between activity that gives students who finish early an opportunity to apply or extend their learning.

Figure 4.4
Processing Card



How to Ensure Higher-Order Thinking

Your prompt or task will determine whether or not this activity requires lower-order or higher-order thinking skills. Ask students to justify their responses and to give the basis for their justification. For example, are they justifying responses based on personal experiences or learned concepts? Depending on the activity, both may be valid.

Pause to Apply

Thumbs-Up When Ready is useful for quick activities in which the wait-time between the beginning and the end of the processing might be as short as two to three minutes. The Processing Card is useful for activities that take significantly longer, especially for when a final wrap-up activity depends on all students having completed a certain task. The Processing Card is one of the suggested items to include inside a TPT folder (see Chapter 3). Having the cards in a folder eliminates the need to pass them out when you need to use them.

Similes

Similes compare two unrelated things. For example, a simile using the topic of TPTs might be "TPTs are like safety nets in that they each protect students from falling through the cracks." Similes can provide opportunities for abstractly portraying the big picture of concepts in a way that sums up their meaning. To use similes after a teacher-directed presentation, teachers can ask students to make a connection between the topic they're studying and something unrelated. This activity will need to be modeled and scaffolded by first providing examples of similes and asking students to explain why the simile might be true. For example, a teacher might ask students to complete the following statement: "Adaptations are like bank accounts in that ___." Or after modeling the activity several times, a teacher can ask students to create their own simile. For example, a teacher might say something like this: "We've been talking quite a bit about Thomas Jefferson today. I want you to think about and jot down a simile using something you learned about Thomas Jefferson. Thomas Jefferson was like ____ in that ____."

How It Works

1. Create similes using some of the topics you are studying.
2. Ask students to formulate an explanation for how the simile might be true.

3. Ask students to share with their partners in small groups or in a Chalkboard Splash so that all can see.
4. After similes have been modeled a few times, ask students to create their own similes based on the topics they are learning about.

How to Ensure Higher-Order Thinking

By creating similes or explaining them, students are being asked to compare components within both items. In doing so, they are analyzing the topic for which you've asked them to create a simile. This activity takes just a few minutes and can ensure that students are understanding the intricacies or the big picture of whatever you're teaching. Try to come up with your own similes for what you are teaching soon, and see if the students can develop explanations for how the statements might be true. Their reasons may be different than what you originally intended to be the rationale behind the simile, but if their reasons make sense, students have just participated in analyzing the concept you have taught. In other words, they have engaged in higher-order thinking.

Pause to Apply

What are you teaching soon that lends itself to the creation of a simile? Do any similes naturally pop in your mind when you're thinking about a particular topic? If so, use them to prompt further connection-making among your students. Consider reserving a spot on your bulletin board, whiteboard, or chalkboard for the following cloze sentence: "[Topic] was like _____ in that _____." On bulletin boards, add the topic using a separate piece of paper or sentence strip. Or if you are using chalkboards or whiteboards, simply fill in the topic. This is a quick way to allow your students to make analogies between what has been learned and something unrelated.

8 Ranking

Ranking is an activity that requires your students to analyze components of the concepts that you are teaching and then justify their reasons for assigning rankings. It can be done on the spot, or it can be carefully planned to allow for more thorough analysis. For example, after teaching about the causes for the American Revolution, a teacher might list the events studied and ask the students to rank them in order of most important to least important in leading to the American Revolution. Keely Potter and Meghan Babcock used the Ranking activity with quotes from Kate

DiCamillo's book *The Tiger Rising*. They asked students to rank the quotes in order of most descriptive to least descriptive in describing the relationship that was developing between Sistine and Rob. Students were asked to cut the quotes from a handout, paste them in order of significance, and then write out their rationale for selecting the order they chose (see the example in Figure 4.5). When analyzing students' explanations for their rankings, Potter was highly impressed with the way that one student moved from literal interpretation to an understanding of symbolism. "She's plugging in pieces of the color symbolism. This is the first time she's used it. I think it's through the ranking where they're manipulating the quotes and taking the words out of the book. What the ranking does is it triggers noticing the specifics, moving it, and then changing your mind." Ranking requires analysis and evaluation. In the example from *The Tiger Rising*, students were being asked to analyze the specifics in each quote, determine its weight in terms of describing a developing relationship, and then defend their choice.

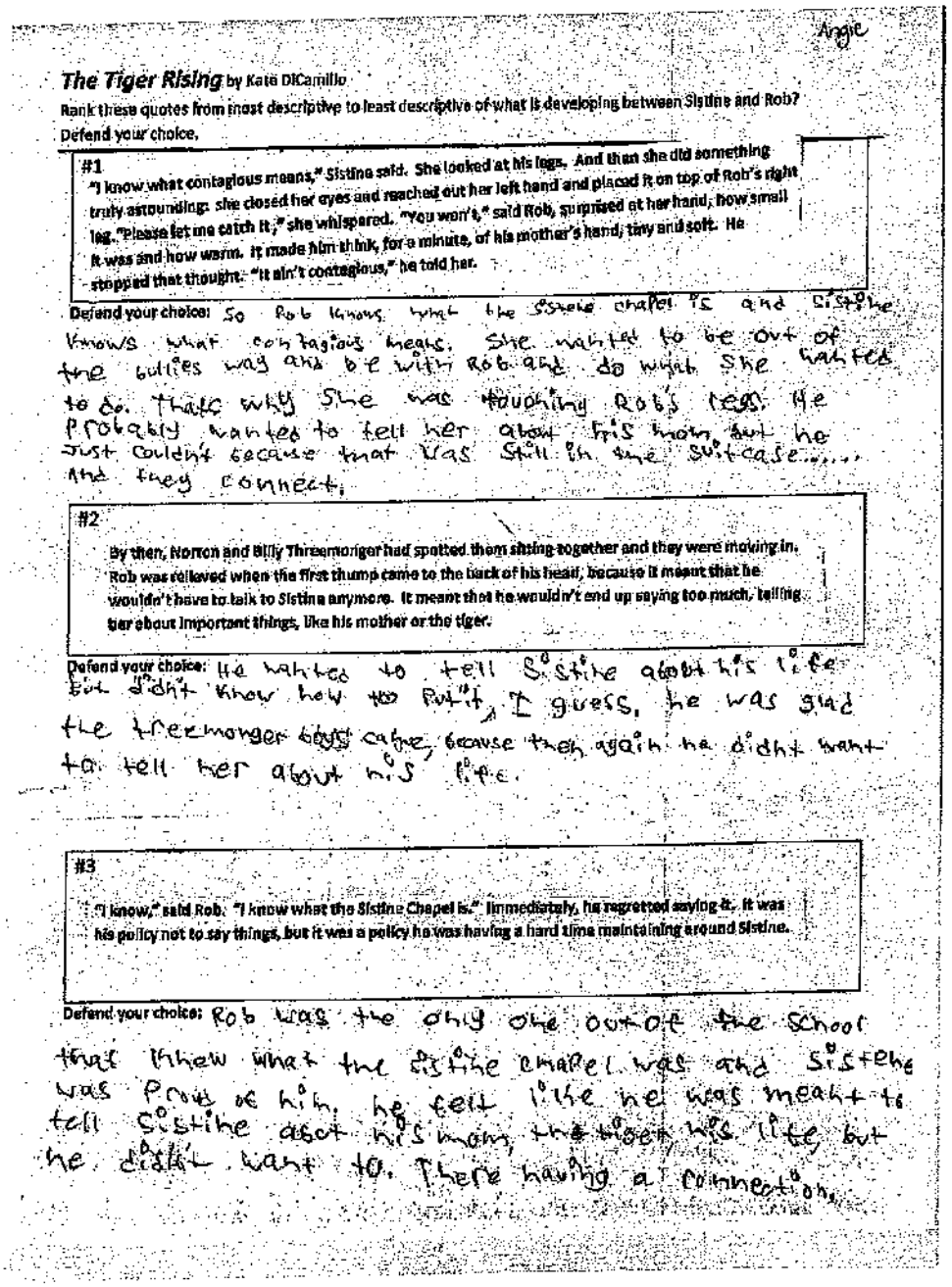
Ranking can also be used to help students synthesize and analyze what they've learned. After her students learned about the moon and space travel, 6th grade teacher Julie Wash provided them with a list of 15 random items such as matches, an oxygen tank, water, an inflatable life raft, dehydrated foods, flares, a pistol, and a parachute. In small groups, students ranked the objects that they would take based on each item's usefulness if students were going to travel to the surface of the moon. The activity triggered conversations involving what would be needed for matches to work, and whether or not these would be useful to take based on what the students knew about the moon. According to Wash, "The discussion that ensues from the ranking is beautiful because you're forced to make a decision."

How It Works

1. Select items, concepts, steps, events, descriptive paragraphs, or other things that can be analyzed and ranked within your unit or lesson.
2. Ask students to rank them according to specified criteria.
3. Ask students to provide a justification for the way that they chose to rank the concepts.
4. If students are working on their own, allow them to pair-share or network (see "Networking Sessions" in Chapter 6) regarding how they ranked items and how they justified their rankings. Allow them to process what their peers shared and to change the order of their rankings if they've had a change of heart based on new information.

Figure 4.5

Angie's Rankings for *The Tiger Rising*



Angie

The Tiger Rising by Kate DiCamillo

Rank these quotes from most descriptive to least descriptive of what is developing between Sistine and Rob? Defend your choice.

#1

"I know what contagious means," Sistine said. She looked at his legs. And then she did something truly astounding: she closed her eyes and reached out her left hand and placed it on top of Rob's right leg. "Please let me catch it," she whispered. "You won't," said Rob, surprised at her hand, how small it was and how warm. It made him think, for a minute, of his mother's hand, tiny and soft. He stopped that thought. "It ain't contagious," he told her.

Defend your choice: So Rob knows what the Sistine chapel is and Sistine knows what contagious means. She wanted to be out of the bullies way and be with Rob and do what she wanted to do. Thats why she was touching Rob's legs. He probably wanted to tell her about his mom but he just couldn't because that was still in the suitcase..... And they connect.

#2

By then, Norton and Billy Threemonger had spotted them sitting together and they were moving in. Rob was relieved when the first thump came to the back of his head, because it meant that he wouldn't have to talk to Sistine anymore. It meant that he wouldn't end up saying too much, telling her about important things, like his mother or the tiger.

Defend your choice: He wanted to tell Sistine about his life but didn't know how to put it, I guess, he was glad the Treemonger boys came, because then again he didn't want to tell her about his life.

#3

"I know," said Rob. "I know what the Sistine Chapel is." Immediately, he regretted saying it. It was his policy not to say things, but it was a policy he was having a hard time maintaining around Sistine.

Defend your choice: Rob was the only one out of the school that knew what the Sistine chapel was and Sistine was proud of him. he felt like he was meant to tell Sistine about his mom, the tiger, his life but he didn't want to. There having a connection.

How to Ensure Higher-Order Thinking

To ensure higher-order thinking, always require that students justify their reasoning. When students in Potter and Babcock's class were asked to rank, they were also asked to justify the reasoning behind their rankings. Students brought out deep metaphorical relationships that were embedded in DiCamillo's book. Even though the use of the concepts of "color" and "suitcase" were not referred to in any of the selected paragraphs, several students pulled out metaphors that had been used earlier in the book to explain their rationale for their rankings. Sixth grader Emily explained her rankings in this way: "He had his suitcase open, but now it's closed. . . . He got to see things in color for once, not blank. He opened his suitcase and got rid of the 'not-thoughts' for a second." Hannah, another 6th grader, described the bullying by two characters in this way: "Those are the gray actions that help close the suitcase, because the blue sorrow of his mom and the orange curiosity of the tiger almost came out." Students made connections to earlier symbols and metaphors used throughout the book and in book-related lessons. Ranking, and the justification of rankings, requires that students review and then analyze learned concepts together, a higher-order thinking process. Students have to understand concepts beyond the literal in order to effectively justify their rankings.

Pause to Apply

Ranking is one of those activities that would work well in classes from preschool to college physics. What units will you be teaching over the next few weeks that would lend themselves well to the Ranking TPT? Think about analysis as a cognitive process. What would you like your students to analyze within the concepts that you're teaching? Would Ranking be a beneficial way of getting the students to consider *most important* to *least important* concepts learned? Or, depending on your content area, students can rank the *most to least influential, essential, changed, affected, likeable,* or other rankable features of the concepts or characters presented. Consider polling the class or creating a class bar graph of ranked concepts. Use the results as a spin-off for small-group discussions and then a whole-class debriefing.

Numbered Heads Together

Numbered Heads Together (Kagan, 1989/90) allows all students to be held accountable for being able to relay information that was learned during a group

activity. It is a way of ensuring participation and cognitive engagement during such an activity. It is also useful for randomly assigning roles to students within groups.

How It Works

1. Before asking the group to begin their activity, ask them to count off, so that each group member is assigned a number (for example, one through four).
2. It's a good idea to confirm student numbers by asking all of the Ones to stand, then all of the Twos, then all of the Threes, and all of the Fours. This will avoid the problem of numbers not being assigned or being assigned twice within each group. It will also help avoid the possibility of students swapping numbers.
3. Inform the students that all group members will need to be able to present their group's information. Wait until after all group work is completed before informing students of the student number that will be presenting.
4. During the debriefing portion of the activity, call out the number for the team member who will be presenting for the group. Because they don't know in advance which person in their group will be presenting the information, all group members are equally responsible for knowing the information discussed, as well as making sure that their peers know it equally well.

How to Ensure Higher-Order Thinking

Steps for ensuring higher-order thinking will depend on the activity that you choose to do once partners meet. For example, if you are choosing to create groups of four for a Hold-Up, then refer to the Hold-Up activity description (see Chapter 5) for ideas on how to ensure higher-order thinking.

Pause to Apply

Fifth grade teacher Mike Pyle has preassigned numbers according to where students sit. He regularly uses this technique to assign students their roles. Often students themselves would make sure the assigning of roles was equitable. For example, during an observed lesson, a student took the liberty of informing his peers, "Number Three gets to write. Number Two got last time." This activity can

easily be made a staple in classrooms by numbering chairs or desks or simply asking students to count off and write down their numbers. How might you use Numbered Heads Together as a regular staple in your classroom?

Thumb Up/Down Vote

Thumb Up/Down Vote is another one of those quick TPTs that many teachers use frequently. It is simply a yes/no vote with students putting their thumb up if they agree and down if they disagree. This simple TPT provides teachers with a quick reading of the class. Thumb Up/Down Votes are hands-down the easiest on-the-spot TPTs.

How It Works

1. Ask a question for which a yes/no or agree/disagree response is appropriate.
2. Ask students to put their thumb pointing up if the answer is yes, or if they agree. Ask students to put their thumb pointing down if the answer is no, or if they disagree. You can also give in-between options (for example, thumbs sideways if they're not sure).
3. Don't forget to follow through. If you ask students to vote, don't move on until they all have done so.

How to Ensure Higher-Order Thinking

Link your Thumb Up/Down Votes with a quick Pair-Share in which students justify their rationale for voting the way that they did. Add the in-between options. Rarely is anything black or white. Allow students to put thumbs at an angle or sideways to take the middle road. Practice creating statements that can be either true or false depending on the rationale. The key is that students be able to justify why they selected the response that they selected, even if it was a neutral response.

Pause to Apply

We use this technique regularly in the university setting. We will often present two sides of an argument and ask students to vote on whether they agree or disagree with each side. Or we will prepare a true/false statement (that can be either true or false depending on the justification used) and ask students to take a side. After allowing a brief time for students to justify their reasoning in small

groups, we'll ask for volunteers representing the various votes (thumbs up, down, and sideways). With this activity it is important to remember to follow through by waiting for all to vote. We notice that even in college, some students will wait to see whether or not you're going to hold them accountable for voting before they'll actually commit to a vote. As you think about getting evidence of processing concepts being learned, consider creating true/false statements that can use Thumb Up/Down Votes to get students interested in a topic that has been introduced or that you will be introducing.

5

TPT Hold-Ups

When I'm creating my activities, I'm thinking, "How am I going to make sure that everyone has a part in what we're doing?" Because if you don't actively think about it, then it's not going to happen.

—Liz Lubeskie, 8th grade history teacher

TPTs in This Chapter:

1. Selected-Response Hold-Ups
2. Number Card Hold-Ups
3. True/Not True Hold-Ups
4. Multiple-Choice Hold-Ups
5. Whiteboard Hold-Ups

Hold-Ups (Himmele & Himmele, 2009) are interaction-based activities that use response cards. In these activities, students interactively reflect on a prompt and hold up a card, paper, or whiteboard in response. Studies indicate that response cards are useful for improving participation and on-task behavior (Wood, Mabry, Kretlow, Lo, & Galloway, 2009); improving students' performance and participation in K–12 settings (Christle & Schuster, 2003; Lambert, Cartledge, Heward, & Lo, 2006); and improving participation, performance, and positive feelings toward their class at the university level (Clayton & Woodard, 2007; Musti-Rao, Kroeger, & Schumacher-Dyke, 2008). Munro and Stephenson (2009) found an added benefit in that when response cards were used, the teacher provided more feedback toward responses as compared to traditional hand-raising. In a meta-analysis of 18 studies on response cards, Randolph (2007) found that the use of response cards increased student participation, improved student achievement on quizzes and tests, and decreased disruptive behaviors.

Hold-Ups: An Overview

Unlike in other chapters, where each technique is presented along with steps for How It Works, How to Ensure Higher-Order Thinking, and Pause to Apply, in this chapter we describe the steps for conducting Hold-Ups only once. We do so because all of the Hold-Ups essentially work the same way, except for a variation in what is being held up. We explain the variations separately.

We have discovered that the most essential component to the Hold-Up is the interaction. Students learn a great deal from each other through their interactions. When students hold up different cards, use it as a thinking opportunity for the groups. Let the students explain their thinking to each other, and then do a revote. If students express blatant misconceptions, then insert a quick minilesson before doing a revote. Be careful not to shoot students down. Often you can help students come to alternate conclusions with a simple statement such as "Tell me more," or a gentle question such as "I see where you're going with that, but is that always true?" For your classroom to be conducive to TPTs, students need to feel safe taking risks. So be sure to validate students through the words you use as well as your facial expressions and body language. When you say something like "I love it! We are growing and learning so much today" after a lively disagreement between teams, it helps students understand that wrong answers are part of the journey in learning.

How They Work

Each Hold-Up works generally the same way:

1. Ask the students to think about and discuss their responses to a set of prepared questions.
2. Before students hold up their cards, have them pair-share or confer in small groups. They should not hold up their cards until told to do so.
3. Say "Hold it up."
4. Students hold up their cards. Select students to share their group's rationale for their choice.

How to Ensure Higher-Order Thinking

Move away from simply looking for the right answer. Use wrong answers as teachable moments, and try your best not to provide quick answers for students who hold up the wrong card. Instead, provide students with an opportunity to explain their thinking, hear opposing responses, and come to their own

conclusions through a revote. If students are still not understanding, then use that opportunity to reteach the concept while the students are invested in knowing what the right answer should be.

It is important that you intentionally create and embed questions requiring higher-order thinking in your Hold-Ups. Use questions that require students to analyze and make connections between the various components inherent in the concepts you're teaching. Use questions that have no easy answers (see the example using the three branches of government described in the Selected-Response Hold-Ups section). Get students used to defending their responses, especially those that require higher-order thinking.

Pause to Apply

As you read the descriptions of the various types of Hold-Ups, be thinking about which of your curricular aims would lend themselves to a Hold-Up. Students seem to love Hold-Ups, perhaps because the activity feels somewhat like a game. Students love to form a huddle in small groups, hold up their cards, and defend their choices. The discussion that takes place as students work together is especially meaningful when concepts are complex, with no easy answers. You'll find that students teach each other as they explain their rationales for their choices. Think about how you might use a Hold-Up over the next couple of weeks to review material and to ensure comprehension of important concepts taught.

Combine a Hold-Up with the Numbered Heads Together (Kagan, 1989/1990) strategy to keep all students accountable (see Chapter 4). For example, you might say, "I would like person Number Three to explain why your team chose that response."

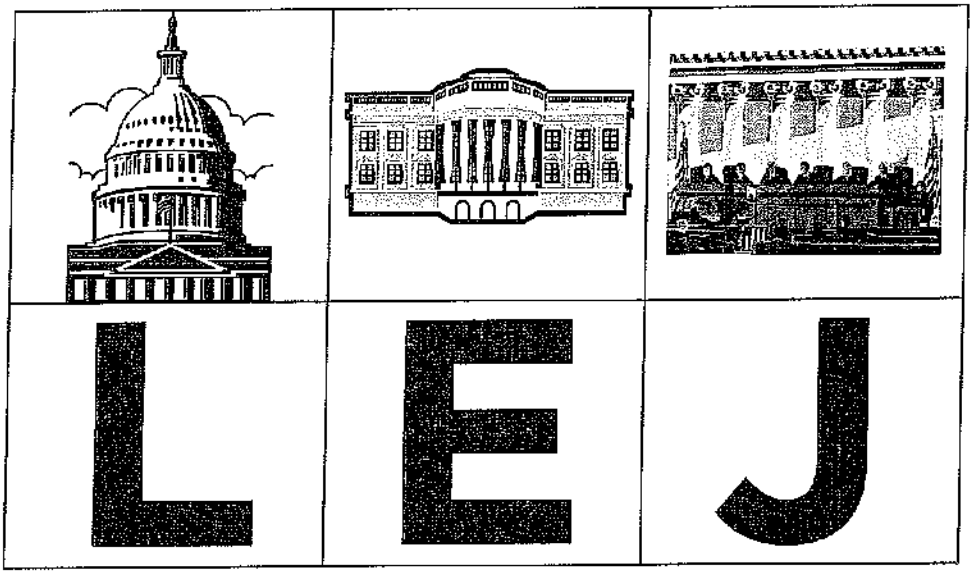
Selected-Response Hold-Ups

Selected-Response Hold-Ups use a selection of relevant choices that are prepared beforehand. Students hold up cards (for example, *Fact* or *Opinion*) as they relate to specific prompts or questions. For very young students, words alongside pictures of facial expressions, seasons, or even simple yes/no cards can be used effectively to cognitively engage all learners. For a lesson on the three branches of government, hold-up cards might include the three initial letters *L*, *E*, and *J*, representing the Legislative, Executive, and Judicial branches of government (see Figure 5.1). Here are some examples of prompts that a teacher might ask for a Hold-Up activity on the three branches of government:

- Which branch is also called "Congress"? (lower-order thinking)
- Which branch has people who are appointed by the president and approved by the Senate? (lower-order thinking)
- Which of these three branches would you say plays the biggest role in ensuring a balance of power? Be ready to defend. (higher-order thinking)

Note that the final question takes students to higher-order thinking and requires that they demonstrate a thorough understanding of the interrelationships between the three branches of government. Not all students would agree on the final answer. But the last question would allow for further exploration through researching (perhaps via e-mail) opinions from local community members such as high school teachers, university professors, politicians, people working in the justice system, parents, and any others who indicate an interest in government. Unsolved higher-order questions could be used as a spin-off for highly engaging classroom projects. Consider getting a free e-mail address for your class so that you can bring to your classroom the wealth of understandings present within the larger community (and to protect students from giving out their own e-mail addresses to strangers).

Figure 5.1
Selected Response Hold-Up



Number Card Hold-Ups

If you teach mathematics, consider providing students with one to three decks of number cards (0–9) paper-clipped together and kept in their TPT folders (see Figure 5.2). The number of decks that you will need depends on the activities and the ages of the students you teach. Number Card Hold-Ups offer an added bonus in providing students with increased exposure to vocabulary specific to mathematics. Just for the purpose of visualizing these Hold-Ups, consider the different grade-level curricular aims that could be met using the numbers 3 and 9:

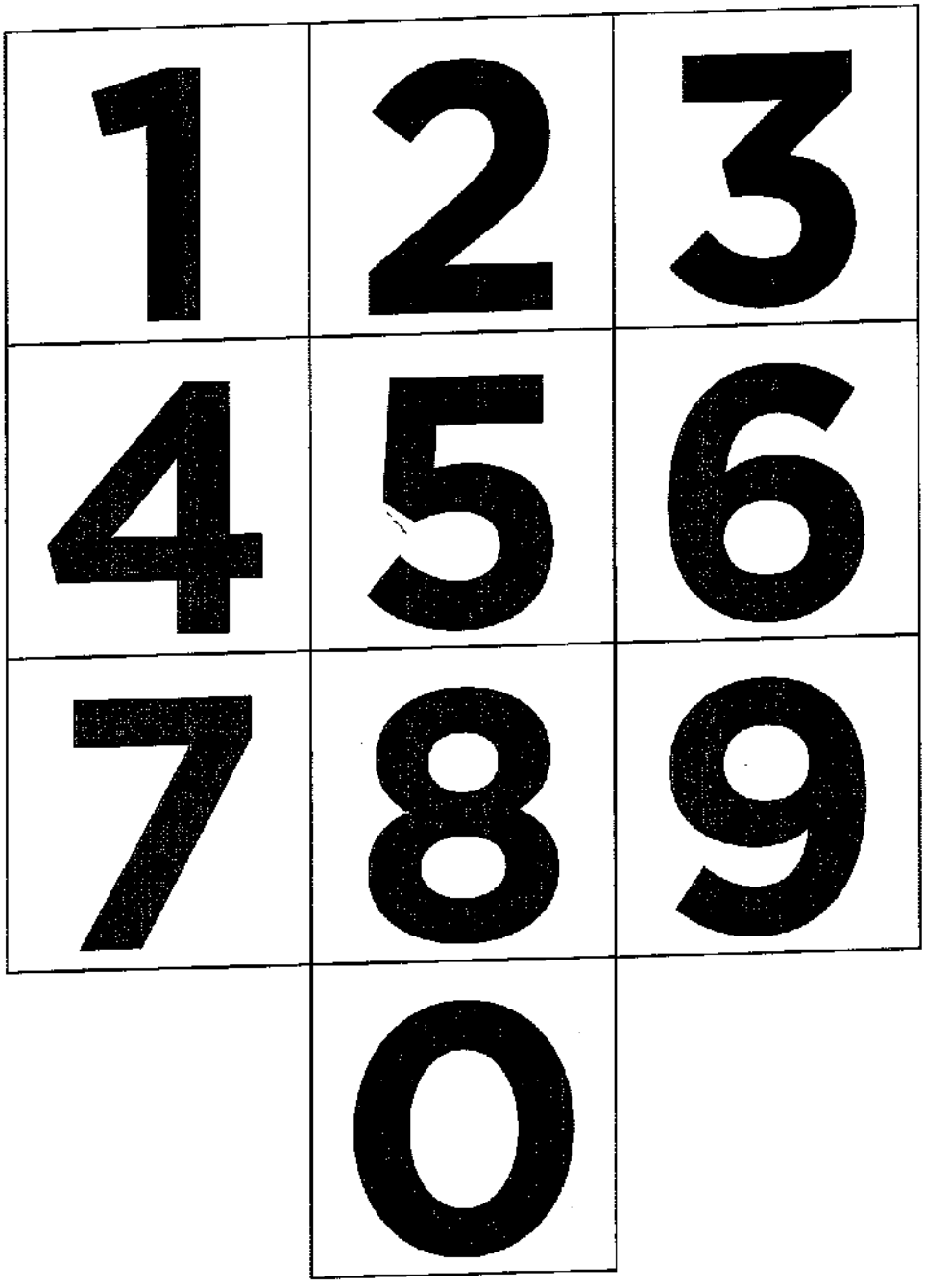
- Which number is greater?
- Which of these numbers is the least in value?
- What is the sum of these two numbers?
- What is the difference in these two numbers?
- What is the product of these two numbers?
- What are the common multiples?
- Which is a prime number?
- What are the common factors?
- What is the greatest common factor?
- What is the least common multiple?

If you teach in the elementary grades, also consider including a laminated "100 chart" (showing all numbers from 1 to 100) in your TPT folders. With dry-erase pens, or a crayon and napkin, students could circle responses while they look for prime numbers or composite numbers, look for patterns when finding common multiples or common factors, or skip count. If the charts are laminated, dry-erase markers and crayons will wipe off easily. We find that the 100 charts are very useful for helping children visualize and develop their number sense.

True/Not True Hold-Ups

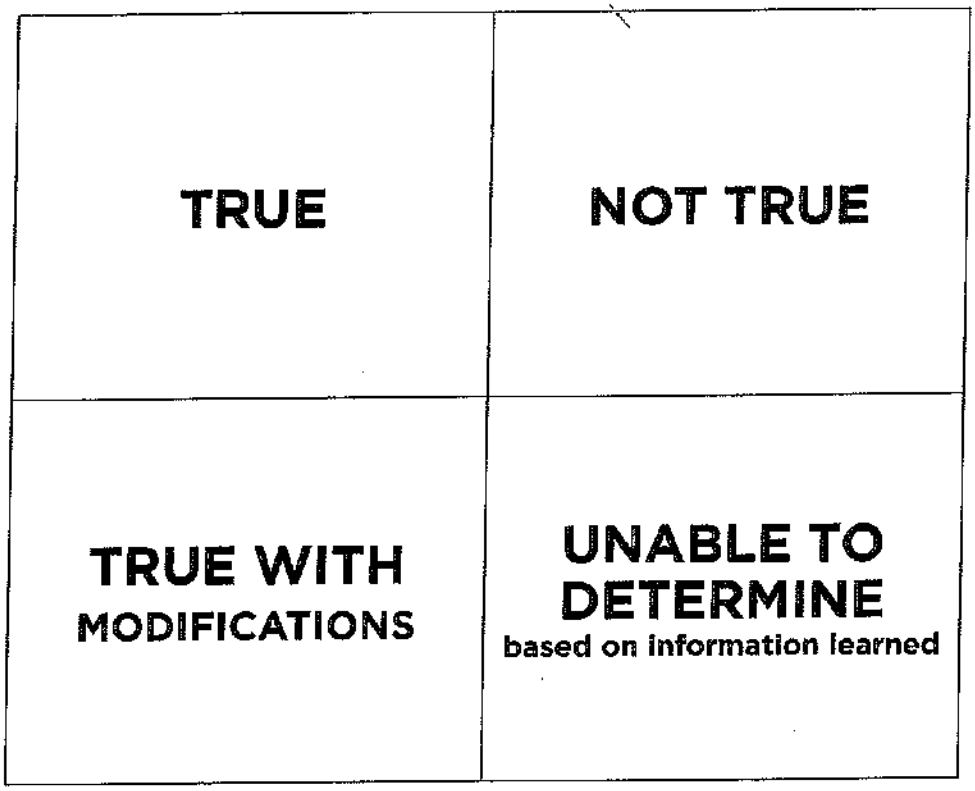
The True/Not True Hold-Up (Himmele & Himmele, 2009) can be used within all content areas. Again, it allows students to interact and come to a consensus on whether a content-based statement is *True*, *Not True*, *True with Modifications*, or whether students are *Unable to Determine* the truth using what they have learned so far (see Figure 5.3). Consider using student predictions or students' own true/false statements as the basis for the True/Not True Hold-Ups. With carefully created statements, these Hold-Ups can really lead students to understanding the

Figure 5.2
Number Cards



importance of critical analysis. Because very few things in life are black and white, many responses actually end up being true with modifications—especially in the social studies content area, where history is subject to historians' personal perspectives. The more students participate in these Hold-Ups, the more careful they become about analyzing statements beyond simple black-and-white representations. For example, consider the following prompt: "The American Revolution was caused by the British taxation of the Colonists." Students have to really think about that statement. Is there a way to modify the statement to make it more true? By thinking through peers' proposed exceptions, students start expecting and thinking through exceptions, and they take into account the subjectivity of perspective. When appropriate, students can then edit the statements in groups, so that the statements clearly fit into the *True* category. You can also have students

Figure 5.3
True/Not True Hold-Up



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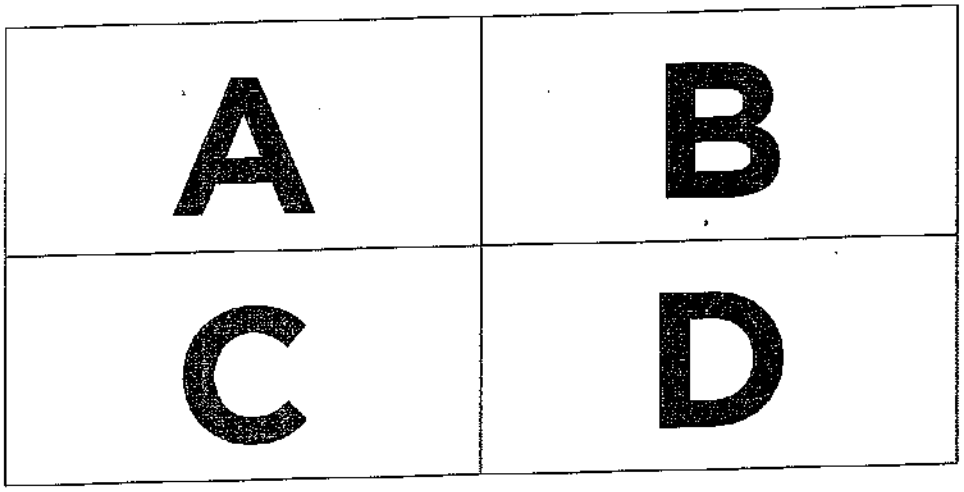
write the statements on sticky notes to be attached to a chart-paper graphic with four quadrants, labeled *True*, *Not True*, *True with Modifications*, and *Unable to Determine*. As the class votes, the sticky notes can be placed in the corresponding places on the graphic. Any sticky notes that go in the *True with Modifications* quadrant can be edited by the students. As you continue your unit, you can revisit the statements days later, reviewing what was learned or checking to see if students still agree with the statements' placement in the quadrants. The statements that were placed in the *Unable to Determine* quadrant can be revisited as students learn new information.

Multiple-Choice Hold-Ups

This simple Hold-Up option requires that you create and project questions from an overhead onto a screen or a smartboard. Students make a choice, confer with their peers, and at your signal hold up their choice of *A*, *B*, *C*, or *D* (see Figure 5.4). The letters are assigned to specific options written on the board, depending on whatever concepts you are hoping to teach. The letter cards can be used over and over again because the options will change with each topic you're presenting. What is different about a Multiple-Choice Hold-Up compared with a worksheet or a multiple-choice test is that you can create questions that require students to apply a skill or come to different conclusions and still be right. For example, "Which would you say would be the most practical unit to use in measuring your pet?" The most practical unit depends on the pet. Or they can analyze, come to different conclusions, and still be right based on their own rationales. For example, "Which of these government systems would you say leads to a more peaceful society?" The answer depends on how each student defines a "peaceful society" and the examples used to defend the choice.

Multiple-Choice Hold-Ups can also work well when you want to do an impromptu Selected-Response Hold-Up. For example, with the earlier example using the branches of government, you could simply assign the choices for each of the three branches of government, writing the choices on the board so that students don't forget the letters assigned to each option. Students then would hold up the letter—*A*, *B*, or *C*—that corresponds with their answer. If you have three options, adding *None of the Above* is often an effective way of allowing yourself the opportunity to throw in options that, when carefully analyzed, don't fit any of the choices. In answering *None of the Above*, students have to really understand the components in each of the choices. As we mentioned at the start of the chapter,

Figure 5.4
Multiple-Choice Hold-Up



what makes any of the Hold-Ups meaningful is the interaction that ensues as students analyze and debate their choices and defend their rationales for selecting their choices.

Whiteboard Hold-Ups

The use of individual student whiteboards has become widespread in modern-day classrooms. The benefit in using whiteboards for Hold-Ups is that the possibilities for choices of response are much wider. Students can practice initial sounds, or write their thoughts, or show their work in mathematical problem solving. Students then hold up their whiteboards for analysis by the teacher. If you don't have whiteboards in your classroom, you can easily create your own by laminating a light-colored sheet of construction paper. When students use dry-erase markers on these, the answers wipe right off. Laminated construction paper whiteboards are one of the items that we recommend including in student TPT folders. Another creative way of making your own whiteboards is to purchase white plastic disposable plates, which also allow for easy removal of answers written with dry-erase markers. Yet another, more permanent option involves purchasing a large shower board with a glossy finish at a home improvement store and getting it cut into smaller pieces to make a class set of individual whiteboards.

6

TPTs Involving Movement

TPTs in This Chapter:

1. Line-Ups and Inside-Outside Circles
2. Three 3's in a Row
3. Networking Sessions
4. Categorizing and Sorting
5. Appointment Agendas
6. Bounce Cards
7. Mouth It, Air-Write It, or Show Me Using Your Fingers
8. Acting It Out, Role-Plays, and Concept Charades
9. Simulations
10. Cut-and-Pastes
11. TPTs During the Read-Aloud

Kids need to interact, they need to process. They need to just pause, think about it, write about it, talk about it, and celebrate it. It's all about celebrating the learning that is happening right now in my head.

—Keely Potter, reading specialist

Have you ever noticed how getting up and active gives you more energy to do whatever it is you need to do? Consider a workshop or staff development session where you are so disengaged that your mind is drifting in and out of consciousness. As soon as you are asked to get up and physically do something with what you're learning, you forget how tired you were. Brain researcher David Sousa says there's a biological reason for that reaction. According to Sousa (2006), "The more we study the cerebellum, the more we realize that movement is inescapably linked to learning and memory" (p. 231). Sousa's review of the literature leads him to conclude that—

> physical activity increases the number of capillaries in the brain, thus facilitating blood transport. It also increases the amount of oxygen in the blood, which the brain needs for fuel. The concentration of oxygen affects the brain's ability to carry out its tasks. Studies confirm that higher concentrations of oxygen in the blood significantly enhanced cognitive performance in healthy young adults. (p. 232)

Sousa's insights can be summed up by what Bill Himmele's father used to say: "The mind can only absorb what the seat can endure." In light of what we know

from brain research (and from Bill's dad), some form of movement ought to be a staple in every lesson we teach. Sousa suggests that "at some point in every lesson, students should be up and moving about, preferably talking about their new learning" (p. 233).

This need for movement may be even more important for boys than it is for girls. According to Gurian and Stevens (2004), "Boys earn 70 percent of Ds and Fs and fewer than half of the As. Boys account for two-thirds of learning disability diagnoses. Boys represent 90 percent of discipline referrals . . . 80 percent of high school dropouts are male" (p. 24). To support learning for boys as well as for girls, Gurian and Stevens recommend that schools "make lessons experiential and kinesthetic" (p. 25). The importance of this principle was evident in Carrier's (2009) study in which boys demonstrated significantly higher scores in an outdoor environmental education program as compared to a traditional classroom. Both boys and girls improved in knowledge, but boys improved considerably in other areas as well, including in their behaviors and attitudes.

The fact that most literary activities are done silently while sitting for long periods of time is a recipe for disengagement for our young men. Girls consistently score higher in reading than do boys in 4th, 8th, and 12th grade National Assessment of Educational Progress (NAEP) reading tests. According to Klecker (2005), "The 'child left behind' in reading is very likely to be male, with the achievement gap growing the older the students get" (p. 2). King and Gurian (2006) described one school's attempt at bridging the achievement gap between the boys and the girls. By making an effort to create *boy-friendly* classrooms, the school was able to bridge its boy-girl achievement gap within one year. Interventions included student-manipulated word cards placed across the classroom floor to learn grammar and the use of storyboards with or without words to retell stories. Girls' performance also improved, so the interventions were not at their expense.

Whether it be for the sake of the linkages between movement and memory, or for the sake of gender or other learner differences, the use of movement within your lessons can enhance learning for your students while providing you with evidence of active participation and cognitive engagement. In this chapter, we present Total Participation Techniques that use movement. For these activities, students will be manipulating objects or be out of their seats, interacting and processing their learning together.

Line-Ups and Inside-Outside Circles

A Line-Up is a fun activity that allows students to get out of their seats and share responses to prompts with a variety of people in the classroom. Line-Ups and Inside-Outside Circles (Kagan, 1989/90) are variations of the same activity. Your choice of which would work best depends on your room set-up, because both activities do essentially the same thing. Each allows for your students to be randomly paired with several peers during the length of the activity. The first time you do a Line-Up, students may be a bit confused, but once they figure out how to do it, subsequent Line-Ups should run smoothly.

How It Works

1. Prepare questions or prompts that allow for discussion by a pair of students. When we do this activity, we usually allow time for students to see the questions, jot down notes, and bring their books to the Line-Up to use as a reference.
2. Ask students to stand in two parallel lines of the same length, or in two concentric circles. Ask students to turn and face the person across from them in the line or opposite them in the circle. You may choose to do an Inside-Outside Circle if you have a large class and students can more easily interact in circles.
3. Ask students to refer to their first prompt and take turns talking it over.
4. Ring a bell or use a signal to get everyone's attention. Ask students to thank their line-mate, and then ask only one of the lines or circles to move two steps to the left so that each person is now facing a different person.
5. As the students are interacting, be sure to move along the lines or circles, listening to student interaction. Doing so will give you a feel for the various levels of understanding as well as provide you with excerpts on which to focus a closing discussion with the larger group.

How to Ensure Higher-Order Thinking

Steer clear of literal or factual questions. Your Line-Up will be a guaranteed flop if your questions require only short answers. In Line-Ups, you want to hear the buzz of student conversations, opinions, and personal or content-based

judgments. Use questions and prompts that require discussion, connection-making, and a justification for student rationales.

As you write your questions, think about how the content the students are learning affects them as individuals, as well as the community and the world. What are the implications of the content on life in general? What are the unit's big ideas? Once you have your big ideas, start thinking about the components that lead you to your big ideas and generate prompts from those. Use question starters like these: "What are your thoughts about X? Explain why you feel this way." "In what ways has X affected Y?" Try to get students passionate about the topic without getting too personal or asking for feedback that is politically controversial.

Pause to Apply

In addition to offering the benefit of movement, this TPT is a wonderful on-the-spot option for when you want to debrief student responses to assigned prompts. Think about reflection questions that you have already planned or assigned in class or for homework. How might a Line-Up promote more reflection and interaction in the review of these questions? Rather than simply having students turn in their responses or do a Pair-Share, consider using a Line-Up as an alternative way to debrief your questions and prompts while allowing students an opportunity to get out of their seats and interact.

Three 3's in a Row

Three 3's in a Row (Himmele & Himmele, 2009) is an activity like Bingo, in which students interact with peers and get the peers' feedback on what they should write in the boxes of their template (see Figure 6.1). We absolutely love using this activity, for several reasons:

- Students choose to answer what they feel most comfortable with, allowing other students to get opinions from "peer experts."
- All students, whether expert or not, are required to process the concepts in each of the nine boxes. This outcome is ensured when you require that only the template owner be allowed to write on his or her own template. Each student has to capture what is stated by peers and summarize it in the box.
- It provides teachers with a quick assessment of what the students have learned well, and of what the students need help with. Teachers simply walk around and look for a trend in which boxes are still empty.

- It leads to great conversations that make use of critical thinking (when you ask the right questions).

Figure 6.1 is an example of a Three 3's in a Row activity that is based on the content of this book. If you're reading this book as part of a team, consider using it to spark discussions.

How It Works

1. Prepare nine questions based on the content being learned and type them in a Three 3's in a Row template.
2. Students walk around the room asking peers to explain one answer (only one answer) to them.
3. Students summarize their peers' responses in their box (see *Caution* below).
4. Students then find another peer to answer another question and repeat the process. Students can use any particular peer only once. This ensures that students are getting around to nine other people in the room.
5. Go over the answers as a class, by asking volunteers to share their responses.

Caution: Don't let students write in each other's template, or you'll end up with a passive game of pass-the-paper. Instead, by making sure that only the owner of the template can write in the box, you ensure that students are listening to each other, processing what their peers say, and summarizing it in each box.

How to Ensure Higher-Order Thinking

Your activity will only be as good as the questions you ask. Not all of your questions need to require higher-order thinking, but be sure to include some big questions that require students to analyze, synthesize, and evaluate components of the concepts. Think outside of the classroom. What are the implications of the concepts you are teaching for the larger world outside of the classroom, or for the personal worlds of students? Also, be sure to have students complete all nine boxes so that they don't select only questions that address lower-order thinking.

Figure 6.1

Three 3's in a Row

Find someone who can do or explain what's asked for in the box (one person per box). Ask the person to initial your box and tell you the answer. Then summarize the answer in your box. *Note: You are the only person who should be writing answers in your boxes.*

Provide a definition for Total Participation Techniques. Initials _____	Explain how you plan to implement at least two TPTs that are new to you within the next week. Initials _____	Discuss Paolo Freire's term "listening objects," using personal examples. Initials _____
Explain which TPTs, in your opinion, would do the most to ensure higher-order thinking. Initials _____	Discuss ideal ingredients for a TPT folder that could be used in your classroom. Initials _____	Describe an interesting experience with Total Participation Techniques, and discuss how it enhanced learning. Initials _____
Describe what you believe is the most essential ingredient in a TPT-conducive classroom. Initials _____	Describe how TPTs can lessen the achievement gap. Initials _____	Explain how TPTs might have helped you during your own schooling experiences. Initials _____

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Pause to Apply

This activity can provide a wonderful opportunity for students to interact regarding the content that you are teaching. It takes very little time to create and offers a great opportunity for students to review by sharing what each of them knows the most about. How might you use this activity for an overall wrap-up of the units you currently teach? Think about which questions you might ask in order to ensure higher-order thinking with your students.

Networking Sessions

A Networking Session (Himmele & Himmele, 2009) is a simple mix-it-up activity that allows students to talk to others to whom they would normally not talk. This activity is wonderful for helping students stretch out of their social comfort zone and for building community in the classroom. Because of the nature of the activity, all students always—regardless of their popularity—have someone with whom to talk.

How It Works

1. Prepare one to four prompts or questions. Ask students to reflect on or quick-write responses to the prompts.
2. Ask students to find someone with whom they have not yet spoken that day and discuss their responses to a teacher-selected prompt.
3. After a predetermined amount of time, ring a bell or otherwise signal the class to find someone else to whom they haven't spoken that day.
4. With their new partner, ask students to respond to a different teacher-selected prompt. Repeat the process until all prompts have been discussed.

How to Ensure Higher-Order Thinking

Use prompts and questions that require higher-order thinking. Go beyond factual questions and instead delve into the implications of the concepts for the world around us. Provide opportunities for students to personalize the responses by applying them to their own worlds. Ask students to defend responses based on learned information. On Bloom's taxonomy, this would be considered Evaluation.

Pause to Apply

This activity is wonderful when preplanned, but it can be implemented as an on-the-spot activity as well. On the spot, it provides students the opportunity to get out of their seats after they have been still for too long. It allows them to process and interact as they think through a prompt or question that may have originally been intended to wrap up your lesson or to guide you to your next topic. Consider implementing this activity during your next lesson. It is quick and can add energy to a lesson that you feel is in danger of dragging on.

Categorizing and Sorting

Categorizing and Sorting can be used to help students understand unique characteristics of concepts as varied as geometric shapes, prime and composite numbers, factors, multiples, and short- and long-vowel words. The interaction between students provides them with opportunities to see how items can sometimes be sorted in different ways and still be correct. History teacher Liz Lubeskie used a sorting activity to help 8th graders determine whether specific items would be considered strengths for the North or strengths for the South during the Civil War. Once the items were sorted, students had to articulate and record a rationale for why they selected the item as a Northern strength or a Southern strength.

In a language arts activity, Julie Wash prepared five piles of books for students to sort according to genre. After a brief content presentation, students worked in groups to sort books according to the specific genres described and then articulate a rationale for why the books should be considered to be of a certain genre. The activity was debriefed using the Numbered Heads Together strategy (Kagan, 1989/1990) described in Chapter 4. Students then individually sorted the list of books that they had read that year.

How It Works

This activity will look different depending on what you are sorting or categorizing.

- For categorizing, give students a specific number of items or a list of items. Ask them to sort them into like piles and create category titles based on the features inherent in the groups they made. Ask them to prepare a rationale for describing their category.

- For sorting, determine the names and features of the groups and provide students with items or lists to sort within these piles. Ask them to prepare a rationale for how they sorted.

How to Ensure Higher-Order Thinking

The process of Categorizing and Sorting lends itself to the analysis of components inherent in the concepts being taught. For example, for Lubeskie's students, the sorting of Southern and Northern strengths required an analysis of the content learned and a determination of which side benefited the most from a particular attribute. For Wash's sorting activity, students had to analyze the book's content and determine which genre best described it. Regardless of what you sort or what you use for student-created categories, ask students to prepare a rationale based on what they sorted or for how they categorized concepts or items.

Pause to Apply

What are you teaching soon that lends itself to analysis of specific features of concepts that you hope students will learn? Is there a topic that you are teaching that includes specific categories and characteristics of these categories that students should be able to identify? If so, consider using Categorizing and Sorting to help students understand the distinct features between the concepts that are being presented, and ask them to justify their reasoning for the way that they categorized and sorted features.

Appointment Agendas

This is a fun way to get students out of their seats and interacting with others throughout the classroom. Students create "appointments" with peers by writing each other's names in a specific time slot (see Figure 6.2). When the teacher selects a time, students meet up with the person indicated on their appointment schedule (Ball & Cerullo, 2004, p. 424).

How It Works

1. Provide students with a copy of an Appointment Agenda with various time-slot options.
2. Ask them to walk around the room and make "appointments" with various partners.

3. Both partners should select a time that is open and write each other's name in the time slot.
4. If someone remains without a partner, have that person triple up with an existing pair.
5. Once the agendas are filled in, you can use this as a pairing tool. For example, you can ask students to pull out their Appointment Agenda and find their 2:00 appointment and share their Quick-Writes or reflections to a prompt. To create larger groups, have students join the closest 2:00 pair to form a group of four.

Caution: Partners should appear only once on an agenda.

Figure 6.2

Appointment Agenda

Appointments	
Time	You have an appointment with—
8:00 a.m.	
9:00 a.m.	
10:00 a.m.	
11:00 a.m.	
12:00 p.m.	
1:00 p.m.	
2:00 p.m.	
3:00 p.m.	
4:00 p.m.	
5:00 p.m.	
6:00 p.m.	
7:00 p.m.	
8:00 p.m.	

Source: From *It Takes Courage: Promoting Character and Healthy Life Choices* (p. 424), by M. Ball and J. Cerullo, 2004, Harrisonburg, VA: Kerus Global Publishing. Copyright 2004 by Kerus Global Publishing. Adapted and used with permission.

How to Ensure Higher-Order Thinking

Steps for ensuring higher-order thinking will depend on the activity that you choose to do once partners meet. For example, if you are choosing to pair students for a ranking activity, then refer to the Ranking description (see Chapter 4) for ideas on how to ensure higher-order thinking.

Pause to Apply

Consider using this tool as a staple in your classroom. It is an item that we recommend be included in students' TPT-folders (see Chapter 3). Fifth grade teacher Courtney Cisio uses the Appointment Agenda on a regular basis. "They choose their first six appointments, and I choose the rest. When I pair them, I do it heterogeneously, and it is so cool because they have no idea. It gets them seeing 12 other people, rather than gravitating toward the same person time after time." You can add half-hour time slots to increase the number of possible pairings.

Bounce Cards

During the beginning of Keely Potter and Meghan Babcock's unit on imagery, metaphors, and symbolism, students struggled to get conversations started. The Bounce Cards (see Figure 6.3) evolved from a brainstorming session that we had in order to facilitate the discussion between students during that unit. These Bounce Cards went through a series of changes, becoming simpler and less wordy every time they were tried out. The Bounce Cards gave students, especially the more reserved students, something to say. As we circulated, we heard students using the sentence starters as they communicated with each other. During one lesson, Potter instructed the students to form small groups to discuss something about the reading. Without prompting, two groups of three students pulled out their Bounce Cards and moved their chairs into triads and began their animated conversation. It was beautiful.

How It Works

1. Select a student with whom to practice modeling a conversation for the class to observe. Practice with that student before modeling this with the class.
2. Model the "wrong way" to hold a conversation. For example, demonstrate a conversation that ends quickly once both parties have shared

their response, with no back-and-forth dialogue between the two parties. Discuss the importance of conversational skills that allow ideas to bounce from one person to the next.

3. Discuss the following three approaches to responding to peers' comments:

   Bounce: Students take what their peers say and bounce an idea off of it (or extend the idea).

   Sum it up: Students rephrase what their peers say and comment on certain parts.

   Inquire: Students ask a question regarding what their peers say.

4. Model a conversation using the Bounce Card sentence starters.
5. Allow the students to practice, using prepared topics or prompts.

Figure 6.3
Bounce Card

Bounce:
Take what your classmate(s) said and bounce an idea off of it. For example, you can start your sentences with—

"That reminds me of . . ."
"I agree, because . . ."
"True. Another example is when . . ."
"That's a great point . . ."

Sum it up:
Rephrase what was just said in a shorter version. For example, you can start your sentences with—

"I hear you saying that . . ."
"So, if I understand you correctly . . ."
"I like how you said . . ."

Inquire:
Understand what your classmates mean by asking them questions. For example, you can start your questions with—

"Can you tell me more about that?"
"I'm not sure I understand . . .?"
"I see your point, but what about . . .?"
"Have you thought about . . .?"

How to Ensure Higher-Order Thinking

The Bounce Cards provide an opportunity to focus on an important everyday life skill that even many adults are still in the process of developing. Ask students to think about the relevance of developing these conversational skills for their everyday lives. Ask them to try these skills out at home or during any afterschool events that they attend, and to bring back news regarding what they noticed. Are conversations with family deeper, longer, more memorable? What do they notice about the relevance of this skill within their own lives? If we can get students to feel comfortable in the art of conversation with each other, it will have the potential of not only building community within our classrooms but also allowing for deeper extended conversations regarding the content that we teach.

Pause to Apply

Ask all students to try the Bounce Cards at the same time, so that no one group of students is embarrassed about trying it out. Let students know that conversations won't sound natural at first, but that the goal is to get so comfortable with bouncing ideas off of each other that they will be able to do so without any prompts. Create a larger chart-paper model of the Bounce Card, so that students can refer to the chart without needing to take out their Bounce Cards.

Additional Ways to Get Evidence of Learning

The next five TPTs are conceptual in nature, so depending on what you teach, you can apply these techniques in a variety of different ways. As a result, we are not presenting these TPTs with specific steps (How It Works, How to Ensure Higher-Order Thinking, Pause to Apply). Instead, you'll find specific examples with prompts to help you think about how to apply these concepts.

Mouth It, Air-Write It, or Show Me Using Your Fingers

One way to look for evidence that all students are processing the information presented is to ask for bodily kinesthetic evidence of comprehension. For teachers of very young students who are learning about sounds, blends, and other decoding skills, instead of calling on just a handful to respond to a question, ask them all to silently "mouth it" or "air-write it." You can get a pretty good feel for students' success in being able to sound out a word by simply looking at how the students' mouths are shaped. A student sounding out the word cat looks a lot

different than a student sounding out the word see. And even if you can't see all the students' mouths, the accountability attached to asking them to show you is more likely to keep their mind on topic than if you call on individuals.

The same is true in math. Asking students to "mouth the answer" is just as effective for a quick on-the-spot comprehension check when you don't have time to gather the whiteboards or number cards. And a student silently mouthing a *four* looks a bit different than a student mouthing a *three*. Fingers work well too. Asking young students to "hold up a number of fingers that is less than four" will get you a variety of responses and help give you a feel for who is or is not developing number sense and understanding of the concepts behind "less than" and "greater than." You'll want to model what it looks like to *silently* mouth a word. And just as with Hold-Ups, you'll want to make sure that students don't hold up fingers until you say so, to make sure that students are thinking on their own. Students can also hold fingers up to their chests to provide some insurance against their simply holding up whatever number their neighbor is holding up.

Acting It Out, Role-Plays, and Concept Charades

Role-plays aren't just for history lessons, although they do work well for that content area. Acting things out or demonstrating comprehension using the body can allow students to process what they really know about a concept. For example, in science, if you are teaching about the particle theory of matter, you can ask students to quickly get into small groups of three and use their bodies to demonstrate what the molecules might look like in a solid, and then in a liquid, and then in a gas. In a solid they're tightly bonded and slowly vibrating, while in a gas it's a free-for-all. Students can draw landforms in the air, all at the same time. What might an archipelago look like as opposed to a continent? Have them act out how igneous, metamorphic, or sedimentary rock is formed.

Corbitt and Carpenter (2006) created a role-play activity to better allow 30 fifth graders to understand how the nervous system worked. To introduce complex concepts like motor control, sensory function, simple reflexes, and spinal cord injury, they created a "Nervous System Game" in which the students themselves acted as messengers carrying messages along an imaginary nervous system. When it comes to science, so many things can be acted out. If you are currently teaching science, think about how the concepts you are teaching might lend themselves to students using their bodies to act out what is happening in the concepts being taught.

Vocabulary also lends itself well to drama. Words produce images. Even fuzzy words, like *ambiguous*, that are hard to define, may be great to act out using facial expressions and body motions. We know a teacher who links every single vocabulary word for the year to a student-created action. The teacher selects a student to act out a word, and then the entire class learns that motion to represent the word. What's amazing is that months later, with little review, students still remember the actions for words introduced months earlier. So instead of asking students to simply define a word, ask them to create and then show you an action that reflects its meaning.

Sixth grade teacher Julie Wash asked students to demonstrate their understandings of genre by playing a game of charades. Wash explained,

> I had the students work in pairs to come up with ways they could act out the various genres. . . . Each pair of students chose one genre to act out for a spell. When the others had a guess, they raised their hands. I told them in order to guess they had to say what genre they thought it was and what actions pointed to the particular genre. This generated lots of genre talk and really let me see that the students could describe each.

The students' acting out included war scenes to describe historical fiction and giving a speech while another took notes to describe a biography. The genres they acted out also included fantasy, nonfiction, poetry, and autobiographies. Linking this charades activity with a Hold-Up using the names of the genres that you're studying adds additional evidence that all students are processing and thinking about the genre being acted out.

As you think about how acting out concepts can enhance the process of learning for your students, don't limit yourself to the examples we've given. Almost anything can be acted out. What concepts are you teaching tomorrow? If you had to act these out, what might they look like? Ask yourself these questions periodically, and you might be surprised to find that even at the university level, almost anything can be acted out. (For example, how would you act out the six levels of Bloom's taxonomy?) The result of students having to act out complex concepts is not only a break from sitting down, but also an opportunity that requires that they analyze the components inherent in the concepts, so that they can assign these components a motion. The activity leads them to higher-order thinking. It's also lots of fun when students are asked to do these in groups.

Simulations

Simulations can have a deep impact on students' ability to make connections that allow them to see the relevance in what they are learning. Relevance has become a main thrust for initiatives aimed at stemming the flow of high school dropouts (Klein, 2008; Rumberger, 2008; Young, 2008). Tanner (1990) found that dropouts "objected to particular teachers, teachers in general, specific subjects, [and] the irrelevance of the curriculum as a whole" (p. 80). Eighth grade history teacher Liz Lubeskie often uses simulations to make content relevant to the lives of her students. To help her students understand the feelings of the American Colonists regarding the Townshend Acts, Lubeskie created a simulation, unbeknownst to the students. On the first day that the topic would be discussed, Lubeskie asked the principal to sit in the class to answer student questions regarding the new policies that would be taking effect in their school. On each student's desk was a letter describing changes that would be taking place. "It's very official, with letterhead. I tell them that, due to budget constraints in the economy, the school board has decided that there are going to be some budgetary changes in the school, and that we need to begin charging for certain things," Lubeskie explains. "I tell them, 'The principal is here to make sure I don't give you the wrong information.'" Students discover that these budgetary constraints will result in charges to their lunch accounts for incidentals like desk upkeep, chair upkeep, and other items such as Scantron sheets for their standardized tests. "I tell them, 'You have a $10 desk rental fee for the year that will be taken off of your lunch account. It's for any desk in the building; you pay only once. It could be refunded, but if anything should happen, if you damage a desk, it will be deducted from the $10.' And 'because of the high cost of Scantron sheets and paper for tests, we will also need to charge these to your accounts.'"

Lubeskie says that during one of these simulations, the students sat in disbelief and shock:

> They were so livid, I actually had kids stand up and sit on the floor. "There is no way I'm doing that." "My parents aren't going to pay that." I told them, "Listen, I'm just the messenger." That's when they started brainstorming: "Well, what can we do?" "There's nothing we can do." "We can get people to sign a petition, and we can write about it." "We should write a newspaper article. People would go crazy." I had kids calling out, "I'll write it, I'll write it!"

At that point Lubeskie explained that this is how the Colonists felt when they were taxed by the king. She asked the students to tell her how they felt. They responded by saying "Mad." "Angry." "Frustrated."

"I started writing them on the board. That's when it started to click. 'Is this a trick?'" Lubeskie has used this simulation for several years now, and because students become so emotionally involved, they make a pact not to tell their peers in other classes or their siblings. She tells them, "Would you have understood how the Colonists felt? Have you ever paid taxes? Now, I've got four other groups coming in. Do you want them to feel the way you felt? Then your lips are sealed!" So far, Lubeskie has not had any student spill the beans and ruin the effect of the simulation. For these 8th graders, the Townshend Acts have become relevant.

Cut-and-Pastes

Who said Cut-and-Pastes were just for kindergarten? In our opinion, they can effectively be used from preschool to adulthood. This hands-on activity of manipulating concepts, analyzing them, and moving them around would work whenever students are being asked to understand characteristics of a specific number of concepts with distinct principles that apply to each. For example, with younger children they might be used to match synonyms or antonyms, or to paste on prefixes or suffixes. With adults, for example, we use Cut-and-Pastes to better understand things like Bloom's taxonomy, assessment concepts, and linguistic concepts.

Keely Potter and Meghan Babcock combined the Ranking TPT with the Cut-and-Paste. They selected excerpts from the text and asked students to rank them from the one that best described the developing relationship between the two main characters, to the one that least described the developing relationship (see Figure 4.5 in Chapter 4).

How you structure a Cut-and-Paste depends largely on what you're teaching. But in the case of, for example, prefixes and suffixes, a specific number of prefixes and suffixes could be prepared for attaching to root words. Suffixes like *able* or *ful* and prefixes like *un* and *anti* could be pasted onto root words to change the meanings. You can add a challenge for students to use as many prefixes and suffixes as they can, using the fewest root words. This will challenge them to add both suffixes and prefixes to single root words: *dis-agree-able, un-friend-ly*. These activities are even more fun to do in small groups, where students can put their brains together to meet the challenge set for them. When we assign Cut-and-Paste activities in class, we usually hear a hum of activity, as students cut their pieces

and manipulate them back and forth, justifying why their placement in a specific spot might be the best alternative. Circulating and catching a comment here and there as we listen to students learning from each other is a wonderful experience.

When you have Cut-and-Pastes that include specific options that describe distinct concepts, toss in options that might fit into more than one category. This approach will ensure that your students are using higher-order thinking as they interact. It will encourage students to talk and to develop a rationale for why their choice makes sense to them. Ask students to justify. This requirement also establishes the notion that things are not always black and white. The example in Figure 6.4 is a Cut-and-Paste sorting activity that requires students to analyze who would most likely have made specific statements (*Patriots*, *Those Who Were Neutral*, or *Loyalists*). It contains options that could fit in several columns. Note the student's justifications for selecting the placements she chose.

Will you be teaching anything soon that might lend itself to a Cut-and-Paste? Sometimes the simple novelty of adding glue and scissors to concept development offers a much needed break from the mundane and allows you an opportunity to quickly gauge student understandings. Consider adding this TPT as a way to enhance student understandings of any set of concepts with distinct features.

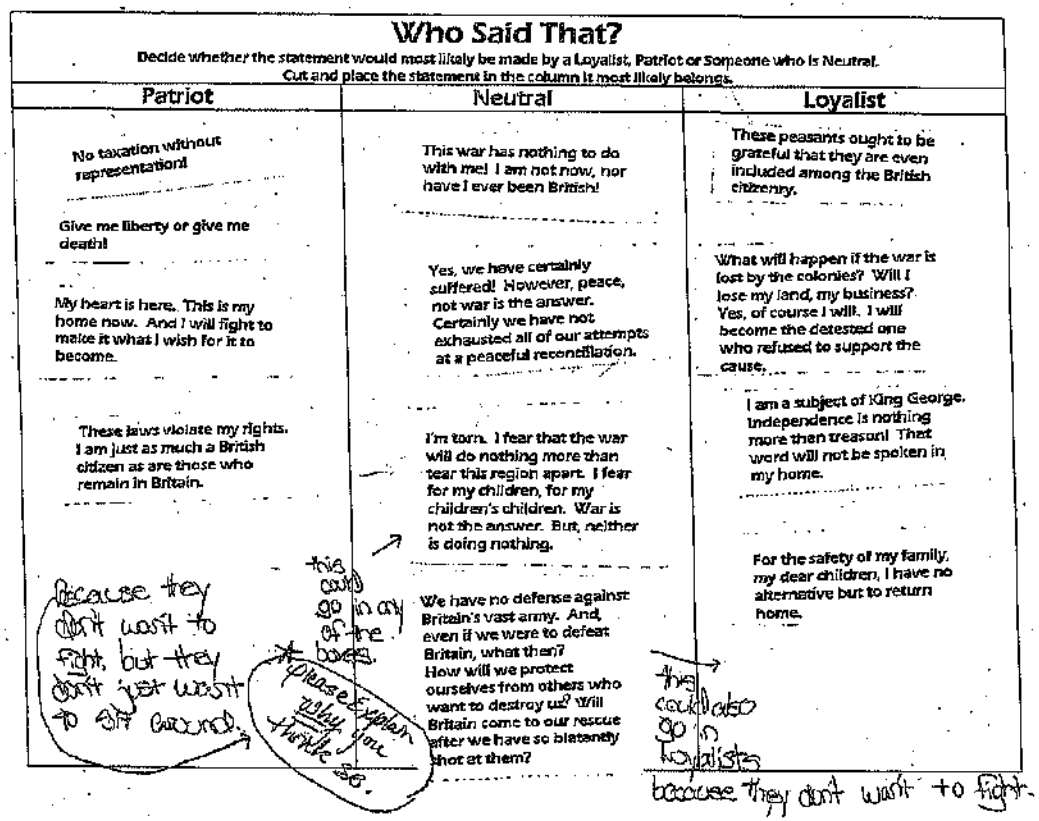
TPTs During the Read-Aloud

It's always sad to hear of the lack of read-aloud time set aside for children in schools. Even as early as 3rd grade, it's common to hear that the chapter book read-aloud no longer exists. Its rank on the list of academic priorities is often so low that some teachers have relegated read-aloud time to the same time assigned to classroom bathroom breaks. The distraction of students walking in and out of the room is such that those in class are not even paying attention to what is being read. But even though the results are not easily quantifiable, read-alouds are valuable for building what we call "peripheral language," or academic language (vocabulary, grammar, style) that students begin to understand within a meaningful context (Himmele & Himmele, 2009). With repeated exposure, peripheral language becomes active language that the students not only understand but actually use.

Read-alouds play a vital role in building children's language long before they even enter formal schools. Studies show that the read-aloud experience and vocabulary development are closely linked (Meehan, 1999; Roberts, 2008;

Figure 6.4

Gabriela's Cut-and-Paste



Who Said That?

Decide whether the statement would most likely be made by a Loyalist, Patriot or Someone who is Neutral.
Cut and place the statement in the column it most likely belongs.

Patriot	Neutral	Loyalist
No taxation without representation!	This war has nothing to do with me! I am not now, nor have I ever been British!	These peasants ought to be grateful that they are even included among the British citizenry.
Give me liberty or give me death!	Yes, we have certainly suffered! However, peace, not war is the answer. Certainly we have not exhausted all of our attempts at a peaceful reconciliation.	What will happen if the war is lost by the colonies? Will I lose my land, my business? Yes, of course I will. I will become the detested one who refused to support the cause.
My heart is here. This is my home now. And I will fight to make it what I wish for it to become.	I'm torn. I fear that the war will do nothing more than tear this region apart. I fear for my children, for my children's children. War is not the answer. But, neither is doing nothing.	I am a subject of King George. Independence is nothing more than treason! That word will not be spoken in my home.
These laws violate my rights. I am just as much a British citizen as are those who remain in Britain.	We have no defense against Britain's vast army. And, even if we were to defeat Britain, what then? How will we protect ourselves from others who want to destroy us? Will Britain come to our rescue after we have so blatantly shot at them?	For the safety of my family, my dear children, I have no alternative but to return home.

Because they don't want to fight, but they don't just want to sit around.

this could go in any of the boxes.

Please Explain why you made so.

this could also go in Loyalists because they don't want to fight.

Sénéchal & LeFevre, 2002; Sharif, Ozuah, Dinkevich, & Mulvihill, 2003). It ought to concern us that the read-aloud is getting less and less attention, often as a result of pressure to raise scores for students who could probably most benefit from the contextually rich vocabulary found in read-alouds. We also strongly believe that you're never too old to be read to. And you're never too old to enjoy the benefits of the language acquisition that comes from a good read-aloud.

Because the read-aloud offers such wonderful opportunities for vocabulary growth, it's important to make sure that students are not losing the flow of the story. Consider using TPTs to help students maintain comprehension of the story. Pair-sharing is a simple and excellent way to process the story using higher-order thinking prompts. Certain stories lend themselves to wonderful higher-order discussions. Recently during family read-alouds of Cornelia Funke's book *The Thief Lord*, we became engaged in deep discussions, including the possibilities of going back or forward in time, the changes experienced by the characters, and the surprises that we didn't expect regarding the outcomes in the story. Each discussion required an analysis of what we had read and personal connections with what we have experienced. The read-aloud can lead to wonderful small-group or Pair-Share discussions that provide excellent opportunities for higher-order thinking.

TPTs like a Quick-Draw or a Chalkboard Splash (see Chapter 4) in response to a well-thought-out prompt or prediction-type question can also help students to analyze or consolidate what they've heard in the story. These can also provide you with a feel for how students are processing the story. Asking young students to demonstrate through their expressions how they would feel if they were the main character in a similar situation allows for teachers to see what students are comprehending. Follow-up explanations can be done in a quick Pair-Share.

Sometimes the very best TPT is simply looking up and capturing the mood of the story mirrored on the expressions of 25 young faces. When that happens, resist the urge to interrupt. The students' expressions themselves have just provided you with evidence of comprehension and emotional engagement. Anything else will just ruin the moment. The point that we hope to make here is this: the read-aloud is a very important part of a language-rich classroom. And if you're not sure that students are comprehending or emotionally engaged in the story, then add a TPT. TPTs during the read-aloud can help students focus on what is being read and help them become engaged with the story.

7

TPTs to Guide Note-Taking and Concept Analysis

TPTs in This Chapter:

1. Confer, Compare, and Clarify
2. Graphic Organizers and Prepared Packets
3. Anticipatory Guides
4. Picture Notes
5. Lecture T-Chart
6. The 3-Sentence Wrap-Up
7. A-Z Sentence Summaries
8. Pause, Star, Rank
9. Key-Word Dance
10. Debate Team Carousel
11. Technology-Based TPTs

Often teachers are talking and explaining while students are writing, and the students miss what the teacher is saying because they are so focused on copying the notes.

—Mackenzie, 8th grade student

When it comes to note-taking, it can be very difficult for students to know where to begin, what's important enough to write down, and how to get the hang of taking notes quickly enough so they don't miss important information. On the one hand, you have students who aren't able to determine how to summarize what is being presented. Instead, they try their best to write their notes verbatim. When Mikaela, a 10th grade student, was asked what she found to be the most difficult aspect of note-taking, she stated, "I struggle with writing too much down when taking notes. I need to work on summarizing and putting it into my own words." And on the other hand, you have students who write little to nothing. They either give up or assume that the teacher will stop and let them know when something is important enough to write down.

Research tells us that students' performance can improve with effective note-taking (Lee, Lan, Hamman, & Hendricks, 2008). When students process and repackage what they hear using notes that are in the form of a summary or a visual, they perform better than when they take notes verbatim (see Lahtinen, Lonka, & Lindblom-Ylänne, 1997). Effective note-taking is a learned skill, and it's important enough that we ought to take time to support students in developing it.

In this chapter we present TPTs that can help you support students as they summarize content delivered through direct instruction. Within these techniques, we also present steps for helping students pause and analyze the most important concepts presented.

We recognize that there will be times when teachers need to present new information and deliver content through direct instruction. Obviously, this understanding doesn't seem to be lost on the many teachers who end up practicing the stand-and-deliver mode nonstop. This is the type of teaching that results in students becoming "listening objects," as discussed in Chapter 1. But including TPTs in your lessons doesn't mean you'll never deliver new material to students using direct instruction. Rather, it means that during the delivery you'll be stopping several times to allow students to process and interact with the new information being presented. Your goal moves back and forth from delivering content to obtaining evidence that the students are understanding and analyzing the content.

It is important to note that although this chapter does include end-of-class wrap-ups (the 3-Sentence Wrap-Up; A–Z Sentence Summaries; Pause, Star, Rank; and the Key-Word Dance), they should not be the only TPTs used during the class. Consider embedding a TPT every 8 to 10 minutes. Waiting until the end of a lesson to add a TPT is often too late for many students who have lost comprehension or interest. These end-of-class TPTs should be used *along with* several others during a lesson. Don't you wish your college calculus teacher had implemented these?

Confer, Compare, and Clarify

This activity allows students to read each other's notes, make comparisons, and add to their own notes. Implementing this simple technique can provide several benefits for your learners. First, it gives them the opportunity to pick up tips by seeing how their peers take notes. It also allows them time to reflect on the content, compare understandings with their peers, and ask questions that can be the difference between comprehension and lack of comprehension.

How It Works

1. Ask students to pair up (or assign them pairs) and "Confer, Compare, and Clarify." *Confer* refers to getting together and sharing a one-sentence summary of what they believe was the most important part of the

presentation. *Compare* refers to students actually getting an opportunity to read each others' notes. They should then compare what they recorded in their notes and what their peers recorded. Let students know that they are encouraged to "borrow" ideas from their peers' notes and add them to their own. *Clarify* refers to students recording any questions that they have regarding what was presented.

2. Ask pairs to join other pairs, forming groups of four, and share questions (from the Clarify piece).
3. Ask students to record the questions that could not be answered in the larger groups of four on the board in a Chalkboard Splash, or they can record these questions on scrap paper or index cards.
4. Address the questions that were recorded before moving on.

How to Ensure Higher-Order Thinking

Use prompts to help students analyze the effectiveness of their own note-taking. Ask them to analyze whether or not the notes they recorded capture the most important pieces of the presentation. Ask whether or not they have picked up any note-taking tips from their friends. Remind students that effective note-taking is a skill that will take time and practice to develop. Ask them to analyze and reflect on the process of note-taking. What was one thing they did well and one thing that they would like to work on for the next portion of the presentation? Ask students to jot down their area for improvement in the margin of their notes, or ask them all to write it on the board in a Chalkboard Splash.

Pause to Apply

This is a great on-the-spot activity that you can apply right away, with no preparation. Think about how this simple technique might have enhanced the understanding of content you may have presented recently. How might you use it in the future? As students are using Confer, Compare, and Clarify, circulate to make sure they are capturing the most important pieces of the presentation. Before moving on to the next topic, allow a few students to share what they wrote.

8 Graphic Organizers and Prepared Packets

Konrad, Joseph, and Eveleigh (2009) conducted a meta-analysis of eight peer-reviewed studies that looked at the role of "guided notes," or teacher-prepared handouts with cues and spaces for students to fill in key information during a

lecture. In these studies, guided notes positively affected learning and note-taking accuracy. The researchers concluded that "guided notes provide students with a model for taking accurate and complete notes" (p. 442). For every unit she teaches, 8th grade teacher Liz Lubeskie prepares guided notes in the form of unit packets with various teacher-made graphic organizers that include causal charts, time lines, and other visual maps to guide students through the presentations that she prepares. Graphic organizers are aimed at helping students record information in a way that visually supports their understanding. Figure 7.1 is an example of a graphic organizer that we used in our earlier book. It is aimed at helping students understand causal links between historical events and their relevance for today.

How to Get Started

Look at websites such as www.readingquest.org and www.readwritethink.org for examples of already prepared graphic organizers that might fit the lessons that you are currently teaching. These websites come replete with ideas that can enhance learning for all students by allowing them to process and repackage what they're learning in the form of a graphic. Both websites also have great ideas for additional activities that may qualify as TPTs and increase cognitive engagement as well as active participation.

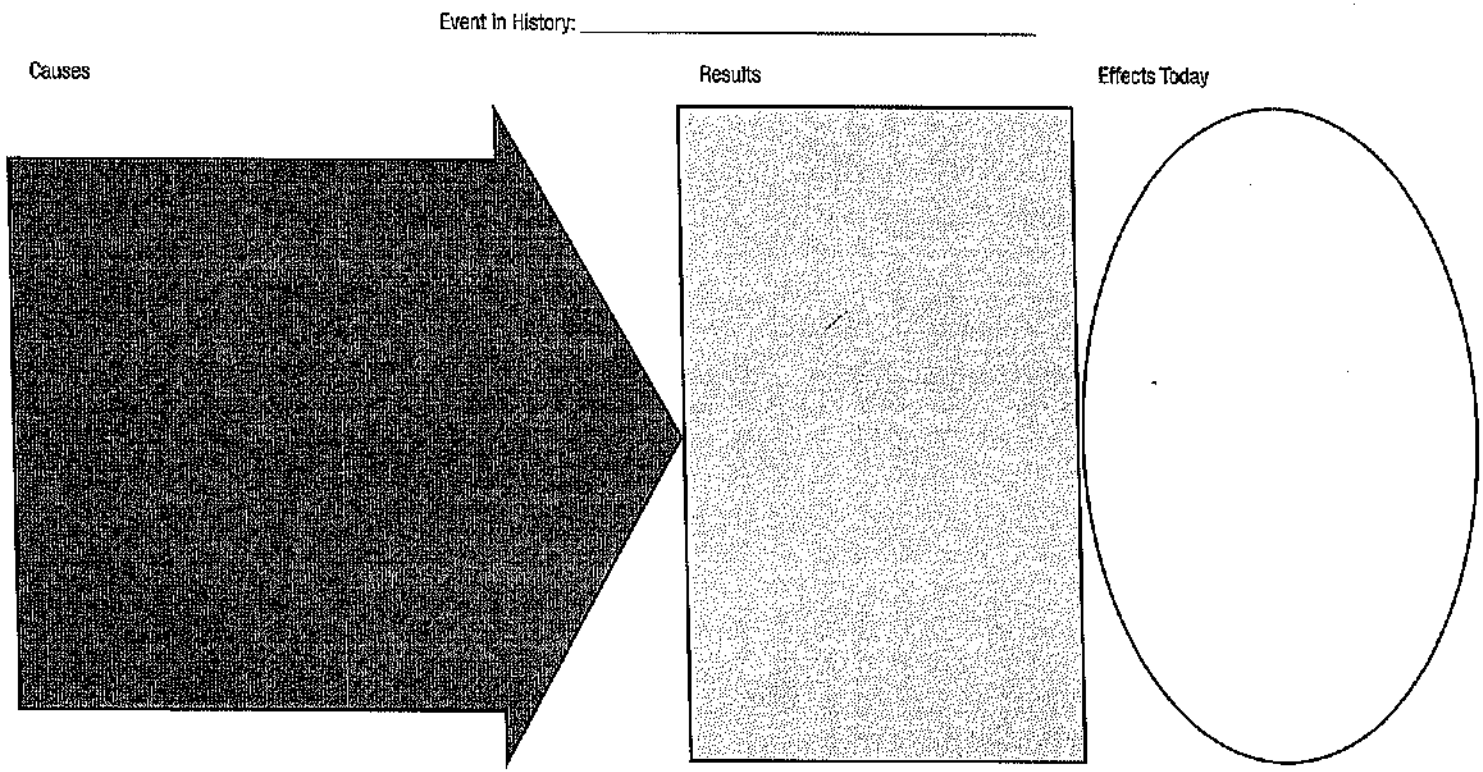
How to Ensure Higher-Order Thinking

At some point during your lessons, prompt your students to connect the learning to the world around them. What are the content's implications for their world? Lubeskie leaves a two-inch footer on all of her handouts so that the students can do a final Quick-Write in response to a prompt. Each cluster of desks has a pencil box holding scissors, glue sticks, and markers. After responding to the prompt, students pair-share and then grab the scissors, cut the footer off, and hand it to Lubeskie before leaving. Consider using footers as a way to address the big ideas in your lessons. Doing so reduces the need for extra papers or index cards.

Pause to Apply

Several teachers from our university classes who have visited readingquest.org and readwritethink.org have told us that they've bookmarked these resource-packed sites because of the plethora of activities that can be used in their classrooms. Try logging on when you get a few moments and check out the treasures that can

Figure 7.1
Graphic Organizer



Source: From *The Language-Rich Classroom: A Research-Based Framework for Teaching English Language Learners* (p. 64), by P. Himmele and W. Himmele, 2009, Alexandria, VA: ASCD. Copyright 2009 by ASCD. Reprinted with permission.

help your students better understand the content you will be presenting. Even if you are not ready to prepare an entire unit packet, how might some of these graphic organizers support students' understandings of the themes that you hope to cover?

Anticipatory Guides

The idea for Anticipatory Guides has been circulating in educational arenas for many years. Nonetheless, they can provide a wonderful way to introduce new material to students. They are easy to create, provide a pre-assessment for content being presented, and allow students to actively process their predictions to true/false statements about the content about to be learned (see the example in Figure 7.2).

How It Works

1. Create true/false statements related to the content you will be presenting.
2. Ask students to read the statements and predict the responses based on what they know about the topic or related topics. Answers should go in the "Before" column.
3. Ask students to pair-share their responses and explain their rationales for choosing the answer they did. Ask them to develop any questions that can be brought to the class as a whole.
4. You can either debrief this activity by taking Thumb Up/Down Votes as you go over the facts related to each statement, or you can have students hold onto their Anticipatory Guide and address each statement as it comes up in your unit (see Pause to Apply).

How to Ensure Higher-Order Thinking

Write your statements so that the responses are not clearly true or false for someone who knows very little or nothing about the content. Stay away from "giveaway" statements by being careful not to use the terms *always* or *never*. Your goal should be to allow students to think and make connections from what they know to what you will be introducing, and to have them genuinely evaluate whether the statement may be true or false. Also, consider using statements that can be both true and false depending on the rationale used for defending the answer.

Figure 7.2

Anticipatory Guide for the Revolutionary War

Before	Statement	After
True and/or False	Most of the American Colonists considered themselves patriots.	True and/or False
True and/or False	Loyalists wanted to remain loyal to Britain.	True and/or False
True and/or False	The Continental Congress was a branch of government overseeing the affairs of the North American continent.	True and/or False
True and/or False	The Declaration of Independence was drafted and signed before the Colonists went to war.	True and/or False
True and/or False	The Boston Massacre was an event that resulted in the death of thousands of Colonists.	True and/or False
True and/or False	The Boston Tea Party is an event held annually to celebrate the fact that Bostoners could finally import and purchase tea.	True and/or False

Pause to Apply

Anticipatory Guides can be used as a prereading activity, as a way of introducing a topic, or as a larger pre-unit activity. As the unit progresses, revisit the statements in the guide. For example, "Now that you've been presented with more content, let's take a revote using thumbs up/thumbs down." At the end of the unit, allow time for students to fill in the "After" column on their guide.

Picture Notes

Picture Notes can provide an excellent way for students to stop and process what they have learned. They are meant to accompany written notes, not to completely replace them. During selected pause points, students create a picture that illustrates the concepts being learned. For example, during their first "picture-pause," students might be asked to illustrate the first of three theories on what causes inflation. To draw their picture, students have to effectively consolidate the concepts presented and then be able to explain their picture to a peer. For students who have only a partial understanding of what has been presented, the sharing is essential, because students get to add to each others' understandings in between each picture-pause. These picture-pauses, and the accompanying interactions, add to each student's final understanding of the "big picture" drawn in the final box.

Eighth grade teacher Liz Lubeskie uses Picture Notes to ensure comprehension of concepts being presented. For example, she asks her students to create pictures that represent the three parts of the Townshend Acts:

> I give them those titles and ask them to draw pictures, and that's how they remember their Townshend Acts. The next day, I ask them to redraw the Townshend Acts without looking at their notes, and the pictures end up being almost identical to the ones drawn the day before. So they do remember what they drew without even looking at the pictures.

How It Works

1. Select strategic pause points during your presentation—points when students will stop, process what they have learned, and draw a picture that illustrates these concepts. Be sure to emphasize that skill in drawing is not what is important. The picture-pause and the sharing can be limited to about four minutes.

2. Ask students to share their picture with a peer (preselected or randomly selected) and to keep track of any questions they have. Circulate to get a feel for whether or not students are comprehending the topics presented.
3. Address any questions that emerge from the picture-pause.
4. Toward the end of the lesson, ask students to consolidate what they've learned into a final drawing that captures the "big picture," along with a summary statement below the picture.
5. You can debrief the "big picture" portion in a Chalkboard Splash (described in Chapter 4) and a search for similarities, differences, and surprises, or in a small-group discussion, followed by individuals sharing their "big picture."

Figure 7.3 is a template that can be used for recording Picture Notes. But Picture Notes can also easily be drawn right inside of student notebooks during assigned pause points.

How to Ensure Higher-Order Thinking

Don't limit Picture Notes to concrete things that can be drawn relatively easily. When students visually represent concepts presented using pictures, they have to wade through information and consolidate this into an image. Encourage students to use symbolism to capture concepts that are abstract as well as concrete. When you notice that a student excels in capturing some of the more abstract concepts in his or her Picture Notes, ask that student to share the Picture Notes with the class and to explain the symbolism behind them. Ask students to create a final Picture Note that addresses the "big picture" of the lesson and then to explain it with a caption.

Pause to Apply

If you haven't yet taken the opportunity to have students visually represent their thoughts in the form of drawings or graphics, try it. These work in many different contexts. Consider the lessons that you will be teaching over the next week or two. If you were to divide a lesson into two or three parts, how could each of those parts be captured visually? What is the overall big picture of the lesson? Try it first on your own and then assign it in class. Bring along your pictures, so that after the students share their pictures, you can show them how you also visually represented the concepts.

Figure 7.3
Picture Note Template

Picture-Pause #1	Picture-Pause #2	Picture-Pause #3
Topic	Topic	Topic
The BIG Picture		
Explanation:		

Lecture T-Chart

A Lecture T-Chart (see Figure 7.4) can be very useful to students by allowing them to review their notes and sum them up on the right-hand side of the T-chart using words or a Quick-Draw. They can take notes in the left-hand column and then, during a pause point, sum them up in the right-hand column. The T-charts can also serve as a reminder to teachers to pause and give students time to summarize their thinking.

Figure 7.4
Lecture T-Chart

Notes	Sum It Up

How It Works

1. During the presentation, students take notes in the left-hand column.
2. Periodically stop (at several pause points) to allow students to read over their notes and sum them up in the right-hand column.
3. Allow time for pair-sharing summaries and for recording questions on index cards or in a Chalkboard Splash.
4. Allow time to answer any questions that students have.

How to Ensure Higher-Order Thinking

Go a step further: after you ask students to sum up the most important concepts discussed, ask them to predict what's coming next in the presentation. Or ask students to reflect on what they think the implications of the content might be for their world today. Ask students to designate a spot in their notes to address the "So what?" and the relevance question. For example, "Why do you think invasive species matter to us?" Give them time to share their thoughts in small groups before addressing this point in the presentation.

Pause to Apply

The practice of stopping to allow students to review and summarize their notes is a great habit to develop. Several of the activities in this chapter provide a variation on this theme. Think about using the T-chart in Figure 7.4 or simply asking students to create a larger right margin in their notes where they can sum up the most important concepts that they will be writing about. Don't forget to pause and remind them to summarize what has been presented. As noted in the research cited earlier in this chapter, students who can summarize their notes rather than copy them verbatim will have a better grasp of what was presented. But this skill takes time and practice to develop. For students who struggle with writing too much and who need help summarizing their notes, this simple T-chart can be a reminder for both you and the students to pause, review the notes, and summarize what was presented.

The 3-Sentence Wrap-Up

In giving university exams, we have learned the hard way the need for giving students a word limit on constructed-response items. When students knew the content, the responses were direct and clearly addressed the topic. When students did not have a clear understanding of the content, they would often add everything under the sun that was even remotely related to the question in hope of getting some credit. Somewhere embedded in the lengthy response was the correct answer, but we suspected that the student had little idea as to which part it was. When we started adding approximate word limits (no more than 20 words, for example), students had to be selective. They were forced to directly address the question and not stray from the topic.

By asking for 3-Sentence Wrap-Ups, you eliminate the tendency to add every peripheral item discussed. Students have to be selective, determine what is most important, and then succinctly sum it up. Having to summarize something lengthy in three sentences or less can be a bit of a challenge. But it requires that students sift out what is important and sum up their understandings in a concise way.

How It Works

1. At the end of your presentation, have students summarize it in three sentences or less.
2. Have small groups get together to share and refine their summaries.

How to Ensure Higher-Order Thinking

Ask students to get into small groups and compare their 3-Sentence Wrap-Ups. Is there a way to pare the summary down to even fewer sentences and fewer words? What parts are essential? This additional activity will require that students further analyze what they have selected and determine what is most important. Finish this off with a Chalkboard Splash (see Chapter 4), with the small groups writing their final wrap-up sentence or sentences on the board.

After individuals meet with their small groups, you can also ask students to add a fourth sentence that addresses the topic's relevance toward life. The fourth sentence might begin with "This is important because . . . ."

Pause to Apply

This is a simple on-the-spot activity that can really go far in allowing students to wade through the lesson's content and repackage it in a very brief form. Although many of the activities presented in this book are simple to use, they can easily be forgotten in the urgency to cover content. A simple way to remember to use this activity is to post the directions in the back of the room or in a place where you can easily see them. You can do the same for any of the activities in this chapter that can be implemented on the spot. By having these directions posted, you can refer to them during your planning, as well as during your lesson.

A–Z Sentence Summaries

At the end of her lesson on Civil War weaponry, 8th grade history teacher Liz Lubeskie gave students a letter from a cardboard cut-out alphabet. She then asked them to create a "sentence summary" that began with the letter she had given them. Here are a few examples of what the students created:

> J = Just in time for the Civil War, weapons were enhanced by great accuracy and distance.
> V = Very fast firing of weapons caused many casualties during the Civil War.
> Y = Young men were drafted into the war and used guns like rifles and the Gatling gun.

Lubeskie also uses alphabet refrigerator magnets to create a Chalkboard Splash review. At the end of a lesson, students choose magnetic letters, attach these to the whiteboard, and write their sentence summaries on the board. This

activity is a great wrap-up to almost any lesson, enabling students to share and contribute to a larger-scale whole-class summary.

How It Works

1. At the end of a teacher-led content presentation, assign students a letter of the alphabet (or give them a cardboard or magnetic letter).
2. Ask students to create a one-sentence summary of the presentation, beginning their sentence with the assigned letter.
3. Do a Chalkboard Splash, attaching the sentence and magnetic letter to the board so students can review their peers' sentence summaries.
4. Before ending the lesson, call out the letters in order as a cue for students to read their sentences out loud.

How to Ensure Higher-Order Thinking

One way to ensure higher-order thinking with this activity is to ask students to add a relevance component to their sentences. For example, students can create a second sentence to their A–Z Sentence Summary by completing the sentence starter "This is important because . . ." or "This affects us today because . . . ." This relevance piece can be added to a sentence summary in any content area. If students are learning about different kinds of soil, for example, it's also important that they know why what they are learning is worth knowing. What are the implications of various soils for the different vegetation, wildlife, or even building materials in the area in which they live?

Pause to Apply

A–Z Sentence Summaries are a wonderful on-the-spot wrap-up activity, and the colorful magnets or cardboard letters add a little spice to it. And finishing it with a Chalkboard Splash rather than a simple Pair-Share allows you to see at once what everybody learned. Another added benefit of this activity is that it will fit with almost anything that is being taught in practically any content area. For example, what did you teach yesterday? How might the students' creation of A–Z Sentence Summaries have helped you with the wrap-up portion of that lesson?

Pause, Star, Rank

Have you ever written yourself a note and gone back to it days later, only to find that you had no clue why you wrote it, or what you were thinking of when you

wrote it? This activity allows students to review their notes while the concepts are still fresh in their minds. They can clarify what they wrote while they still remember why they wrote it. They also can encode their notes with stars to indicate the most important concepts, and then numbers indicating the ranking of the three most important points.

How It Works

At the end of a teacher-led presentation, ask students to do the following:

1. Review their notes and place stars next to the most important concepts.
2. Select the three most important concepts and create a summary sentence for each concept.
3. Rank the three summary sentences in order of importance, placing a *1* on the most important, and a *2* and a *3* on the next two most important concepts.
4. Allow students to share what they starred and ranked in small groups; then as a whole group, or as a Chalkboard Splash, record their top-ranked concept (in the form of a summary sentence).

How to Ensure Higher-Order Thinking

This activity lends itself to analysis. By having students read over their notes and determine the importance of what they've read, students are analyzing the concepts on which they took notes. By following this up with a top-three ranking, you are further requiring the students to analyze, because unlike the starring component, the ranking forces them to choose and rank only the three most important concepts. For those students who might tend to place a star on nearly everything they write, this is a final way to require analysis.

Pause to Apply

This is an excellent wrap-up activity that is perfect for when you have a few minutes left at the end of your presentation. It is simple to do and can be planned or implemented on the spot. At the end of this activity, allow time for students to make any additions to their notes once they have thought about what their peers selected.

We have also used this activity when wrapping up themes or units of study. After asking students to review several days' worth of notes, Quick-Writes, and in-class activities, we ask them to rank the six most important concepts discussed. This is a simple way to close the unit before beginning a new one.

Key-Word Dance

A Key-Word Dance is another activity that allows students to review their notes while the notes are still fresh in their minds. Using this technique, students review their notes and select words that they feel are essential to understanding the concepts. Once they've selected the key words, they make them "dance" by writing the words in the form of a poem. For example, using one of the journaling pages from Babcock and Potter's *The Tiger Rising* unit on symbolism (see Chapter 2), this Key-Word Dance was created using Emily's notes:

He has his . . .
Feelings
Inside
-His Color
-His Purpose

He is . . .
Blank

So, he sees . . .
People
And Things
In Blank Too

How It Works

1. After a teacher-led content presentation, ask students to review their notes and select a specific number of words from their notes (perhaps 15 to 20) that they believe are important for understanding the content.
2. Ask the students to use the words to create a Key-Word Dance. (Model the activity before asking students to do it.)
3. In small groups, ask them to share their poems and explain why the words they chose are representative of the big ideas presented.
4. Ask volunteers to share as a whole group or in a Chalkboard Splash.

How to Ensure Higher-Order Thinking

Key-Word Dance is another activity that allows students to use analysis to determine words that are important for understanding the concepts on which they have taken notes. As students are analyzing their notes, they are participating in higher-order thinking. Don't forget to ask students to defend their reasons

for choosing the words that they selected. Also, allow them time at the end to add any key words that they'd like to "borrow" from their peers.

Pause to Apply

This activity will require modeling. But once students get the hang of it, it could also be considered an on-the-spot TPT wrap-up. Before using this with your class, ask to borrow a student's notebook and take a few minutes to model this activity using notes the student has recently taken. Then be sure to circulate to support students as they select their important concepts and words.

8 Debate Team Carousel

Debate Team Carousel is an activity in which students debate a position from various angles as prompted on a template (Figure 7.5). It allows students to see various aspects of an issue and consider what the opposing and supporting arguments for a certain position might be. For example, an art teacher might ask, "Do you think Picasso was a more skilled painter before or after he discovered cubism?" In a Debate Team Carousel, this question would lend itself to requiring students to eventually analyze the loaded meaning of the term *skill* from different angles. This activity works with groups of four or more. Once all four boxes are filled in, the papers are returned to the original owner.

How It Works

1. Create a prompt that requires students to use their judgment and the content presented to take a position. Record the prompt on the board or have it ready in your slides, so that students can read and refer to it while they complete all the boxes in the template.
2. You will need a template for every student, so that all are responding at the same time. Ask all students to record their judgment and a rationale for what they believe in the first box.
3. Ask them to all pass their papers to the right, and read and add a supporting rationale that goes along with their peer's judgment (even if they don't agree).
4. Ask them to all pass their papers to the right, and read what is in both of their peers' boxes and add something that might be used as an opposing rationale (whether they agree with the rationale or not).

ure 7.5

bate Team Carousel

Give your opinion and explain your rationale. cord your opinion and explain your reason for it.	**2. Add a supporting argument.** Read your classmate's response. In this box, add another reason that would *support* your classmate's response.
3. Add an opposing argument. In this box, record a reason that might be used to argue *against* what is written in boxes #1 and #2.	**4. Add your "two cents."** Read what is written in the three boxes. Add *your opinion* and *your reason* for it in this box.

5. Ask them to all pass their papers to the right and add their own opinion, supporting it with their rationale, in the final box.
6. Ask students to give the papers back to their original owners.
7. Ask volunteers to share with the class some of the arguments for and against on their carousel forms.

How to Ensure Higher-Order Thinking

Debate Team Carousel lends itself to the analysis and evaluation of a topic. Be sure not to spell out the arguments for and against. Although the presentation of the content will usually take a slant toward one position or another, be careful

not to explicitly tell students "these are the arguments for, and these are the arguments against." Let the students come to their own judgments based on learned content. Students will also have to consider and record what they believe might be supporting as well as opposing views. In doing so, they are required to analyze and evaluate learned material from different perspectives. Rationales for and against can be summarized when you debrief the activity in a whole group.

Pause to Apply

Think about how you might use this activity in your particular content area. To get you started, here are a few examples:

- In science, questions used with Debate Team Carousels can focus on applying the content that students have learned to the real world around them. For example, "Now that we've talked about the impact that birdfeeders can have on the ecology of birds, should the use of birdfeeders be banned?" "Do you believe that our country should spend money to help avoid man-made environmental disasters, or do you think the money should go to respond to the disasters after they happen?"
- History lends itself to debate. For example, a teacher might use these types of questions during a Debate Team Carousel: "Do you think nationalism did more to unite the country's citizens or to divide them?" "Do you think that it is *undemocratic* not to vote?"
- In language arts, yes/no questions can be used with this activity to evaluate the literature that is being read. For example, "Do you think that Rob should trust Sistine with the things that are in his *suitcase*?"

Consider having a pile of these templates on hand for those teachable moments when someone says something intriguing or asks a question that you feel would be a good prompt on which to base a Debate Team Carousel.

Technology-Based TPTs

New technologies, if used properly, can be a wonderful way to make sure that your students are cognitively engaged. In the following examples we talk about two forms of technological applications that can result in participation and cognitive engagement by all of your students. Because the uses of each will need to be adapted to meet the particular context and resources of your teaching circumstance, we do not include the sections on How It Works, How to Ensure

Higher-Order Thinking, and Pause to Apply. Instead, we ask you to consider each and talk them over with colleagues at your school to determine how each might enhance the learning opportunities for your students.

Blogging

Consider the general concept behind blogging and online posts. These online journal formats have a great deal of potential when we look at them as an arena for academic collaboration. While students may be asked to blog or write about a topic or prompt, they can also receive peer comments as feedback. Although there are certainly risks that would need to be carefully addressed, opportunities are also present for students to take ownership of their own learning. If every student is involved and the activity engages higher-order thinking, it has the potential to be a great tool for ensuring total participation. In addition to the official online sites funded by our university, we have established online workspaces through PBworks that are sometimes even easier to use. The basic package for an online workspace is free to educators, and the site provides additional convenient features for a nominal fee.

Although online collaboration often requires an added investment of your time—at least until you get the hang of it—it offers a great opportunity for engaging students and keeping them accountable. We remember a conversation with a university student who admitted having never read a college textbook until her participation in an online assignment. The student admitted that in order to complete the required blogs and take part in the nested conversations, "I'm actually having to read the book." Depending on what provider you choose to host your site, access can be restricted to only those e-mail addresses that you approve. And even if students select pseudonyms, as the teacher/site administrator you may be able to see who is posting what comments. You can also set it up so that comments would need to receive your prior approval before actually being posted. Consider opening up a free account and trying it out using students' first names only (or pseudonyms).

Luehmann & MacBride (2009) examined how blogging was used in two high school classrooms (math and science). The blogs were posted to at least three times a week, and more text was written by students than by the teacher. Although the two classrooms had different ways of structuring their uses of blogs, for both, blogs allowed the sharing of resources through the teacher or student posting of links, the posting of student responses to teacher prompts, student

recordings of lesson highlights, and student reflections on what was learned. One teacher credited the blogs with building a stronger community in her classroom and "breaking the ice" for the quieter students. One of the missed opportunities that the authors noted was the lack of student-led discussion. Students were clearly responding to the teacher, not each other. This shortcoming might be easily addressed by simply adding a requirement that students respond to a minimum number of peer posts (perhaps three). Students can also be assigned to lead discussions using an open-ended question. Teacher modeling can provide opportunities for students to practice how to phrase questions so that there are no easy answers.

Classroom Clickers

One of the most popular high-participation technological tools that we have seen implemented in schools is the use of personal-response systems, or classroom clickers. With classroom clickers, selected-response items are posted on slides, and students each use a remote control to select what they feel is the right answer. Results are shown as a graph indicating the number of students that selected each item. Clickers have their benefits, especially with regard to student participation, and they're definitely fun. But they are not a guaranteed home run. We have observed both effective and ineffective use of clickers. For example, in math, when students click and get the wrong answer, then what? When clickers were used well, we felt it was because the teacher felt free to detour from the slides. Even though clickers were usually used to review content already taught, teachable moments were still followed up with additional problems that were similar to the sample items on the slide, and the teacher circulated to make sure students understood the concepts. Effective use of clickers also included student interaction embedded within the presentations. "Ask your neighbor how he or she solved that problem." "Did you solve it in the same way?" "If you got the answer wrong, add a statement on your paper explaining why it was wrong." The wrong answers can be easily reviewed because clickers allow you to know how each student responded. Teachers tend to use clickers as an opportunity to answer questions with only one right answer. Instead, teachers need to also remind themselves to circulate and provide feedback and support to students who are struggling, and to take the time to focus on *why* answers are right and wrong.

Student-teacher Heather Berrier used clickers in teaching 5th graders how our understanding of the Boston Massacre has been influenced by the voices in

history to whom we gave the most credence. To help students understand the multiple points of view reflected in the retelling of this historical event, Berrier decided to present it multiple times. Students were first asked to examine an engraving drawn by Paul Revere, and they heard a quick description of the Boston Massacre. They were then asked to use electronic clickers to vote on who was most to blame for the Boston Massacre (the British, the Colonists, or both). A digital bar graph displayed the results of the vote. Students first pair-shared their rationales, and then volunteers were selected to share their rationale with the class. Students then heard a historical account of the Boston Massacre from another perspective and were asked to vote again. At this point, many changed their vote. Again, they first voted individually, then interacted in pairs, and then volunteered responses, this time with a bit more enthusiasm, with more students wanting to volunteer. This procedure went on for four separate votes, some students vacillating each time, depending on the perspective given by each author. After each vote, students pair-shared, justifying their reason for the way they voted, and then volunteers shared with the class.

What was so striking about this lesson was that after each vote, more and more students began eagerly bouncing in their chairs, hands held high, passionately wanting an opportunity to express themselves and defend their choice before the whole class. Students had become invested in understanding this event and were more cognitively engaged than if they had simply read a chapter or passively listened to a presentation on the topic. At the end, Berrier gave all students an opportunity to explore and pair-share reasons for the multiple viewpoints and then portray their own viewpoint on an "engraving" done for all to see, in the form of a Chalkboard Splash (see Chapter 4). These students became emotionally engaged in the topic because of the ways that they were asked to process the information using Total Participation Techniques and higher-order thinking.

Consider using clickers with questions that don't have easy answers followed up with opportunities for students to justify their responses. You will end up with fewer questions, but more interaction and more higher-order thinking.