

Resource A

Processes to Engage Learners in Thinking

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AFFINITY MAPPING

Purpose: Engages students in analyzing data to identify relationships and create conceptual categories.

Preparation: Prepare a question that will generate many responses from students. Provide each student with sticky notes and a pen or pencil. Provide each group of students with a large piece of paper (e.g., butcher, flip chart, or poster board).

Facilitation: Ask students to respond to the question (individually or in pairs) by writing each response on a separate sticky note. After allowing sufficient time for generating ideas, ask each group to silently post its sticky notes on a large piece of paper. Direct them to look for related ideas and to form clusters of sticky notes. Ideas can be grouped and regrouped by any member of the team, as each looks for commonalities among ideas. Sticky notes can be moved numerous times until group members feel satisfied that they have created meaningful concepts or clusters of ideas. As a last task, each group should name each cluster of ideas. As groups share with the larger class, look for how many groups came up with similar categories. Did they find different ways to consolidate ideas?

Sample Questions

- History: What have been the main causes of conflict between countries?
- Mathematics: How do we use fractions in everyday life?
- Metacognition: How do you learn best?

DATA ON DISPLAY

Purpose: Helps establish a risk-free environment in which students engage in discussion based on data—not on their own ideas, assumptions, and opinions. The process promotes individual reflection, equitable contributions from all class members, and analysis of a visual display of the thinking of the whole group (see Illustration A.1). The process moves students from thinking about their own ideas to thinking about implications of the responses from the entire class. Data on Display prompts student questions, conclusions, hypothesis formulation, and examination of their own and others' assumptions.

Preparation: Select a topic, and prepare four to six statements about which students can agree or disagree. For best results, the statements will create

cognitive dissonance (e.g., pose a belief statement with which students might strongly agree, followed by a statement of action that does not align with the belief). Prepare a handout for each student on which each statement appears with a scale from 100 to 0. In addition, write each question or statement at the top of a sheet of easel paper. Down the left edge of the chart, include a scale ranging from 100 to 0, marked off in 10-point increments. Leave enough space between the numbers for students to place sticky notes (see Illustration A.1). Give each student one sticky note (preferably 0.5" × 1.75") per question. Hang the charts around the room. For best results, seat students in small groups.

Facilitation: Ask students to individually select the extent to which they agree (from 0% to 100%) with each of the statements and to mark their responses on their handouts. Students then will post their responses/sticky notes on the appropriate charts, contributing to a bar graph for each statement.

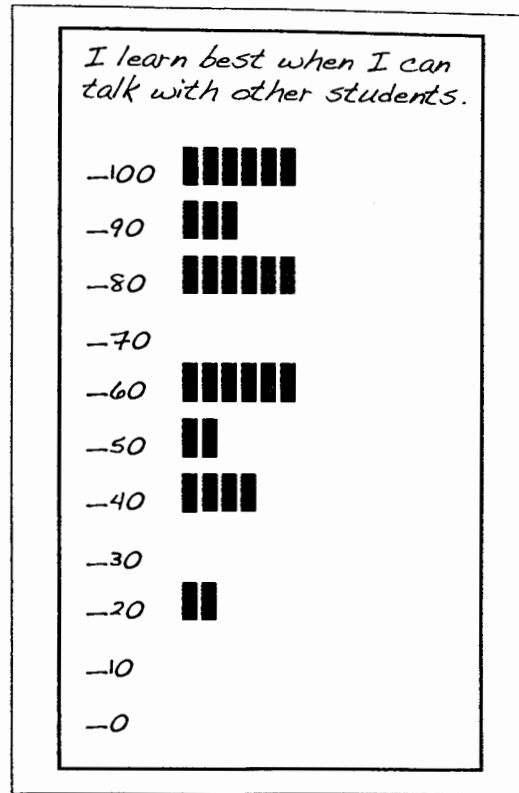
Allow time for individuals to view the charts and come to conclusions about what the data mean. Allow additional time for students to discuss the data in small groups. Finally, facilitate a whole-class discussion to identify conclusions and implications.

Modifications: For primary students, read each statement aloud. Instead of percentages, use signs such as a smiley face, a neutral face, and a frowny face. For elementary students, give four or five choices on a scale of 0 to 4 or 0 to 5.

Integration of math: Ask students to calculate an average or median response for each statement. Ask what fraction or percentage of the class answered at a given level or above a given level.

Thinking strategies: Ask students to speculate about why some students might have rated the same statement high and others low. Ask them to formulate hypotheses about how other students (older or younger) might answer these same questions. As students study the data, ask them to pose questions about what they see. What questions do they have about the data?

Illustration A.1 Data on Display



Thinking Through Quality Questioning

Sample Questions

English Literature

- It is always wrong to kill another person.
- Because the character in the book killed in self-defense, it was an acceptable action.
- I can think of times when someone might need to kill someone else—other than in self-defense.
- It is hard to say that something is “always wrong” or “always right” because it depends on circumstances.

Health

- When we eat properly, we are more mentally alert and we have more energy.
- Every morning, I eat a healthy breakfast before I come to school.
- The human body requires sufficient sleep to perform well.
- I go to bed early enough to assure that I get eight hours of sleep.

Metacognition

- I learn best when I can talk to other students.
- It helps me learn when I understand clearly what I am learning and why it is important.
- In most of my classes, I have the opportunity to talk to others about what we are learning.
- In most of my classes, what we are learning is relevant to me, and I understand the importance of the topic.

FINAL WORD

Purpose: Encourages listening to and learning from different points of view about a common reading; helps students think through, in depth, their own understanding of a specific passage of text; and facilitates true comprehension and meaning making. The use of this and other protocols will scaffold skills of discussion among students in the classroom. This protocol specifically helps students practice wait time because they speak only when it is their turn to speak. Students will also benefit by learning better how to listen to fully understand.

Preparation: Identify a common reading related to the topic under study. Ask students to read it before coming to class. Allow time, in class, for them to review the reading and to identify three ideas about which they would be willing to talk or hear discussion. Seat students in groups of four.

Facilitation: Ask each group to identify (1) a facilitator, who will monitor the group's use of the Final Word protocol; (2) a timekeeper, who will alert participants to the time; and (3) a volunteer, to go first in introducing an idea from the reading. Share a written copy of the instructions for the protocol, especially for the first use with a class.

Throughout this process, when one student is speaking, others in the group are quiet; they are listening or taking notes.

The first volunteer in the group selects one of his ideas, directs the attention of others in the group to the place in the reading where it appears, and talks about this idea for up to three minutes. When the first student finishes talking (or when time is called), each of the other group members will respond, in turn, for up to one minute each—staying on the topic introduced by the first student. When all group members have responded, the original speaker has up to one minute to give the final word on the topic. (For younger students, you may use shorter times and keep time for all groups.)

A second student then selects one of her ideas and follows the same process. If time allows, every student introduces an idea from the reading for discussion by the group.

Debrief the process with students by posing the following kinds of questions: *How did it feel to follow this protocol? What were the advantages to them of following this process? How did it affect their comprehension of the passage? What did they learn during the process—about the text and about their process of learning? How would you modify this process for the next time we use it?*

Adapted from the National School Reform Faculty (NSRF) at www.nsrffharmony.org. Other helpful text-based protocols from NSRF include the Four A's and Save the Last Word for Me.

FISHBOWL

Purpose: Engages a small group of students in true dialogue with one another, helps a group learn the skills of dialogue and be intentional in practicing them, and encourages active listening and questioning.

Preparation: Prepare a pivotal question around which a group might have varied opinions and engage in dialogue. Arrange chairs in two concentric circles, with 6 to 10 chairs in the inside circle and the remaining chairs in the outside circle.

Facilitation: Begin by sharing group norms such as these: have an open mind; listen with respect to others' responses, seeking to fully understand; use Wait Time 2, allowing at least three to five seconds of silence after each speaker; and monitor your participation, contributing ideas and allowing others to do the same.

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Select a group of students to sit in the inner circle (or fishbowl). Add an empty chair in the inner circle. Direct other students to sit in the outer circle. Explain that the inside circle will model dialogue—clarifying assumptions, speaking without defensiveness, and working to understand others' points of view. The outer circle is to (1) listen to the exchange of ideas, (2) briefly join the inner circle by sitting in the empty chair to pose a question or make a statement (which pushes the thinking of the fishbowl members), and (3) monitor the use of norms and dialogic skills used by the members of the fishbowl.

Pose the pivotal question. Allow time for the group to respond. Prompt for clarification, as necessary; monitor the use of norms.

Debrief the process, first with the inner circle and then with the outer circle: *What did you learn during this experience? How did you feel? How did it prompt thinking?*

Tip: For a rich discussion, give the question or questions to small groups for discussion prior to the Fishbowl. Include a member from each small group in the inner circle; this will accomplish representation of ideas from the entire class. Alternatively, allow time for individuals to respond in writing to a prompt prior to entering the fishbowl discussion.

INK THINK

Purpose: Helps a group create information in a visual, nonlinear way; stimulates thinking; helps to develop new patterns of thought; and encourages students to go deeper in their thinking about a particular subject.

Preparation: Create a question that will prompt divergent student thinking about a topic under study. Prepare a wall chart and/or table space or a workstation for each group of 6 to 10 students. Put a word, phrase, or symbol in the center of the chart to represent what you want the group to think about. Provide a marker for each student.

Facilitation: Ask students to reflect on the question and to individually write their ideas. Encourage them to record all thoughts without monitoring, as in brainstorming. Then, have students work together in groups of 6 to 10. Before the groups move to their stations, explain that this activity is to be done *in silence*. Members of each small group are to "listen" to one another by silently reading what other group members write on the wall chart.

Ink Think is a group's nonverbal creation of a mind map. Main ideas are written on lines that emanate from the central idea; other ideas will branch off of these. As they gather at a chart, students will draw or write their responses on the paper. Often, they will read another's idea and will add details, examples, specificity, or related ideas.

Monitor as groups work. If necessary, remind students that Ink Think is to be done in silence. Allow adequate time for each group to record its ideas. After sufficient time, ask each group to prepare a summary to share with the larger group. Look for commonalities among groups as they report.

Modifications: You might create four or five related questions. In this event, ask students to reflect on all of them; assign one per group. When the groups have completed responding to their assigned questions, ask each group to rotate clockwise to another chart, read through the ideas, and add their thoughts to it. Continue until each group has recorded ideas about each question. Ask each group to summarize the responses to their original question and report major ideas to the class.

Sample Questions

Science

- What have been the benefits of the human genome project? What future benefits do you envision?
- How has science changed our lives since the beginning of the 20th century? How has it changed our ways of thinking?

Math

- How do you use geometry in your lives? How might you use it in the future?
- For what purposes do we use statistics? Why is it important to understand?

Social Studies

- In what ways did the transcontinental railroad change the United States?
- In what ways are your lives different today because of the Civil Rights legislation of the 1960s?

Metacognition

- What helps you think?
- How is thinking related to learning?

INTERVIEW DESIGN

Purpose: Engages all class members in asking and answering a set of questions in a one-on-one setting; students gather and summarize information and perceptions from other students in an equitable and risk-free

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manner. Provides practice in posing questions and in using quality-questioning strategies.

Preparation: Prepare four questions of equal complexity around the topic of interest. Label the questions A through D. Create a handout with each question written on the top; make enough copies so that a fourth of the class will get question A, a fourth will get question B, and so forth. Arrange the room so that there are several sets of eight chairs (a row of four facing a row of four), with enough chairs for all students.

Facilitation: The Interview Design process encompasses two phases.

Phase 1: The Interviews. After students are seated in the rows, review the process of interviewing:

- Ask with interest in the response.
- Use wait time.
- Record what is said.
- Probe, as necessary, to get behind the other's thinking (e.g., *Can you give an example? Can you say more about that?*).
- Refrain from making evaluative comments.

In each row of four chairs, assign each student one of the four questions, A through D; assign each student's partner (the person in the facing chair) the same question so that question A faces A, B faces B, and so forth.

Allow a few minutes for the partners to ask and answer their assigned question. Then, within each set of eight chairs, have one row of four participants remain seated while those in the facing row move in the following order: The person on one end of the moving row gets up and walks to the other end of the row, and the others in his row each move down one seat to let him sit in the end chair. Allow time for the new partners to ask one another their questions, and then have those in the moving row move again. Continue this pattern until every person in each row has answered all four questions—and has asked her question to each of the people in the facing row.

Phase 2: Summarizing Data. Students gather with others who asked the same question (all the A's in a group, all the B's in a group, etc.). As a group, they read the responses they collected and create a summary. One member of the group, the recorder, writes down the major ideas and shares results with the large group.

Tips

1. Provide context for each question by prefacing it with a statement or quote.

2. Use a timer and call time so that each person has the opportunity to pose a question and respond before the group moves.
3. Make accommodations, when the size of the group isn't evenly divisible by the number of questions, by adding a person to either end of one of the nonmoving rows.
4. After some experience with the interview process, have cooperative groups formulate a question to use during the process, collect data from peers, summarize their findings, and prepare a report to the rest of the class.

IQ PAIRS

Purpose: The Insight-Question (IQ) Pairs strategy engages students in pairs to talk about a short reading, quote, or question. This strategy prepares students for a large-group discussion by giving them an opportunity to identify and clarify their thoughts in a low-risk environment (pairs) before sharing in a larger group setting.

Preparation: Identify a short, thought-provoking passage, quote, or question. Have each student find a partner with whom to talk.

Facilitation: Display the passage, quote, or question so that all students can read it. Explain that after they read it, each student should share with his partner (1) an insight and (2) a question based on the passage.

After sufficient time for discussion in pairs, call on a student to share her partner's insight; move to hear from other partnerships as well.

JIGSAW

Purpose: Provides a structure for cooperative group learning, whereby students learn from one another. Encourages students to take responsibility for their own learning as each assumes the role of teacher for his small group.

Preparation: Identify a reading or several readings around which to organize Jigsaw. Create worksheets for each expert group. At a minimum, such worksheets should include the page numbers for the assigned reading, questions to think about and discuss with other members of the expert group, and suggestions for organizing a presentation to be made to the home groups.

Facilitation: Organize students into heterogeneous home groups. Describe the Jigsaw process and be sure that each student has an assignment.

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(Note: If there are five different concepts or readings, home groups will be composed of five students, each of whom assumes a different assignment.) Like a jigsaw puzzle, in which every piece is necessary to complete the picture, the home group is composed of five students, each of whom becomes an expert on one portion of the assignment, learning with others in an expert group composed of other students with the same assignment. After learning, all students return to their home groups to teach other members. Without every member, the learning is incomplete.

As students begin in their home groups, distribute the readings and assign one to each student or allow each student to select her assignment. Ask students to reorganize so that they meet in expert groups (i.e., with other students who have the same assignment). They will read the assigned material as indicated on the worksheet; discuss questions, as outlined; and prepare to share their learning with others in their home groups. After sufficient time, students return to their original home groups in order to teach one another what they have learned.

Debrief the Process With the Class

- Did you like this method of learning? Why or why not?
- Did every member of your group assume responsibility for the group's learning? What is evidence of that responsibility?
- How would you improve this strategy?
- Did you learn more or less from other students compared with what you typically learn from the teacher? Why might this be?

KQS × 3

Purpose: As a metacognitive structure for students who are working on inquiry-based learning, Know, Question, Strategies (KQS) × 3 provides key questions to drive the planning, the investigation, and the assessment of a project.

Preparation: Hand out a worksheet (sample provided) to guide students engaged in inquiry-based learning.

Facilitation: As a subject is assigned or selected by students for study, direct them in cooperative groups to the top row of questions to guide their planning: What do we think we know about this subject? What questions will drive our inquiry? What strategies will we use to investigate and learn more about this topic? Once they have defined their question for study and they are in the middle of exploring their topic, suggest they visit the second row of questions: How are we extending and deepening our

knowledge? What additional questions are emerging? What other strategies and resources do we need? Finally, as they wrap up their project, encourage them to assess their study by reflecting on the bottom row of questions: What new knowledge and understandings have we acquired? What other questions do we have? How can we strategically apply our new knowledge in other settings?

Planning		
K: What do we think we know about this subject?	Q: What questions will drive our inquiry?	S: What strategies will we use to investigate and learn more about this topic?
Investigating		
K: How are we extending and deepening our knowledge?	Q: What additional questions are emerging?	S: What other strategies and resources do we need?
Assessing		
K: What new knowledge and understandings have we acquired?	Q: What other questions do we have?	S: How can we strategically apply our new knowledge in other settings?

KWL

Purpose: The Know, Want to Know, Learned (KWL) process helps students assess their prior knowledge of a subject, identify items of interest and questions they have about a given topic, and self-assess what they have learned. In this process, often done as a class or in a collaborative group, students learn by hearing other students think aloud and process questions and information.

Preparation: None required.

Facilitation: Often teachers lead this process with the entire class. Alternately, it can be done by individual students or in collaborative groups. At the beginning of a unit or lesson, pose two questions:

1. What do you think you know about this topic? (K)
2. What do you want to learn about this topic? (W)

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At the conclusion of a unit, revisit answers to the first two questions, letting students identify misconceptions they may have held before the study and any new questions they want to pursue about the topic. Then ask them to address a third question:

3. What have you learned about this topic? (L)

PEOPLEGRAPH

Purpose: Engages students in thinking about and clarifying their understanding of an issue under study prior to the topic being opened for large-group discussion.

Preparation: Formulate a statement that is central to an issue under study. In order to be appropriate for the Peoplegraph process, the statement should be one that promotes differing points of view—and one with which students can either agree or disagree. Prepare a handout with the statement and space for students to write their responses.

Facilitation: Ask students to think about the statement and to write individually about their beliefs. After a few minutes, ask them to determine the extent to which they agree or disagree with the statement and to be prepared to offer reasons for their position on the issue. Establish a continuum—an imaginary or real line in the classroom or hallway—with one end designated “strongly agree” and the opposite end designated “strongly disagree.” Ask each student to “take a stand” at the point along the continuum that represents his current point of view on the statement. After students have taken a position, tell them to form a group with two or three others who are standing nearby. In these small groups, they will share their reasons for selecting the position they took along the Peoplegraph. After about five minutes, ask a spokesperson from one of the groups to offer reasons to support that group’s position. Open the floor for comments from other groups.

Variations: This is a good strategy to use prior to a Fishbowl, where the discussion can move into dialogue, with students intentionally using active listening and other communication strategies to understand others’ points of view. Some teachers like to group students with opposing views, having the *strongly disagree* end of the Peoplegraph get together with students from the *strongly agree* end to promote better understanding of opposing viewpoints.

Integration of math: After students have formed the Peoplegraph, ask them to create numerical equivalents to the student positions. For

example, what percentage of students strongly agreed with the statement? What percentage held views similar to their own? What percentage was in the middle?

Developing thinking: What are the reasons that students have divergent views on this statement? What, in your background knowledge or experiences, influenced your stand on this statement? What might be the factors that influenced others' thinking? What questions do you have about this statement? Do you believe there is a right or wrong answer? By what criteria should we make judgments about the truth of this statement?

QUESTIONING CIRCLE

Purpose: Encourages question formulation, engages students in thinking about a reading in order to identify key ideas and formulate questions about them, facilitates listening to and learning from different points of view about a common reading, and helps students come to a deeper understanding—and make personal meaning—of a written passage.

Preparation: Before introducing this strategy, talk with students about the relationship between questioning and learning. Revisit the norm that encourages students to ask questions. Talk with students about what makes a question a quality question—one they want to think about and try to answer.

Identify a reading (an article or a chapter from a book on the content under study). Assign it for homework. Prepare written directions for the process.

Facilitation: Organize students into learning groups of four. Before you begin the process, ask each student individually to review the reading and identify three ideas that are interesting—ideas they would like to think about further. Tell students to mark these passages as they read so that they can easily find them later and direct peers to them. For each of these three ideas, students should craft an open-ended question. This should be a true question (one they truly wonder about), and it should call for responses that are above the level of remember.

Each group should identify (1) a facilitator, who will make sure that the group stays on task and that everyone participates, and (2) a volunteer to go first in posing one of her questions from the reading. During this entire process, as one person is speaking, *others in the group should be quiet* as they listen or take notes. This is not a discussion; in this protocol, there is no back-and-forth conversation, as is typical among discussions.

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The first volunteer in the group selects one of his ideas, directs the attention of the group to the place in the reading where it can be found, and then poses his question. After some think time, the person to the right of the question-asker begins to address the question. Note: This is not so much to answer the question as it is to think aloud about the question, with the question-asker listening in. When the first person finishes talking, the others, in turn, have an opportunity to address the question posed by the first volunteer. Finally, after every member of the group has discussed the question, it returns to the original question-poser, who then can think aloud about his own question. This concludes the first round.

In turn, each of the other group members introduces a topic and poses a question, listens as the question is addressed by all group members, and then speaks about it. After all members have had an opportunity to pose a question, the cycle is complete.

Debrief this process with students: *How did the Questioning Circle strategy affect your understanding of the reading passage? Speculate as to what about the process might have affected your understanding. Did the prior formation of a question affect your listening to other group members talk about the topic? Speculate as to why or why not.*

Question for reflection: Were some questions more engaging than other questions? Did the question-engagement seem to differ by individual? What seemed to be the characteristics of the questions that were the most engaging? That prompted the most thought? How might asking questions affect understanding of a reading passage? Is this a strategy (formulating questions from a reading) you might use in other classes? For what purposes?

QUESTION, QUESTION

Purpose: Engages students in thinking about a topic, forming true questions, and assessing the quality of questions.

Preparation: Before this structure is introduced to students, the teacher should have established the importance of questions to learning, the idea of different cognitive levels of questions, and the difference between “true” questions and “school” questions, for which an answer is known before it is posed. Before class, the teacher should consider where, during the lesson, he will stop to use this strategy.

Facilitation: At a predetermined point in the lesson, ask students to form pairs. Ask them, with their partners, to identify something they found interesting in the lesson and, together, to create one or two questions for

discussion. The first few times you use this strategy, provide question stems that students can use to write a question, such as these:

- I wonder about . . .
- I wonder why . . .
- How are these alike and different?
- How is this like _____?
- What might happen if . . .
- What are the key elements of . . .
- What are the implications of . . .
- What might the consequences be if . . .

Once each pair has formed a question, ask for a volunteer pair to present their question and discuss it with the class.

Deepening thinking about questioning: After several questions have been posed, talk with the class about what constitutes qualities of effective discussion questions—for example, they are open-ended, with more than one correct answer; they are interesting to students; they relate to students’ lives; and they help students think about the topic from a different perspective in order to explore the topic more deeply.

ROUND-ROBIN QUESTIONING

Purpose: Gives students practice in writing and posing quality questions and using wait times and verbal prompts with peers, as appropriate.

Preparation: Before using the strategy, help students understand the relationship between learning and asking questions. Hopefully, a norm has been established in the class to encourage student questions; engagement in this activity will provide experience in students’ formulating and posing questions.

As part of a reading assignment, ask students to create five questions about the reading: four questions for which they know the answer and one question for which they do not know the answer (i.e., a true question). Initially, this could be done in cooperative groups to provide aid to students who have difficulty accomplishing this task.

Facilitation: Explain the process to students. The teacher will select a student to ask one of her questions. That student will pose the question, wait for three to five seconds, and name a student to respond, waiting again for three to five seconds after the student response to provide feedback. If the answer is correct, the student should acknowledge it. If

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the answer is somewhat correct, the student should elicit more information by asking questions such as, *Can you tell me why you think that? How did you get your answer?* or *Can you say more about that?* If the answer is incorrect, the student should provide cues to the responding student to help that student come to the correct answer. For example: *If you look on page 36, in the first paragraph, you will see what the character was after.*

When the questioning episode is concluded, the responding student will pose one of his questions, wait three to five seconds, and call on a student to respond, following the same sequence. This should continue until most important facts or understandings have been asked about. Finally, a student should pose one of her true questions and see if a discussion will ensue. The teacher may want to provide sample prompts for students (on cue cards) to use when answers are incorrect.

Debrief With Students

Was this an activity they liked? Why or why not? How might they modify the activity before they use it again?

SAY SOMETHING

Purpose: Helps learners process a reading, increases comprehension by allowing readers time to think through a passage by talking about it, and creates connections by having learners connect a reading passage with prior knowledge.

Preparation: Identify a short reading that is on a topic of interest and that might stimulate discussion and dialogue.

Facilitation: Direct students into pairs and provide each with a copy of the reading passage. Give instructions: *I'll ask you to read a short passage. As soon as you have finished, turn to your partner and "say something" about what that passage means to you. Then listen as your partner says something to you about the same passage. There are no right or wrong things to say; you may ask a question, agree, or disagree with the reading.* Assign a part of the reading. After participants have read and talked, call time. Give them another passage. Continue until the reading has been completed.

Tips

1. This activity works very well with a bulleted list of items. Ask students to read two or three of the bulleted items and talk about them; then assign another two or three. Continue until they have read and discussed the entire list.

2. Alternatively, a series of four or five thought-provoking quotes works well. Ask students to read and say something about the first quote. Continue to call time and assign a new quote until they have read and discussed them all.

SYNECTICS

Purpose: Engages students in metaphorical thinking about the topic under study, facilitates creative thinking that stimulates group discussion, and helps students see a topic from more than one perspective.

Preparation: Prepare a prompt around the topic under study. For example, the prompt might be, *Describe your vision of an effective political campaign.* Select four words or images that participants can use to create metaphors (see examples provided). Put each word or image on a separate sheet of flip-chart paper. Post one in each corner of the room, along with a flip-chart marker.

Facilitation: Present the prompt and ask participants to individually write their responses. After adequate time for individual thinking, ask, "As you think about this topic, is it more like _____ or _____ or _____ or _____ (name the four metaphors)?" For example: *Is an effective political campaign more like an amusement park, the Olympics, an MP3 player, or a buffet?* Ask each student to select the one metaphor that best matches his thinking on the topic.

Once students have selected a metaphor, direct them to move to the corner of the room that displays their chosen metaphor. After they have grouped with others who selected the same metaphor, tell them to list the reasons for their choice on the flip-chart paper (that is, to tell how their selected metaphor is like the topic under consideration).

After adequate time to brainstorm and record, ask each of the four groups to share their ideas with the others. Move to a large-group discussion on the topic.

Sample Metaphors

- Earth, wind, fire, water
- Blue, red, green, yellow
- Coaching basketball, directing a movie, working retail, managing a restaurant
- Shopping mall, movie theater, coffee shop, sports arena
- Pickup truck, Cadillac, SUV, sports car
- Country music, rap, hard rock, jazz

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Variations: Simple synectics involves choosing two contrasting items and asking participants to respond individually, in writing, and then to share their ideas in small groups. For example, you might ask one of these questions: *Are algebraic equations more like spaghetti or ice cream? Is the structure of a cell more like fall or spring? Is politics more like a roller coaster or an 18-wheel truck?*

TABLE ROUNDS

Purpose: Establishes a setting that encourages students to think about and discuss important ideas, contributing from their own perspectives and building on one another's ideas to create new understandings; scaffolds true dialogue; and creates a "whole" of collective thinking about a given topic as students share insights through a structured process designed to foster understanding and spark creativity.

Preparation: Identify three or four important topics. For each topic, prepare a set of questions that will guide conversations for participants at each table. Make a copy of the question set, and place it on the table. Provide a variety of markers and crayons as well as one or two sheets of easel paper to form a tablecloth on which participants can record their conversation ideas.

Facilitation: Once four to six students are seated at each table, introduce the process. Explain that each table has been given a topic, with a set of questions to guide conversation. Each table should begin by having someone read the set of questions aloud as others in the small group listen and focus on the important issues. As they talk about their topic, group members will record their responses with markers on the tablecloth. Encourage them to be creative and to use words, pictures, colors, and other visuals. Group members should also verbalize their responses. Instruct them to speak openly and honestly, to listen to others carefully to fully understand their points of view, to watch for connections between ideas, and to honor silence (i.e., to use wait time as appropriate).

When time is called, each group will identify one person to remain as table host. The host's role is to welcome new people to the table, answer any questions about the prior conversations held at the table, and remind people to write down their ideas and questions—not merely to talk to one another—and to make connections between ideas.

Other group members will disperse to different tables so that participants will be with different people for each round of conversation. During the second round, most people (with the exception of the table host) will be talking about a new set of questions. Encourage students to listen to the questions, review the ideas on the tablecloth, discuss them, and add their own ideas.

Modification: For very young students, you may introduce this process by giving them a problem that has multiple solutions; then, rather than a discussion, students will be generating possible solutions. For example, we visited a classroom where the second graders were learning about equations. The teacher gave each group a tablecloth with a number in the center (e.g., 23). She asked each group to write on the paper equations that could form the number in the center of their paper. The students enthusiastically wrote different equations, talking with one another about additional possibilities. It was a creative modification of the strategy that worked well with young children.

Modified from the World Café process (see Brown & Isaacs, 2005).

THINKATHON

Purpose: Engages students for a variety of purposes: solving problems, generating ideas, and reacting to others' ideas.

Preparation: Formulate several open-ended questions related to the topic under study. Write each one on a piece of easel paper, and post the papers around the room. Place several flip-chart markers near each station. Divide participants into teams (one team for each question).

Facilitation: Assign a team to each question. Direct students to gather at the posted easel paper that displays their question, brainstorm answers, and record ideas on the easel paper. After sufficient time, all teams will move to the next station, rotating clockwise. As teams approach a question that has previously been answered by another team, their job is to read through the answers, placing checkmarks next to those with which they agree and adding additional comments or responses. When the teams have rotated through all the stations, they return to their original question, read what others have added, and summarize the class's thinking about their assigned question.

Variation: After the team responds to the first question, they select a team member to stay behind and explain their thinking to visiting teams. This team member's job is to record comments and additional ideas.

THINK-PAIR-SHARE

Purpose: To engage all students in a class with answering a question; to provide time for students to clarify their own thoughts before participating in a large-group discussion; and to help students process information by

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talking and listening to a partner, making personal meaning, and connecting the new information to prior knowledge.

Preparation: Decide on strategic times to use this process to engage students in thinking about a topic. The strategy can be used effectively before, during, or after a presentation; it is especially good to use prior to a large-group discussion. Decide how you will pair participants and create the prompt that will begin the discussion.

Facilitation: As implied by the title, this activity is carried out in three parts. Pose a question and ask all participants to *think* about it—usually through writing to a prompt or a question. Then ask them to *pair* with another participant to talk about their ideas. Finally, when everyone has had time to think individually and talk about her ideas with a partner, the pairs *share* with the larger group.

TUNING PROTOCOL

Purpose: Encourages intentional and deliberate reflection about a specific work process or product through a protocol of talking and listening, in turn, with peers. The process of thinking aloud moves the reflection to a deeper and more meaningful level. Adherence to the steps of a protocol provides a low-risk environment and limits defensiveness.

Preparation: This protocol can be used for many purposes. Here we share how it has been used by students to assess their own and others' writing. Give students a specific target for a writing assignment: paragraph transitions, a powerful opening sentence, descriptive phrases, metaphors, and so forth. Group students into pairs and then into groups of four.

Facilitation: Review (or introduce) the steps of the process. Lead the class through the following six steps, announcing the amount of time to be allowed for each:

1. **Reflection:** Within each grouping of four students, two students read their writing samples to one another and comment to one another on what they hoped to accomplish related to the target and how well they believe they did, along with evidence for that assessment. The other pair in the group listens but does not talk. Allow an adequate amount of time for each student to read and comment.
2. **Warm Feedback:** The pair that was listening talks to each other—not directly to the readers. They provide positive (or warm) feedback about what they heard that was related to the target. During this time, the readers *listen but do not talk*.

Resource A

3. **Cool Feedback:** As soon as the pair is finished with the warm feedback, they move to cool feedback, or suggestions for improvement. Again, they talk to each other, not directly to the readers, who are listening in on the conversation. This should be modeled by the teacher prior to students participating. Cool feedback is most effectively posed as questions rather than statements—for example, *I wonder if it would have been stronger to have used a dark image in the opening sentence?*
4. **Reflection:** The initial readers reflect on what they heard and what they learned, both through their own reflection and from listeners' comments. Others *listen but do not talk*.
5. **Switch Roles:** Now the listening pair reads their writing samples to one another and comments, hearing both warm and cool feedback, and reflecting on what they have learned.
6. **Debrief:** Finish the protocol with a discussion of how it went—what went well and what didn't, how students might want to change the next protocol session, and what was learned.

Tip: This process increases in value with repetition. As groups become used to the process, there will be less need for the teacher to facilitate the process; however, initially, a facilitator can help a group follow the suggested protocol.

Adapted from Looking at Student Work protocols; for additional information about this and other protocols for looking at student work, visit lasw.org.

