Increasing Response Rates

THE **MARZANO COMPENDIUM** OF INSTRUCTIONAL STRATEGIES

CONTENTS

INTRODUCTION

In 2007, Dr. Robert J. Marzano published *The Art and Science of Teaching: A Comprehensive Framework for Effective Instruction*. The framework, composed of three lesson segments, ten design questions, and forty-one elements, was based on research showing that teacher quality is one of the strongest influences on student achievement—that is, an effective teacher can positively and significantly impact student learning. As such, *The Art and Science of Teaching* sought to identify specific action steps teachers could take to improve their effectiveness.

In 2015, Dr. Marzano updated *The Art and Science of Teaching* framework to reflect new insights and feedback. The Marzano Compendium of Instructional Strategies is based on this updated model, presenting forty-three elements of effective teaching in ten categories. Each folio in the series addresses one element and includes strategies, examples, and reproducible resources. The Compendium and its folios are designed to help teachers increase their effectiveness by focusing on professional growth. To that end, each folio includes a scoring scale teachers can use to determine their proficiency with the element, as well as numerous strategies that teachers can use to enact the element in their classrooms. Indeed, the bulk of each folio consists of these strategies and reproducibles for implementing and monitoring them, making the Compendium a practical, actionable resource for teachers, instructional coaches, teacher mentors, and administrators.

INCREASING RESPONSE RATES

For this element, the teacher uses response-rate techniques to maintain student engagement. Increasing the rate at which students respond during questioning is one way to apply mild pressure in the classroom, which prompts students to focus their attention and has a positive influence on learning. Put simply, the teacher creates more frequent opportunities for students to respond to questions and interact with knowledge.

Monitoring This Element

There are specific student responses that indicate this element is being effectively implemented. Before trying strategies for the element in the classroom, it is important that the teacher knows how to identify the types of student behaviors that indicate the strategy is producing the desired effects. General behaviors a teacher might look for include the following.

- Multiple students or the entire class respond to questions the teacher poses.

- When asked, students can describe their thinking about specific questions the teacher poses.

Desired behaviors such as these are listed for each strategy in this element.

Teachers often wonder how their mastery of specific strategies relates to their mastery of the element as a whole. Successful execution of an element does not depend on the use of every strategy within that element. Rather, multiple strategies are presented within each element to provide teachers with diverse options. Each strategy can be an effective means of implementing the goals of the element. If teachers attain success using a particular strategy, it is not always necessary to master the rest of the strategies within the same element. If a particular strategy proves difficult or ineffective, however, teachers are encouraged to experiment with various strategies to find the method that works best for them.

Scoring Scale

The following scoring scale can help teachers assess and monitor their progress with this element. The scale has five levels, from Not Using (0) to Innovating (4). A teacher at the Not Using (0) level is unaware of the strategies and behaviors associated with the element or is simply not using any of the strategies. At the Beginning (1) level, a teacher attempts to address the element by trying specific strategies, but does so in an incomplete or incorrect way. When a teacher reaches the Developing (2)

level, he or she implements strategies for the element correctly and completely, but does not monitor their effects. At the Applying (3) level, a teacher implements strategies for the element and monitors their effectiveness with his or her students. Finally, a teacher at the Innovating (4) level is fluent with strategies for the element and can adapt them to unique student needs and situations, creating new strategies for the element as necessary.

Scale for Increasing Response Rates

4	3	2	1	0
Innovating	**Applying**	**Developing**	**Beginning**	**Not Using**
I adapt behaviors and create new strategies for unique student needs and situations.	I use response-rate techniques to maintain student engagement, and I monitor the extent to which the techniques keep students engaged.	I use response-rate techniques to maintain student engagement in questions, but I do not monitor the effect on students.	I use the strategies and behaviors associated with this element incorrectly or with parts missing.	I am unaware of strategies and behaviors associated with this element.

The following examples describe what each level of the scale might look like in the classroom.

> **Not Using (0):** A teacher lectures on the content for long stretches of time without pausing to ask students questions.

> **Beginning (1):** A teacher asks questions during teacher-led instruction, but he only calls on students who volunteer.

> **Developing (2):** A teacher uses response-rate techniques to give all students in her class frequent opportunities to respond. However, she makes little effort to determine if the strategies are having a measurable impact on student engagement.

> **Applying (3):** While using strategies to increase response rates, a teacher notes several indicators of engagement, such as students' level of attention and how prepared they are to answer a question when called on. When he first starts using the strategies, students seem caught off guard and take a few moments to answer the questions that he asks. After a few weeks of consistent use, though, he notices that students seem to be preparing their answers before he calls on them.

> **Innovating (4):** A teacher is using and monitoring strategies to increase response rates, and she notices that one student seems frustrated. This student is used to volunteering to answer questions and therefore having many chances to share what he thinks with the class. Now that this teacher is using a wider variety of response strategies, he has fewer individual chances to speak. To remedy this, the teacher works out a system with this student in which he writes down his answers to questions that other students answered verbally.

STRATEGIES

Each of the following strategies describes specific actions that teachers can take to enact this element in their classrooms. Strategies can be used individually or in combination with each other. Each strategy includes a description, a list of teacher actions, a list of desired student responses, and suggestions for adapting the strategy to provide extra support or extensions. Extra support and extensions relate directly to the Innovating (4) level of the scale. Extra support involves steps teachers can take to ensure they are implementing the strategy effectively for all students, including English learners, special education students, students from low socioeconomic backgrounds, and reluctant learners. Extensions are ways that teachers can adapt the strategy for advanced students. In addition, some strategies include technology tips that detail ways teachers can use classroom technology to implement or enhance the strategy. Finally, each strategy includes further information, practical examples, or a reproducible designed to aid teachers' implementation of the strategy.

Random Names

The teacher writes each student's name on a separate slip of paper or popsicle stick and keeps them in a jar or other container. After asking a question, the teacher selects a name at random from the jar and calls on that students to answer. The teacher should put the selected name back into the jar once the student has answered so that every student always has the same odds of being chosen.

Teacher Actions

- Writing each student's name on a slip of paper or popsicle stick

- Selecting a student name at random after asking a question

- Putting the selected name back in the jar or hat before the next question

Desired Student Responses

- Being ready to answer a question

- Attempting to answer questions even if they aren't sure of the answer

Extra Support

- Breaking the question into smaller parts if the student whose name is drawn can't answer it

Extension

- Drawing several names after asking a question and asking the students whose names were drawn to discuss their answers in front of the class until they reach a consensus

Technology Tips

- Enter your class list into an online random name selector to choose students to answer questions.

Giving Students Options

Calling on students at random creates mild pressure. This mild pressure is beneficial for increasing student engagement; however, to avoid causing stress or putting too much pressure on students, the teacher must make sure that students feel comfortable being called on even when they do not know the answer. When first implementing the random names strategy, be sure to explain to students that they have the following options when their name is drawn:

- **Respond to the question:** If students know the answer or feel comfortable taking their best guess, they can respond to the question. If they know some of the answer, but not all of it, they can give a partial response.

- **Ask for help:** If students are called on but do not know the answer, they can ask for help from the teacher. This might come in the form of a hint, a restatement of the question, or several incremental questions. The teacher might also work through the question or problem with students to help them reach the answer.

- **Opt out temporarily:** If students are called on and do not know the answer, they can ask the teacher to come back to them later. The teacher moves on to another student or another question, giving the first student a longer time to think about the question. The teacher must make sure to remember to follow up and give the student a chance to answer again later.

Hand Signals

In this strategy, students respond nonverbally to a question that has a limited number of possible responses. For example, students use a thumbs-up to indicate they understand the content being addressed, a thumbs-down to indicate they do not understand, and a thumbs-sideways to indicate they understand some of the content but are also confused about some of the content. Students can also use hand signals to indicate responses to multiple-choice questions: one finger indicates that response A is correct, two fingers indicate response B, three fingers indicate response C, and four fingers indicate response D.

Teacher Actions

- Explaining hand signals to students (thumbs up, down, or sideways; one to four fingers)

- Creating questions that students can respond to with hand signals

- Prompting students to respond to a question with hand signals

Desired Student Responses

- Explaining what different hand signals mean

- Using hand signals to respond to teacher questions

Extra Support

- Creating and displaying a poster in the classroom that shows (using words and pictures) the responses associated with different hand signals
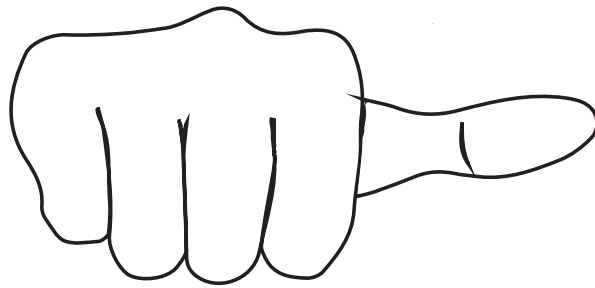
Extension

- Tallying students' hand-signal responses to questions, sharing the results with the class, asking students to defend their answers, and then having students answer the same question using hand signals again

Signaling Your Level of Understanding

I understand all of this!

I understand some this, but I also have some questions.

I do not understand this at all.

Response Cards

Students write their answers on small (for example, 12 × 12–inch) whiteboards or chalkboards and reveal them to the teacher simultaneously. This strategy works best with questions that have brief answers with little or no variability in what would be considered correct. For example, questions that require students to write down vocabulary words or the answer to a short math problem would work well with response cards.

Teacher Actions

- Procuring response card materials (small chalk- or whiteboards, paper, note cards)

- Creating a system to pass out and collect response card materials

- Creating questions that students can respond to using response cards

Desired Student Responses

- Taking out and putting away response card materials quickly and quietly

- Using response cards to respond to teacher questions

Extra Support

- Giving multiple choice questions if students have trouble writing out their answers

Extension

- Tallying students' responses, sharing the results with the class, asking students to defend their answers, and then having students answer the same question again

Creating Your Own Response Cards

- **Individual whiteboards:** Creating a set of small whiteboards for the classroom is often cheaper than purchasing them and is fairly easy. Visit a hardware store and look for white shower board, melamine, or tileboard. This comes in large sheets, which you can ask store employees to cut into 12 × 12–inch squares. Colorful electrical tape works well to cover the edges. Dry erase markers can be purchased at most office supply stores, or a teacher might include this item on the student supply list. To keep students from getting marker on their hands, provide or ask students to bring items to use as erasers, such as dryer sheets, old socks, or small pieces of cloth.

- **Multiple-choice cards:** If you plan to ask multiple-choice questions, you can use simple paper response cards. Cut a sheet of construction paper or cardstock into quarters and write each letter option (A, B, C, D) on one of the sections. Alternatively, use index cards. Make sure to use a marker when writing the letters, as pen will be difficult to read from a distance. Create enough sets of four cards so that each student will have his or her own set.

Response Chaining

After a student responds to a question, the teacher asks a second student to explain why the initial answer was correct, partially correct, or incorrect. The teacher might also ask the second student to paraphrase the initial answer before responding. The teacher can call on a third student to respond to the second student's response.

Teacher Actions

- Asking students to explain why their peers' answers to questions were correct, incorrect, or partially correct

- Asking students to paraphrase their peers' answers to questions

Desired Student Responses

- Explaining why peers' answers were correct, incorrect, or partially correct

- Paraphrasing peers' answers before elaborating on them

Extra Support

- Explicitly teaching students how to paraphrase another student's answer to a question

Extension

- Asking students to identify similarities and differences between their answers to questions and other students' answers

Response Chaining Tracking Sheet

Question or Content	Number of Students in Chain						
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7

Paired Response

Students confer in pairs to answer a question. The teacher then calls on a pair. One student can verbalize the answer for the pair, or both can contribute.

Teacher Actions

- Asking students to talk in pairs about their answers to a question

- Calling on a pair to share one or both of their answers

Desired Student Responses

- Answering questions individually before talking to a peer

- Revising their answers to questions, if necessary, after conferring with a peer

Extra Support

- Pairing students with higher and lower background knowledge together

Extension

- Asking students to describe errors they identified in their own answers after conferring with a partner

Technology Tips

- Use a random team generator to pair students randomly with a different partner each time.

- Use clickers or polling software to have pairs submit their responses.

Paired Response Prompts

Print, cut apart, and distribute copies of these cards to help students have productive paired response conversations.

## Clarifying **If you are unsure about what your partner is saying, ask:** "Can you clarify what you meant by that?" **or** "Can you rephrase that to help me understand better?"	## Paraphrasing **To let your partner know that you listened and understood, say:** "So what you're saying is . . ." **and then restate their point in your own words.**
## Extending **If you need more details from your partner, ask:** "Can you say more about that?" **If you would like to add more to what your partner said, say:** "I agree, and I'd like to add to that by saying . . ." **and then add your thoughts.**	## Disagreeing **If you disagree with your partner, say:** "I disagree with you because . . ." **and then give the reasons that you disagree.** **If you want to offer an opposing idea, say:** "I see why you might say that, but I think . . ." **and then add your idea.**

Choral Response

The teacher presents target information in a clear and concise statement and asks the class to repeat the information as a group. The goal is to form an "imprint" of important information. For example, the teacher would say, "The organ system that allows blood to move throughout the body is called the cardiovascular system. What is it called?" The class would then respond, "The cardiovascular system."

Teacher Actions

- Creating clear, concise statements of target information
- Asking students to say target information statements together as a group

Desired Student Responses

- Participating in choral response
- Explaining the purpose of choral response
- Remembering target information after the teacher uses choral response

Extra Support

- Displaying the target information statement so the whole class can see it (poster, board, projection screen)
- Adding pictures to clarify vocabulary terms or abstract concepts

Extension

- Asking students to compose target information statements for a learning goal or unit

Choral Response Planning Guide

Lesson topic: _____

One to three elements of target content for choral response:

Clear and concise phrasing of target content:

When you are ready to use the choral response, use the following process:

1. Present or remind students of the target content ("The circulatory system pumps blood").

2. Prompt a choral response ("What system pumps blood?").

3. Wait for students to respond ("The circulatory system").

4. Repeat the target content ("That's right, blood is pumped by the circulatory system").

Wait Time

The purpose of this strategy is to give students time to think and compose their answers after a question has been asked. The teacher therefore pauses for at least three seconds after posing a question. The teacher also allows for a pause of at least three seconds if a student stops speaking in the middle of an answer and teaches students to allow a three-second pause between student answers.

Teacher Actions

- Pausing for at least three seconds after asking a question

- Prompting students to wait at least three seconds if a student pauses while answering a question and between student answers

- Prompting students to think about their answers during wait time

Desired Student Responses

- Waiting at least three seconds if a peer pauses while answering a question

- Waiting at least three seconds between peers' answers

- Thinking about their answers during wait time

Extra Support

- Encouraging students who don't know the answer to use wait time to think about whether they can answer part of the question or what information they know that is related to the question

Extension

- Asking students who know the answer to a question right away to use wait time to think of support for their answer or to examine their initial answer for errors

Wait Time

Teachers often feel awkward standing in silence for a few seconds when giving wait time, especially if they are new to the strategy. The following list gives examples of what a teacher might do to occupy him- or herself during wait time and reduce awkwardness.

- Count the number of seconds
- Make eye contact with students around the room
- Move from one place in the room to another
- Take several deep breaths
- Scan the classroom for student engagement
- Think of three good answers to the question
- Think of a cue or hint to give if a student answers incorrectly

Elaborative Interrogation

After a student answers a question, the teacher probes the answer by asking, "How do you know that to be true?" or "Why is that so?" The teacher might also ask the student to provide evidence to support his or her conclusions. To ensure that elaborative interrogation increases response rates, multiple students must be involved in each answer. One way to do this is to have students work in pairs or threes as the teacher moves through the elaborative interrogation process.

Teacher Actions

- Asking students how they know their answer to a question is true

- Asking students to provide evidence to support their answers to questions

Desired Student Responses

- Explaining why their answer to a question is accurate

- Providing evidence to support their answers to questions

- Revising answers, as necessary, in response to elaborative interrogation

Extra Support

- Asking students to explain the reasoning behind specific parts of their responses to questions rather than their whole response

Extension

- Asking students to make generalizations about categories of people, places, things, or ideas and predict the consequences of events based on the evidence they give for their responses to questions

Technology Tips

- Use clickers or polling software to have students submit answers to a question, then discuss the evidence for various answers.

Elaborative Interrogation Questions

- How do you know that to be true?
- Why is that so?
- What evidence supports that answer?
- How did you arrive at that answer?
- Can you say more about that?
- Can you explain why you think that?
- Can you explain your reasoning?
- What information did you consider to decide on that answer?
- What aspects of our discussion influenced your answer?
- How might your answer change if _____?
- Based on your answer, what can you say about _____?

Multiple Types of Questions

The teacher uses a combination of types of questions such as the following:

- **Retrieval questions**—These require students to recognize, recall, and execute knowledge that was directly taught.

- **Analytical questions**—These require students to take information apart and determine how the parts relate to the whole.

- **Predictive questions**—These require students to form conjectures and hypotheses about what will happen next in a narrative or sequence of information or actions.

- **Interpretive questions**—These require students to make and defend inferences about the intentions of an author.

- **Evaluative questions**—These require students to use criteria to make judgments and assessments of something.

To ensure that multiple types of questions increase response rates, multiple students must be involved in each answer. One way to do this is to organize students into pairs or threes and assign different question types to each group.

Teacher Actions

- Asking retrieval questions of pairs or groups to prompt students to recognize or recall information

- Asking analytical questions of pairs or groups to prompt students to determine how parts of information relate to the whole

- Asking predictive questions of pairs or groups to help students form conjectures and hypotheses about information

- Asking interpretive questions of pairs or groups to prompt students to generate and defend inferences

- Asking evaluative questions of pairs or groups to prompt students to make judgments and evaluate alternatives

Desired Student Responses

- Recognizing or recalling information in response to retrieval questions

- Determining how parts of information relate to the whole in response to analytical questions

- Forming conjectures and hypotheses in response to predictive questions

- Generating and defending inferences in response to interpretive questions

- Making judgments and evaluating alternatives in response to evaluative questions

- Working effectively in pairs or groups

Extra Support

- Explicitly teaching students processes for determining how parts of information relate to the whole (analysis), forming conjectures about subsequent events (prediction), making and defending inferences (interpretation), and using criteria to make judgments (evaluation)

Extension

- Asking students to explain the process they used to answer a specific type of question (analytical, predictive, interpretive, evaluative)

Examples of Multiple Types of Questions

Retrieval questions: recognize, recall, and execute

- Which of these people explored the ocean—John Glenn or Jacques Cousteau?

- Which organs in the human body remove waste and toxins from the blood?

Analytical questions: take information apart and determine how the parts relate to the whole

- How did Charles Darwin's observations of finches in the Galapagos help lead to his theory of evolution?

- How does Kay Ryan's use of assonance contribute to the overall meaning of her poem "Blandeur"?

Predictive questions: form conjectures and hypotheses about what will happen next

- What do you think will happen if Macbeth kills the king?

- What would have happened if the Axis Powers had won WWII?

Interpretive questions: make and defend inferences

- Why do you think E. E. Cummings chose not to capitalize words in his poems?

- What does Harper Lee imply through Atticus Finch's description of mockingbirds?

Evaluative questions: use criteria to make judgments and assessments

- If you could only eat one thing for the rest of your life, what would be the most complete and nutritious food source?

- What is the most efficient way to do subtraction in your head?

REPRODUCIBLES

Teachers can use the following reproducibles to monitor their implementation of this element. The reproducible titled Tracking Progress Over Time helps teachers set goals related to their proficiency with this element and track their progress toward these goals over the course of a unit, semester, or year. Tracking Teacher Actions and Tracking Student Responses allow observers in classrooms to monitor specific teacher and student behavior related to this element. Teachers themselves can also use the Tracking Student Responses reproducible to document instances of student behaviors during class. The Strategy Reflection Log provides teachers a space to write down their thoughts and reflect on the implementation process for specific strategies related to this element. Finally, this section provides both a student survey and a teacher survey, the results of which provide feedback about teachers' proficiency with this element.
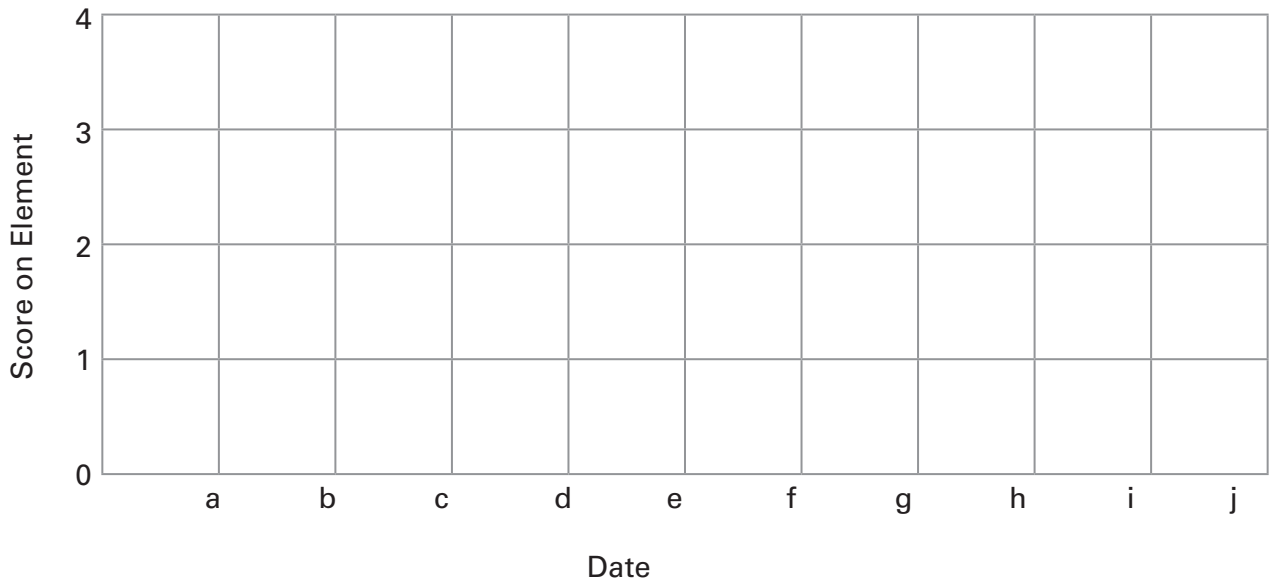
Tracking Progress Over Time

Use this worksheet to set a goal for your use of this element, make a plan for increasing your mastery, and chart your progress toward your goal.

Element: _____

Initial Score: _____

Goal Score: _____ by _____ (date)

Specific things I am going to do to improve: _____

_____

_____

_____

a. _____   f. _____

b. _____   g. _____

c. _____   h. _____

d. _____   i. _____

e. _____   j. _____

Tracking Teacher Actions

During an observation, the observer can use this form to record the teacher's usage of strategies related to the element of increasing response rates.

Observation Date and Time: _____ Length of Observation: _____

Check Strategies You Intend to Use	Strategies	Description of What Was Observed
	Random Names	
	Hand Signals	
	Response Cards	
	Response Chaining	
	Paired Response	
	Choral Response	
	Wait Time	
	Elaborative Interrogation	
	Multiple Types of Questions	
	Other:	
	Other:	

Tracking Student Responses

A teacher or observer can use this worksheet to record instances of student behavior to inform planning and implementation of strategies associated with increasing response rates. Any item followed by an asterisk is an example of undesirable behavior related to the element; the teacher should look for a decrease in the number of instances of these items.

Observation Date and Time: _____ Length of Observation: _____

Behavior	Number of Instances
Responding to questions	
Preparing answers	
Participating in group responses	
Responding to other students' contributions	
Explaining the thinking behind an answer	
Appearing more engaged during instruction	
Interacting with content more often	
Other:	
Other:	

Strategy Reflection Log

Use this worksheet to select a strategy, set a goal, and reflect on your use of that strategy.

Element: _____

Strategy: _____

Goal: _____

_____

_____

Date	How did it go?

Student Survey for Increasing Response Rates

1. My teacher wants everyone to participate in class discussions.

Strongly Disagree   Disagree   Neither Agree
Nor Disagree   Agree   Strongly Agree

2. My teacher calls on students randomly when he or she asks questions.

Strongly Disagree   Disagree   Neither Agree
Nor Disagree   Agree   Strongly Agree

3. My teacher lets students talk to each other before answering questions.

Strongly Disagree   Disagree   Neither Agree
Nor Disagree   Agree   Strongly Agree

4. My teacher gives me time to think before and while I am answering a question.

Strongly Disagree   Disagree   Neither Agree
Nor Disagree   Agree   Strongly Agree

5. When my teacher asks a question, I think about how I would answer.

Strongly Disagree   Disagree   Neither Agree
Nor Disagree   Agree   Strongly Agree

6. My teacher often asks students to explain their answers to questions.

Strongly Disagree   Disagree   Neither Agree
Nor Disagree   Agree   Strongly Agree

Teacher Survey for Increasing Response Rates

1. **I pause to give students time to think before calling on someone to answer a question.**

   Often   Sometimes   Rarely   Never   I don't know

2. **I ask the whole class to answer questions as one.**

   Often   Sometimes   Rarely   Never   I don't know

3. **I use nonverbal response strategies with my students.**

   Often   Sometimes   Rarely   Never   I don't know

4. **I ask students to respond to their classmates' answers.**

   Often   Sometimes   Rarely   Never   I don't know

5. **I ask students to explain the thinking behind their answers.**

   Often   Sometimes   Rarely   Never   I don't know

6. **My students participate in class discussions.**

   Often   Sometimes   Rarely   Never   I don't know