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As one would expect, the pages of this journal most frequently contain articles dealing with issues of subject-specific pedagogy, articles that offer instructors useful techniques for improving their students' theoretical and aural skills. However, it is also important for theory teachers to focus on general pedagogical techniques that can improve learning in their classrooms. Teaching in classrooms, as most theory teachers do, requires a different set of pedagogical skills than teaching private lessons or conducting ensembles. Unfortunately, the pedagogy of classroom teaching is often overlooked by researchers in music education who deal mostly with instrumental and vocal pedagogy. Instead, one must turn to the scholarship on teaching and learning in the general education literature to find useful information on classroom teaching.

One component of classroom teaching that has received much attention is the art of questioning, and how questioning can be used to improve learning. This article uses the findings from the general education literature to promote an increased awareness of our own questioning strategies and offer some ideas about how we might employ questioning tactics in our theory classrooms to enhance student learning. We are not concerned here with questioning strategies for private lessons or discussion sections, nor are we concerned with formulating questions for exams; rather, we seek to examine how we engage in questioning during the presentation of a normal theory class or any other lecture or skills-based course. For the purposes of this discussion, I define a "question" to be any teacher statement that elicits a student response (regardless of whether it ends in a question mark).

In order to determine whether or not a question is effective, it is important to understand *why* we ask questions in the first place. There are two main reasons why we ask questions in the classroom: 1) to stimulate thinking and 2) to assess our students. First, asking questions forces students to engage mentally in what is happening in the classroom. Often students just sit in class and passively take

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notes (or worse yet, they put in their ear buds and just copy down the PowerPoint slides). But if the instructor poses questions in the classroom, then students are encouraged to *think* and process the information in a different way. Secondly, questioning is used for assessment, or to check students' level of understanding. When a student responds to a question, it allows the teacher to assess what the student knows or does not know. (It also allows the teacher to assess whether he or she taught the skill or concept effectively.) Questioning for assessment is something that is not done as often as it should be. Many times teachers wait until the homework is turned in, or until the midterm, before they assess their students' comprehension of the material; however, it is better to assess students continually as one teaches each new skill or concept, so that the teacher always is aware of what the students know. If a teacher does not discover a comprehension problem until the midterm, it is often too late to go back, reteach the concept, and engage in sequential instruction to bring the students up to where they need to be.

Plenty of research exists on the art of effective questioning, although most of it focuses on the elementary or secondary level. Very little research on the topic has occurred in music classrooms; however, we can apply the findings of the general literature to collegiate level music teaching, specifically music theory classes. In general, the research shows that the teacher's use of questions in a classroom does make a difference: students in classrooms where teachers ask effective questions achieve more than students in classrooms where teachers do not ask effective questions.[1]

Intuitively this makes sense, as there are many benefits that result from purposeful questioning in the classroom. First, asking questions helps to focus students' attention on what is important (or at least what the teacher thinks is important), which is generally the information that appears on tests and other graded material, thus enhancing achievement. Secondly, as mentioned before, asking questions helps elicit a greater depth of processing of information from students. Third, asking questions can activate students' metacognitive processes; when students are pondering a question posed by the teacher, they are becoming more aware of what

[1] Many of the ideas presented in this article appear in multiple sources on teaching and learning. I have attempted to provide citations for all ideas that are credited to specific scholars, and I have included a bibliography with general sources on questioning practices in classroom teaching.

they know and what they do not know. This self-awareness is an important component for student success. Fourth, questioning can offer valuable practice and rehearsal, an important component of skills-based courses such as music theory and aural skills. Finally, asking questions can promote appropriate re-teaching by making teachers more aware of what concepts and skills students do not fully comprehend.

Although there are many benefits to asking questions, teachers should recognize that not all questions have equal pedagogical value. Some are much more effective than others at achieving the questioning goals: stimulating student thinking and assessing student learning. In the following pages, I examine six of the most important characteristics of an effective question, in order to gain a better understanding of how to best formulate questions in our theory classrooms.

Characteristic #1: Questions should be directed to all students

Whenever possible, the questions we ask should be directed to *all* students in the class. This means that when posing a question, we must ask the question *first* and call on the student's name *last*.

Bad Question: "Sasha: what scale degree does the melody end on?"

In this poorly phrased question, as soon as the teacher says "Sasha," all the other students in the classroom can stop thinking because they know they will not be responsible for the answer. In effect, the teacher has stimulated thinking for only one person: Sasha. A better way to ask this question is as follows:

Better Question: "Class: what scale degree does the melody end on—Sasha?"

In this case, by asking the question first and calling on the student's name last, the teacher has stimulated thinking for everyone in the class, not just a chosen student.

Characteristic #2: Each question should be followed by "wait time."

"Wait time" is the period of time in between when the teacher poses a question and when the teacher calls on a student (or

students) for a response. The leading scholar who "discovered" the benefits of wait time in the 1970s was Mary Budd Rowe.[2] In her research, Rowe found significant differences between classrooms where teachers incorporated three-to-five seconds of wait time before calling on students to respond and classrooms where teachers did not use wait time. Classrooms that consistently employed wait time enjoyed several benefits. First, teachers who used wait time had a higher student participation rate. The extra seconds after the question allowed more students enough thinking time to arrive at an answer. Second, teachers who used wait time received better student answers than those who did not use wait time. Students' answers were longer on average and included more evidence and logical support. Finally, students showed more confidence in their responses in classes where the teacher employed wait time.

It can be very tempting to call for a student response as soon as one student raises his or her hand, but waiting those few extra seconds has definite pedagogical advantages. Some teachers find it difficult to incorporate wait time into their teaching habits, as those seconds of "awkward silence" can seem uncomfortable at first. But something very important is happening during those seconds: students are *thinking*. One of our main goals in asking questions is to stimulate student thinking, so we need to make sure we give students time to do so.[3]

Often teachers perceive a lack of student response to a question as evidence that the students do not know the material; however, sometimes a lack of response is really the *teacher's* fault. The way a teacher poses a question can make a big difference in student response rates, as we will see in the two following questioning characteristics.

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[2] Since Rowe first began investigating wait time in the early 1970s, numerous studies have examined the issue of using wait time in the classroom. For one review of the work of Rowe and her colleagues, see Mary Budd Rowe, "Wait Time: Slowing Down May Be A Way of Speeding Up!" *Journal of Teacher Education* 37 (January-February 1986): 43-50.

[3] In addition to the "post-teacher-question" wait time described in this section, there are additional types of wait time that also produce educational benefits, including "within-student-response" wait time, "pre-teacher-talk" wait time, "within-teacher-presentation" wait time, and others. Although beyond the scope of this article, discussions of the various types of wait time may be found in several of the sources included in the bibliography.

Characteristic #3: Questions should be precise and answerable

One of the biggest inhibitors to classroom participation is a fear of being wrong. Thus, if students are at all unclear about how to answer a particular question, they are probably not going to try for fear of being perceived as unintelligent by their peers or their professor.[4] Instructors must ensure their questions are clear and precise, so students can be confident the answer they want to give is the answer the instructor seeks.

First, teachers should ask only one question at a time, and this question should not be incredibly long or more complex than it needs to be.

> *Bad Question:* "So, what are the different parts of sonata-allegro form, and how does this form compare to the different types of binary and ternary forms we talked about earlier?"

This poorly designed question actually asks multiple sub-questions at once. Some students might know the answer to one or more of the sub-questions, but if they cannot answer all of them they will be unlikely to volunteer a response. It would be much better to break down this complex question into more manageable single questions and ask them one at a time.

> *Better Question 1:* "What are the three main sections in a sonata-allegro form?"
>
> *Better Question 2:* "What characteristics does sonata-allegro from share with rounded-binary form?"
>
> Etc.

Secondly, it is important that our questions are not vague or ambiguous, and students clearly know what type of answer is expected.

> *Bad Question:* "Alright, so what can you tell me about species counterpoint?"

[4] Several sociologists have investigated students' motivations for participation or non-participation in collegiate classrooms. See, for example, Polly Fassinger, "Professors' and Students' Perceptions of Why Students Participate in Class," *Teaching Sociology* 24, no. 1 (January 1996): 25-33; and Jay R. Howard and Amanda L. Henney, "Student Participation and Instructor Gender in the Mixed-Aged College Classroom," *The Journal of Higher Education* 69, no. 4 (July –August 1998): 384-405.

Many students may actually know quite a bit about species counterpoint, but they will be unlikely to volunteer an answer, since it is very unclear as to what type of answer is expected. Does the teacher want to know the general definitions of the different species? Or specific voice-leading rules? Or the history of species counterpoint? Or something else? As teachers, we often have a very clear idea of what information we are looking for, but we do not clearly articulate the question in such a way that it directly asks for this information.

Better Question: "What types of dissonances are allowed in third species counterpoint?"

Now the students who know the answer will be much more likely to speak up since there is a greater chance that the answer they will give will match the information the teacher is seeking.

Finally, our questions should be constructed in such a way so students know *how* they are supposed to respond.

Bad Question: (after drawing a brief progression on the board) "So, what's wrong with my part-writing?"

Now, the problem is not that students do not know what type of answer is expected, but rather that they do not know *how* to answer the question. Should they shout out errors they notice? Should they raise their hand and identify one error when called upon? Should they raise their hand and identify all the errors they see when called upon? Should they go up to the board and mark the errors like they did last week in class? Anytime students are unsure about how to respond properly, they will be less likely to volunteer. A better way to pose the question is as follows:

Better Question: "Raise your hand if you can identify one error in my part-writing."

Phrasing the question this way gives students clear directions as to how they are supposed to respond, thereby increasing the likelihood that they will volunteer an answer.

Characteristic #4: Questions should be inviting, not intimidating

One of my education professors used to remind us that as teachers, we are engaging in "inquiry," not an "inquisition." If we want to encourage student participation, then it is important that the questions we ask are inviting, not intimidating. The teacher's

tone and body language can make a big difference in whether or not students feel comfortable responding to a question.

In general, it is better to avoid trick questions. If students think that you are often trying to trick them, then they will be hesitant to respond even if they have good answers. Teachers should also avoid creating questions that are potentially embarrassing. Refrain from starting questions with phrases such as "We talked about this last week…." or "Here's an easy one…." Students will not want to risk answering a question that has been labeled as "easy" because it will be potentially embarrassing if they get it wrong.

Also, teachers should avoid using questioning as a form of punishment. If a student is sending a text message or falling asleep, it can be tempting to toss a question at them. In these cases, the teacher knows the student will get the answer wrong and is just using the questioning opportunity to embarrass the student in front of the class. The question/answer dialogue in our classrooms should be a positive experience, and using questioning as punishment does not contribute to that goal. There are other, more effective, classroom management techniques.

Characteristic #5: Questions should require student thinking

One of our main reasons for asking questions in the classroom is to stimulate student thinking, so we should make sure to construct questions that require students to think. In general, it is best to avoid yes/no or other 50/50 questions, as these often do not require much thought.

Bad Question: "Is this a perfect authentic cadence?"

Better Question: "What type of cadence is this?"

In some cases, however, 50/50 questions are perfectly acceptable, for example, when trying to distinguish between major and minor triads in a basic ear-training class. One way to approach 50/50 questions will be discussed in a later section.

Teachers should also avoid suggestive or leading questions.

Bad Question: "Since this triad is made of two stacked major thirds, it's an augmented triad—right?"

Again, these types of questions do not encourage much thinking from the student.

Finally, teachers should make it a point not to answer their own questions. We have all had those teachers who seem to persist with their own monologue in front of the classroom:

> *Bad Question:* "So what key has two sharps? D major of course. But what other key could also have two sharps? If you're thinking of B minor, you're correct!"

If students discover that the teacher is always going to answer the questions for them, then they learn that they do not have to engage in any thinking when the teacher poses questions.

Characteristic #6: Questions should elicit maximum student participation

When we pose a question to our class, we are not trying to discover what *one* student knows; rather we want to find out what *all* the students know. Thus, we should aim for maximum participation in our questioning strategies. This means teachers should not just call on the same three volunteers who sit in the front row and raise their hands all the time. If this happens, the rest of the students in the class will realize that they do not need to think when the teacher poses a question, since one of the three over-achievers in the front row will always volunteer. It may be necessary to call on non-volunteers at times, so students understand that everyone is accountable for thinking when questions are posed.

Some teachers do not like to put people "on the spot" (many of us were shy students ourselves), so another option to encourage maximum participation is to employ group responses. Unlike individual responses, group responses require the entire class to respond at once. Group response questions are great for assessment, one of our main reasons for asking questions. When a teacher poses a question and gets *all* students to respond, the teacher can immediately assess exactly what percentage of the class knows or does not know the answer and adjust his or her teaching accordingly. Group responses are a great way to encourage participation even in large classes, where it is often not possible to hear from each individual student. There are many types of group responses, six of which will be discussed here: oral response, thumb response, finger response, response card, pair answer, and everybody writes.

1) *Oral Response*

In an oral response, all students respond vocally to the posed question. The key here is to provide some type of signal so that all students respond at the same time.

Example: "I'm going to describe a key signature for a major key. On the count of three, shout out the name of the key with that signature.

-Three sharps. 1—2—3… (response)
-One flat. 1—2—3…(response)" Etc.

Oral responses are an easy way to drill fundamental concepts and provide lots of practice in a short period of time. Unfortunately, by the nature of the verbal response, it is often not possible to get an exact assessment of who knows the material. The following responses offer opportunities for more precise assessments.

2) *Thumb Response*

Thumb responses are useful when teachers do have 50/50 questions to assess. They are especially helpful in assessing ear-training concepts.

Example: "I'm going to play a triad on the piano. Show me thumbs up if you hear a major triad, thumbs down if you hear a minor triad, or thumbs sideways if you are unsure."

The sideways thumb option is important to include. It allows students to let the teacher know they have not fully grasped the material without having to raise their hand and admit it to the whole class. Students should know that your main goal in asking these questions is not to see which individuals are right or wrong, but rather to assess *yourself* and assess how well you have taught the skill or concept. Thus, if they do not know the answer, it is to their advantage to show that they are unsure (rather than to guess), so that you know to review or reteach that skill or concept.[5]

Thumb responses can also be used in conjunction with individual responses.

Example:

Teacher: "What error do you see in this part-writing—John?"

John: "There are parallel 5ths in measure 3."

Teacher: "Class: thumbs up if you agree with John, thumbs down if you disagree."

[5] I make it a point to tell my students that if they do not know an answer to a question, they should not feel bad or embarrassed, because it is probably *my* fault for not teaching well. I want them to feel comfortable communicating with me honestly about what they know and do not know so that I can adjust my teaching as necessary.

In this case, the teacher addressed a question to an individual but was still able to assess the rest of the class by using the thumb response.

3) *Finger Response*

Finger responses are useful when a question has a numerical answer.

> *Example:* "I'm going to play a short melodic fragment. Show me using your fingers which scale degree the melody ends on."

The first time that question was asked in this article ("Sasha: what scale degree does the melody end on?"), it stimulated thinking for one person (Sasha) and assessed only one person (Sasha). In this case, however, the question is much more effective: it stimulates thinking for *all* students and assesses *all* students at once.

Finger responses can also be used when a question has more than two possible responses.

> *Example:* "I'm going to play a triad. Show me one finger if you hear a major triad, two fingers if you hear a minor triad, three fingers for diminished, four for augmented, or five fingers if you're unsure."

It is helpful to have some type of key or legend on the board so students can see what options they have. This questioning method has many advantages. The teacher can accomplish a substantial amount of triad practice in a very short period of time and assess all students with each example. Moreover, the teacher can adjust the drill based on the needs of the students. If the teacher notices that almost all of the students correctly identify the major and minor triads each time, but only half of them correctly identify diminished and augmented triads, he or she can offer more practice with the latter types.

4) *Response Cards*

Response cards are also useful for questions with several answer options. Instead of showing finger numbers in response to a question, students can indicate their chosen answer on a response card. Response cards can be constructed for almost any topic. Figure 1 shows an example of a response card for a unit on seventh chords:

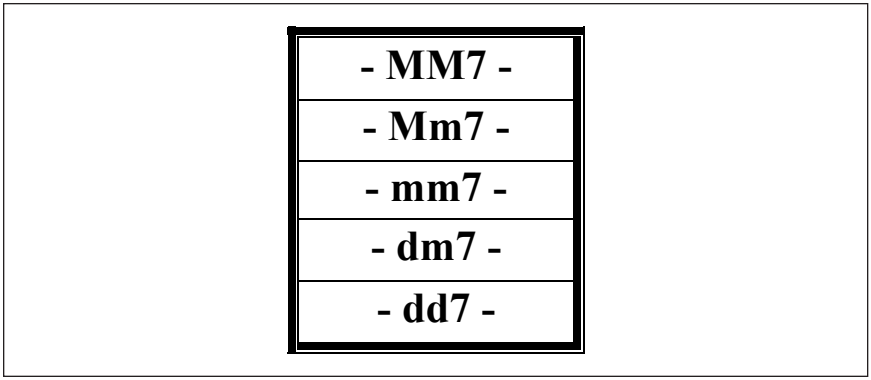

Figure 1. Sample Response Card: Seventh Chords

For an ear-training class, the teacher could play a seventh chord and ask the students to show what type of chord they hear by pointing to the appropriate line on their response cards. For a theory class, the teacher could show different chords on the board and have students indicate what type of chord they see using their cards. In both cases, the teacher is able to assess the entire class at once, instead of just hearing from individual students.

Figure 2 shows another example of a response card that can be used when practicing interval identification. Students can show the quality of the interval by touching the appropriate box with their right hand, and they can show the distance of the interval by touching the appropriate box with their left hand:

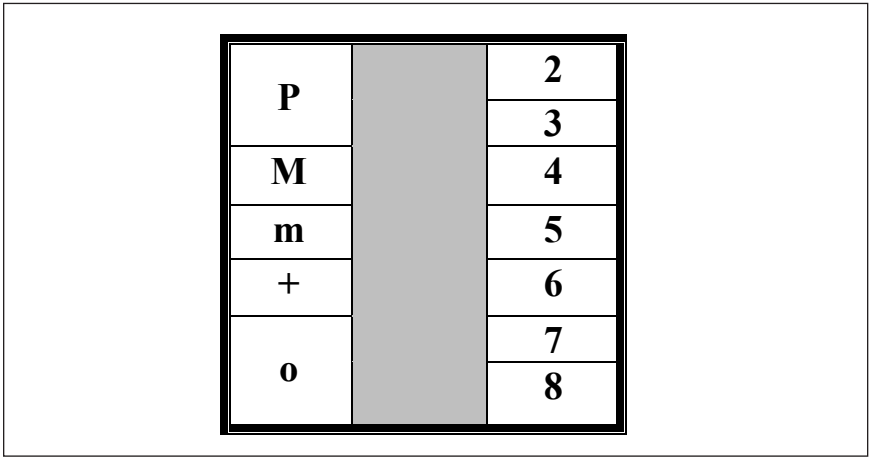

Figure 2. Sample Response Card: Interval Identification

The four group responses so far have all been good for *convergent* questions. Convergent questions are those that have only one right answer, such as "minor," or "perfect fifth," or "fully-diminished seventh chord." Sometimes, however, we ask *divergent* questions—questions that have more than one possible right answer—or other higher order thinking questions. The challenge with these questions is still to strive for maximum student thinking and maximum participation. Obviously, these questions cannot be answered with a response card or a finger response; however, as the next two items show, there are ways to maximize student engagement.

5) *Everybody Writes*

One of the best ways to encourage classroom participation is to allow students to write down their responses before speaking aloud. Writing responses allows students to practice articulating their thoughts, increasing their confidence and willingness to participate. It also makes it easier to get otherwise shy students involved in classroom participation; the teacher can circulate while students write, find students with good responses, and just ask them to "read what they wrote," ensuring a positive contribution experience. Moreover, including a writing component ensures that all students are engaged in thinking. Even though the teacher may only hear oral responses from one or two students, all students are engaged in thinking and responding to the posed question since they all have to write.

> *Bad Question:* "Raise your hand if you can describe the non-chord tones we talked about last week."
>
> *Better Question:* "Last week we talked about non-chord tones. Everybody write down a list of all the different types of non-chords you remember. I'll then randomly pick people to describe some items on their list."

In the "Bad" question, there is no assurance that students are engaged in thinking, aside from the (hopefully) few who volunteer. In the "Better" question, *all* students are engaged in responding to the question in some way, and knowing they may be called on ensures that some thinking will take place. Collecting the papers at the end of class also adds an element of accountability that motivates students to participate. The instructor may glance through the papers to assess the level of the class, use them for

participation credit, or not look at them at all, but knowing that they will be turning in a the paper encourages students to take the assignment seriously.

6) *Pair Answer*

When asking divergent or higher order thinking questions, it is usually impossible for the teacher to hear individual responses from every student in the class; however, this does not mean that each student cannot individually respond to the question. In "pair answer," each student has the opportunity to respond to the question by talking with a partner, thereby allowing all students to practice articulating a response to the given question.

> *Bad Question:* "Who can describe the structure and component parts of a sonata form—Jim?"
>
> *Better Question:* "With your partner, practice describing the structure and component parts of a sonata form. Partner A talks first, followed by partner B. I will then pick one or two students to describe sonata form to the class."

Again, in the "Bad" question, only one student gets the opportunity to talk through the parts of a sonata form, whereas in the "better" question, *all* students get practice in describing the form. Knowing they might be called upon encourages them to take this practice time seriously. Working with a partner also allows for collaborative learning and peer feedback, two important educational tools.

Conclusion

The six characteristics of an effective question discussed above provide useful guidelines for formulating questions in the music theory classroom. But changing one's questioning habits is not easy—it requires careful thought, practice, and self-reflection. First, one must be able to evaluate his or her own questioning methods and determine what changes need to be made. Often, however, we can be quite unaware of our own teaching habits. I recommend recording yourself teaching, so you can listen to yourself and analyze your questioning techniques.[6] Another option is to have one of your colleagues or someone from the instructional

[6] Check with your instructional development department on campus — it may offer good quality recording services at little or no cost to faculty.

development department sit in on your class and evaluate your teaching. After identifying areas where you might improve your questioning strategies, you can then practice making adjustments in the classroom. Doing this well will require a high level of conscious self-reflection; after asking a question to your students, ask yourself: Did you direct your question to all students? Did you use at least three seconds of wait time? Could you have phrased the question differently such that it stimulated thinking for and assessed more students? Etc. Although questioning strategies may seem like a small component of the theory courses we teach, they can make a big difference in classroom participation, teacher effectiveness, and student learning.

Bibliography

Bloom, Benjamin S., ed. *Taxonomy of Educational Objectives: The Classification of Educational Goals*. New York: David McKay Company, 1956.

Brophy, Jere, and Thomas Good. "Teacher Behavior and Student Achievement." In *Handbook of Research on Teaching*, 3rd ed. Edited by Merlin Wittrock. New York: Macmillan, 1986.

Carlsen, William S. "Questioning in Classrooms: A Sociolinguistic Perspective." *Review of Educational Research* 61, no. 2 (1991): 157-178.

Fassinger, Polly. "Professors' and Students' Perceptions of Why Students Participate in Class." *Teaching Sociology* 24, no. 1 (January 1996): 25-33.

Fraenkel, Jack R. "Ask the Right Questions!" *The Clearing House* 41, no. 4 (Dec. 1966): 199-202.

Gall, Meredith. "Synthesis of Research on Teachers' Questioning." *Educational Leadership* 42, no. 7 (Nov. 1984): 40-47.

_____. "The Use of Questions in Teaching." *Review of Educational Research* 40, no. 5 (Dec. 1970): 707-721.

Howard, Jay R., and Amanda L. Henney. "Student Participation and Instructor Gender in the Mixed-Aged College Classroom." *The Journal of Higher Education* 69, no. 4 (July-August 1998): 384-405.

Hunkins, Francis P. *Questioning Strategies and Techniques*. Boston: Allyn and Bacon, 1972.

Lemov, Doug. *Teach Like a Champion: 49 Techniques that Put Students on the Path to College*. San Francisco: Jossey-Bass, 2010.

Kassner, Kirk. "Improving Your IQ: Intelligent Questioning." *Music Educators Journal* 84, no. 5 (Mar. 1998): 33-36.

Ladas, Harold, and Louis Osti. "Asking Questions: A Strategy for Teachers." *The High School Journal* 56, no. 4 (Jan. 1973): 174-189.

Morgan, Jack, and Joan Schreiber. *How to Ask Questions*. Washington D. C.: National Council for the Social Studies, 1969.

Ornstein, Allen. "Questioning: The Essence of Good Teaching--Part I." *NASSP Bulletin* 71, no. 499 (May 1987): 71-79.

_____. "Questioning: The Essence of Good Teaching--Part II." *NASSP Bulletin* 72, no. 505 (Feb. 1988): 72-80.

Rowe, Mary. "Wait-Time and Reward as Instructional Variables." *Journal of Research on Science Teaching* 11, no. 2 (1974): 81-94.

_____. "Wait Time: Slowing Down May Be A Way of Speeding Up!" *Journal of Teacher Education* 37 (January-February 1986): 43-50.

Sanders, Norris M. *Classroom Questions: What Kinds?* New York: Harper & Row, 1966.

Stevens, Romiett. *The Question as a Measure of Efficiency in Instruction*. New York: Teachers College Columbia University, 1912.

Wassermann, Selma. *Asking the Right Question: The Essence of Teaching*. Bloomington, Indiana: Phi Delta Kappa Educational Foundation,1992.

Wilen, William W., ed. *Questions, Questioning Techniques, and Effective Teaching*. Washington, D.C.: National Education Association, 1987.

Wilen, William W., and Ambrose Clegg. "Effective Questions and Questioning: A Research Review." *Theory and Research in Social Education* 14, no. 2 (Spring 1986): 153-161.