Handling Student Responses to Questions

An important aspect of classroom interaction is the manner in which the instructor handles student responses. When an instructor asks a question, students can either respond, ask a question, or give no response.

**STRATEGIES TO USE WHEN STUDENTS RESPOND**

- **Reinforcement:** The instructor should reinforce student responses and questions in a positive way in order to encourage future participation. The instructor can reinforce by making positive statements and using positive nonverbal communication. Proper nonverbal responses include smiling, nodding and maintaining eye contact, while improper nonverbal responses include looking at notes while students speak, looking at the board, or ruffling papers. The type of reinforcement will be determined by:
  - The correctness of the answer. If a student gives an answer that is off-target or incorrect, the instructor may want to briefly acknowledge the response but not spend much time on it and then move to the correct response.
  - The number of times a student has responded. Instructors may want to provide a student who has never responded in class with more reinforcement than someone who responds often.

Be sure to vary reinforcement techniques between various verbal statements and nonverbal reactions. Try not to overuse reinforcement in the classroom by overly praising every student comment. Students begin to question the sincerity of reinforcement if every response is reinforced equally or in the same way.

- **Probing:** The initial response of students may be superficial. The instructor needs to use a questioning strategy called probing to make students explore initial comments. Probes are useful in getting students more involved in critical analysis of their own and other students’ ideas. Probes can be used to:
  - Analyze a student’s statement, make a student aware of underlying assumptions, or justify or evaluate a statement. **Instructor** What are some ways we might solve the energy crisis? **Student** I would like to see a greater movement to peak-load pricing by utility companies. **Instructor** What assumptions are you making about consumer behavior when you suggest that solution?
  - Help students deduce relationships. Instructors may ask students to judge the implications of their statements or to compare and contrast concepts. **Instructor** What are some advantages and disadvantages of having grades given in courses? **Student 1** Grades can be a motivator for people to learn. **Student 2** Too much pressure on grades causes some students to stop learning, freeze, go blank. **Instructor** If both of those statements are true, what generalizations can you make about the relationship between motivation and learning?
  - Have students clarify or elaborate on their comments by asking for more information. **Instructor** Could you please develop your ideas further? **Instructor** Can you provide an example of that concept? **Student** It was obvious that the crew had gone insane. **Instructor** What is the legal definition of insane? **Student** It was a violation of due process. **Instructor** Can you explain why?

- **Adjust/Refocus:** When a student provides a response that appears out of context, the instructor can refocus to encourage the student to tie her response to the content being discussed. This technique is also used to shift attention to a new topic. **Instructor:** What does it mean to devalue the dollar? **Student:** Um—I’m not really sure, but doesn’t it mean that, um, a dollar doesn’t go as
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far as it used to? Does that mean it's devalued? Instructor: Well, let's talk a little bit about another concept, and that is inflation. How does inflation affect your dollar?

STRATEGIES FOR RESPONDING TO STUDENT QUESTIONS

There are many ways in which an instructor can respond to questions from students. However, all strategies begin with this important step: Listen to the student's question. After you are certain that you understand the question, be sure that other students have heard and understood the question. Then proceed with one of the following strategies:

- Answer the question yourself. This strategy is best when you have little time remaining in class. The disadvantage of this approach is that you do not encourage student-to-student interaction or independent learning.
- Redirect the question to the class. This strategy helps to encourage student-to-student interaction and to lessen reliance on the instructor for all information.
- Attempt to help the student answer his own question. This may require prompting through reminders of pertinent previously learned information. Or this strategy may require you to ask the student a lower-level question or a related question to begin his thought process. The advantage of this strategy, as in redirecting, is that the student may learn the process of searching for answers to his own questions rather than relying on the teacher. The risk is that the process can be embarrassing or so threatening that the student will be too intimidated to ask questions in the future. Obviously some human compassion is called for when using this strategy.
- Ask the student to stop after class to discuss the question. This strategy is most appropriate when a student raises complicated, tangential questions or when a student is obviously the only one who does not understand a point and a simple answer does not clarify it for the student. Even in these situations there are risks in using this strategy. Students may be intimidated from raising questions in class. The instructor may think that only the questioning student does not understand when actually a number of students are having the same problem.
- Refer the student to a resource where she can find the answer.
- Defer the question until a more appropriate time if the question is not connected to the material you're covering. Be sure to note the question and the student, and to return to the question at a more appropriate time.

No matter which strategy you use you should return to the student after addressing the question and determine whether the response has satisfied the student.

If you don't know the answer to a student question never fake an answer. Admit that you cannot answer the question and then select one of these strategies or others you find appropriate:

- Ask whether someone in the class can answer the question. Most times after class you should follow this with an attempt to determine whether the information provided was accurate or based on sound reasoning and credible sources.
- Either propose a plan for obtaining evidence for answering the question or ask the students to suggest how the question could be investigated.
- If possible, suggest a resource where the student can find information. The resource may be written material, another faculty or staff member, a student, or someone from the community.
- Volunteer to find the answer yourself and report back to the class. Make sure you actually do return with the answer if you choose this option.
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STRATEGIES TO USE WHEN STUDENTS DON'T RESPOND

- **Redirect:** When a student responds to a question, the instructor can ask another student to comment on his statement. One purpose of using this technique is to enable more students to participate. This strategy can also be used to allow a student to correct another student's incorrect statement or respond to another student's question. *Instructor:* Ali, do you agree with Mark's comment? *Instructor:* From your experience, Aisha, does what Vito said seem true? *Instructor:* Li, can you give me an example of the concept that Pat mentioned?

- **Rephrasing:** This technique is used when a student provides an incorrect response or no response. Instead of telling the student she is incorrect or calling upon another student, the instructor can try one of three strategies:
  - The instructor can try to reword the question to make it clearer. The question may have been poorly phrased. *Instructor:* What is neurosis? *Student:* (No response) *Instructor:* What are the identifying characteristics of a neurotic person?
  - The instructor can provide some information to help students come up with the answer. *Instructor:* How far has the ball fallen after 3 seconds? *Student:* I have no idea. *Instructor:* Let's break down the question, Ann. How do we measure distance?
  - The instructor can break the question down into more manageable parts. *Instructor:* What is the epidemiology of polio? *Student:* I'm not sure. *Instructor:* What does “epidemiology” mean?

- **Using "wait time":** One factor that can have powerful effects on student participation is the amount of time an instructor pauses between asking a question and doing something else (calling on a student or rewording the question). Research on classroom questioning and information processing indicates that students need at least three seconds to comprehend a question, consider the available information, formulate an answer, and begin to respond. In contrast, the same research established that, on average, a classroom teacher allows less than one second of wait-time. After teachers were trained to allow three to five seconds of wait-time the following significant changes in their classrooms occurred (from Rowe, 1974):
  - The number of students who failed to respond when called on decreased.
  - The number of unsolicited but appropriate responses increased.
  - The length of student responses increased.
  - The number of student statements where evidence was used to make inferences increased.
  - The number of responses from students identified by the teacher as less able increased.
  - The number of student-to-student interactions increased.
  - The number of student questions increased.

Allowing wait-time after a student response or question also produced significant changes in classroom interaction. The most notable change was that the instructor made fewer teaching errors characterized by responding illogically or inappropriately to a student comment.

On the other hand, too much wait-time can also be detrimental to student interaction. When no one seems to be able to answer a question, more wait-time will not necessarily solve the problem. Experts say that waiting more than 20-30 seconds is perceived as punishing by students. The amount of wait-time needed in part depends upon the level of question the instructor asks and
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student characteristics such as familiarity with content and past experience with the thought process required.