

Wait time, responding, probing and reinforcement

Researchers on questioning strategies speak of two kinds of wait-time: ‘wait-time 1’ refers to the amount of time the teacher allows to elapse after he/she has posed a question and before a student begins to speak; and ‘wait-time 2’ refers to the amount of time a teacher waits after a student has stopped speaking before saying anything.

Findings include:

- The average wait-time teachers allow after posing a question is one second or less.
- Students whom teachers perceive as having learning difficulties are given less wait-time than those teachers view as more capable.
- For lower cognitive questions, a wait-time of three seconds is most positively related to achievement, with less success resulting from shorter or longer wait-times.
- There seems to be no wait-time threshold for higher cognitive questions; students seem to become more and more engaged and perform better and better the longer the teacher is willing to wait.
- Increasing wait-time beyond three seconds has been found to be positively related to the following student outcomes:
 1. Improvements in the student achievement
 2. Improvements in student retention, as measured by delayed tests
 3. Increases in the number of higher cognitive responses generated by students
 4. Increases in the length of student responses
 5. Increases in the number of unsolicited responses
 6. Decreases in students’ failure to respond
 7. Increases in the amount and quality of evidence students offer to support their inferences
 8. Increases in contributions by students who do not participate much when wait-time is under three seconds
 9. Expansion of the variety of responses offered by students
 10. Decreases in student interruptions
 11. Increases in student-student interactions
 12. Increases in the number of questions posed by students.

Source: (Cotton, 2001)

Tips and tactics:

- Give students 30 seconds to share their answer with a partner before feeding back. This also promotes confidence as it is a 'joint effort'.
- Use teaching ideas such as Think, Pair, Share or Snowballing at key points for 'big' questions.
- Ask the question, move to another part of the room and repeat it before taking any answers.
- Set a timer, or ask a student to time the wait time.
- Play some thinking music.
- Point to a classroom sign: 'THINK TIME'.

Responding to answers – redirection/probing/reinforcement

Professor Dylan Wiliam emphasises the need to move away from IRE (Initiate, Response, Evaluate), and to think more carefully about the way we ask questions and respond to student's answers.

Several studies have confirmed that nearly half of student answers are at a different cognitive level than the teacher question, yet teachers generally accept these answers as sufficient without probing or prompting correct responses.

(Walsh & Sattes, 2005)

Research findings include:

- Redirection and probing (often researched together) are positively related to achievement when they are explicitly focused, e.g., on the clarity, accuracy, plausibility, etc. of student responses
- Redirection and probing are unrelated to achievement when they are vague or critical, e.g., "That's not right; try again"; "Where did you get an idea like that? I'm sure Suzanne has thought it through more carefully and can help us."
- Acknowledging correct responses as such is positively related to achievement
- Praise is positively related to achievement when it is used sparingly, is directly related to the student's response, and is sincere and credible.

Source: (Cotton, 2001)

Tips and tactics

Use Socrates' probing questions:

- **Questions for clarification**
 - *Why are you saying that?*
 - *What exactly does this mean?*
 - *How does this relate to what we have been talking about?*
 - *What do we already know about this?*
 - *Can you rephrase that, please?*
- **Questions that probe assumptions**
 - *What else could we assume?*
 - *You seem to be assuming ...*
 - *How did you choose those assumptions?*
 - *How can you verify or disprove that assumption?*
 - *What would happen if ... ?*
 - *Do you agree/disagree with ...?*
- **Questions that probe reasons and evidence**
 - *Why is that happening?*
 - *How do you know this?*
 - *Can you give me an example of that?*
 - *How might it be refuted?*
 - *Why is ... happening?*
 - *Why? (keep asking it – you'll never get past a few times)*
 - *What evidence is there to support what you are saying?*
 - *On what authority are you basing your argument?*
- **Questions about viewpoints and perspectives**
 - *Who benefits from this?*
 - *What are the strengths and weaknesses of...?*
 - *How are ... and ... similar?*
 - *What would ... say about it?*
 - *How could you look at this another way?*
- **Questions that probe implications and consequences**
 - *What are the consequences of that assumption?*
 - *How could ... be used to ... ?*
 - *What are the implications of ...?*
 - *How does ... affect ... ?*
 - *How does ... fit with what we learned before?*
 - *Why is ... important?*
 - *What is the best ... ? Why?*
- **Questions about the question**
 - *What was the point of asking that question?*
 - *Why do you think I asked this question?*
 - *Am I making sense? Why not?*
 - *What else might I ask?*
 - *What does that mean?*

References

- Cotton, K. (2001). *Classroom Questioning*. Retrieved October 26, 2014, from School improvement research series: <https://www.aea267.k12.ia.us/system/assets/uploads/files/1467/classroomquestioningresearch.pdf>
- Walsh, J. A., & Sattes, B. D. (2005). *Quality Questioning: Research-Based Practice to Engage Every Learner*. California: Sage Publications.