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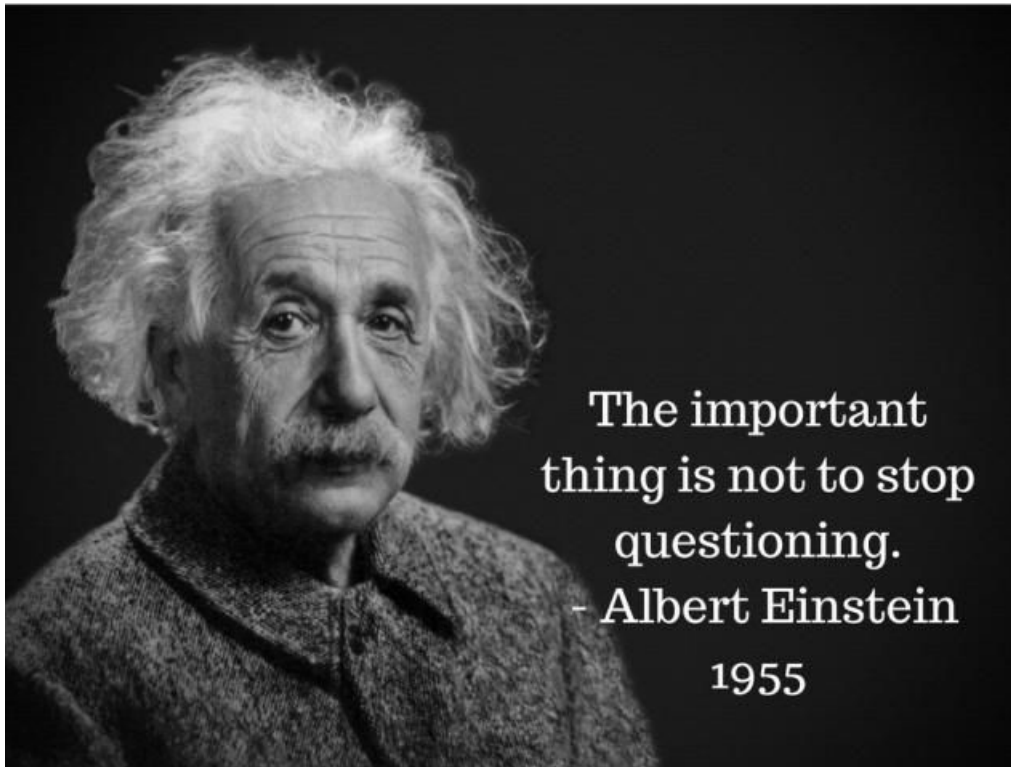


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Begging the Question: Strategies to Increase Student Performance

April 20, 2017 | By Roberta Niche
Instructional Design
Teaching Effectiveness

If you're an instructional designer or an instructor, you undoubtedly know a lot about questions. You know that simple yes-no questions are often a dead end and that open-ended questions generally make for more interesting discussions. You know that students typically aren't given enough think time; teachers' average wait time is less than one second before they pick someone to answer or answer the question themselves.

But have you considered who owns the questions in your courses? If the answer is only you, your students are missing out on an important opportunity to deepen their learning and reflect on their understanding. Here's my question for you: What are you doing to create an environment where students create, organize, refine, and answer their own questions?

Let's begin by examining the importance of questions and what they mean for student understanding and success.

The Importance of Questions

Educational researcher [John Hattie](#)'s meta-analysis of "what works best" in education, [Visible Learning](#), found that the impact of self-questioning is significant, with an effect size of $d=0.64$ where anything over $d=0.40$ is considered strongly impactful (Hattie, 2012, Appendix C).

Self-questioning doesn't just improve student learning. The ability to ask good questions is an important part of decision-making and problem-solving. Students who possess a robust "questioning toolkit" are better prepared to make meaning from the glut of information on the web. They are able to sift and sort information to filter down to nuggets that are useful or truthful. As author [Jamie McKenzie](#) explains,

"Powerful questioning leads to Information Power – the ability to use information to fashion solutions, decisions and plans that are original, cogent, practical and effective." [Jamie McKenzie, Questioning as Technology](#)

In their book *Make Just One Change: Teach Students to Ask Their Own Questions*, co-authors Dan Rothstein and Luz Santana explain the value of teaching students to form their own questions. "When students know how to ask their own questions, they take greater ownership of their learning, deepen comprehension, and make new connections and discoveries on their own" (Rothstein & Santana, 2011).

The Trouble with Teacher Questions

Teachers ask a lot of questions. No doubt, teacher questions are valuable when [used skillfully](#). As Grant Wiggins says, "There are all sorts of good pedagogical reasons for using a question format to underscore knowledge or to call attention to a forgotten or overlooked idea" (Wiggins, 2007). The trouble is that many teachers don't leave room for student questions.

Research consistently tells the same tale; teachers dominate the questioning, spending 30 to 50 percent of their instructional time on it (Albergaria-Almeida, 2010). To make matters worse, a high percentage of those questions is typically lower-level recall.

Think about your own design and teaching practices. Is there a balance between teacher questions and student questions?

- Designers, do your courses include assignments that require students to create their own questions?
- Instructors, do you always provide students with questions you want answered and discussed or do they have dedicated time to develop their own? Are you happy with the level of student engagement you have during discussions or when you ask “Does anybody have any questions?”

Here are two ways to make room for student ownership of questions in your classes:

Use Perusall to Tap the Power of Peers

Harvard Physics professor Eric Mazur was frustrated that his clear and expert presentations, highly-rated by students, weren't producing learners who understood basic physics beyond surface concepts. They couldn't transfer what he taught to real-world situations. He knew that students were intimidated when asking him questions in front of the whole class, but would ask their peers questions in less formal settings. He decided to flip his instruction to focus on student questions, using a free online tool he created called [Perusall](#). Here's how it works:

- The instructor uploads a reading assignment (textbook or PDF) into Perusall
- Students log in and read online, highlighting what confuses them and annotating the text with questions, comments, and insights.
- Annotations are collaborative. Students see each other's markups and respond. Their goal is to post good questions that stimulate discussion and to help others by answering their questions.
- Perusall uses a rubric driven by artificial intelligence to [automatically assess](#) the students' questions and responses.
- Instructors get a “confusion report” showing what parts of the text were most difficult for the students, allowing them to key on students' questions and misconceptions.

[Read more about Perusall](#)

Hold a Socratic Seminar

Socratic seminars are formal, student-led discussions. Students learn to listen carefully to others, paraphrase what's been said, ask questions, then respond with support or disagreement. Unlike debates, it's not a competition—the goal is mutual inquiry that leads to shared knowledge.

Socratic seminars can be structured in many ways, but the [inner-circle](#), [outer-circle](#) or “fishbowl” method is perhaps the most easily adaptable to blended and online learning. It is a good structure for involving many students simultaneously. Online, classes can conduct Socratic seminars using the meeting tool in their learning management system or in Skype. Inner-circle participants can be displayed, while outer-circle participants use a backchannel chat tool like [TodaysMeet](#) or [Chatzy](#).

Wiggins says that while participating in a Socratic seminar, “The student not only learns more about an idea or text, the student learns how to discuss it: the student gains practice in leading discussions, listening for insights in the comments of others, proposing alternative paths of conversation, insuring that quiet or “weird” voices are heard, and how to help talk move beyond superficial but unconnected sharing to sustained and thought-provoking dialogue” (Wiggins, 2004).

It's a much more active experience than most students are used to. Wiggins explains, “Students must come to know that their job is different. It is not to sit passively and await instruction or answers, or only to say whatever pops into their mind. Their job is to come to a common and an individual understanding of what something means” (Wiggins, 2004). To prepare for the seminar, students make notes about their ideas and develop questions.

So what's the role of the instructor in Socratic seminars? It's one of facilitator and coach, not content deliverer. Typically, an instructor will carefully choose an open-ended question or piece of text to be examined. After teaching norms for the seminar ([example](#)), the instructor turns responsibility for the dialogue over to the students, intervening only over procedural matters. During the seminar, the instructor observes and makes notes about how each student contributed to seminar. It can be difficult for instructors to avoid jumping in to the discussion, especially when there's an awkward silence. They need to remind themselves to not try to manage all the talk and lead students to an answer.

[Read more about how to design and teach a Socratic seminar](#)

Conclusion

As J.T. Dillon says, “The crucial act is to make room. Then we invite student questions in. They will enter hesitantly at first...But to invite is less a matter of technique than our attitude” (Dillon, 1988). Making room for student questions can be uncomfortable for students and instructors at first. There will be challenges as students learn to take more ownership of their learning and instructors learn to give up some control. Students, used to being passive receptors of content, commonly complain “You're making me think too much! Just tell me what I need to know to get the grade!” The payoff in increased student engagement and better learning makes it very worthwhile.

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Roberta Niche earned her Masters in Education (Instructional Technology) from California State University, Sacramento. She also holds a Bachelor of Science in Journalism from the S.I.