

# Two-minute Reflections

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**Context:** in-class; Lecture based engineering courses

**Keywords:** real-time reflection

**Student Activity Time:** 2 minutes

*Students reflected on the lecture and shared with each other what they learned and what remained unclear.*

## Introducing the Reflection Activity

In many courses lecture is a necessity, yet there are still creative and short ways to create an active learning environment. An educator implanted a short, real-time reflection in the class to allow students to discuss and share what they have learned and what may be unclear about the lecture. The purpose of the activity was to allow students to think about the lecture material and for the educator to gather feedback from students in order to address portions of the lecture that remained unclear.

The educator delivered the course lecture for approximately 15 minutes and asked the students to pair up with a partner. The educator gave students 2 minutes to discuss what they learned from the brief lecture, and what things were still unclear. The educator then asked students to report out to the class their questions and areas of concern. This allowed the educator to fill-in additional information that was unclear or areas that students had questions about. The educator also used this technique for problem solving. Instead of working through the example in class, the educator asked students to find a partner to discuss the problem, what the problem was supposed to solve, and how they would go about solving it.

The students and educator experienced positive outcomes from this activity. For students, the two-minute reflection provided an opportunity to consider the course material or problem at hand, and think through the content without pressure. For the educator, this activity allowed for a real-time assessment of the students' understanding of the material, and provided an opportunity to adjust in the moment. The activity itself allowed students to make meaning of the content that was delivered and to ask any questions that they may not have considered without the opportunity to pause.

## Recreating the Reflection Activity

	Description
1	Deliver the course lecture.
2	Give students 2 minutes to pair up and discuss what they have learned and what is unclear.
3	Offer pairs a chance to report out to the class what they have discussed.
4	Cover topics that remain unclear for students
5	Re-teach and discuss the parts of the quiz that are difficult

## In the words of the Educator: Tips and Inspiration

*Make sure pairing happens.* Giving the students the chance to talk with another student about what they learned and what was unclear allows them the chance to hide behind each other. People are shy when they don't understand and this gives them a chance to get some validation from their peer before speaking up. If they are left on their own, sometimes students won't go any further and just accept that they don't understand. In the conversation, they realize that they aren't the only ones who don't understand something, so they are empowered together to ask the question.

*Don't eavesdrop and don't ask them to write it down.* I don't eavesdrop to give students space to freely discuss. I typically stay in front and let them hash it out for themselves. Only if I ask them to solve a problem or sketch something would I look over their work and suggest improvements or confirm accuracy of their work. The method helps me realize quickly that something wasn't properly transmitted.

*What was the inspiration for the reflection activity?* I've really been inspired by the latest workshop by Richard Felder that I attended. He really just says "Pair up with a partner and tell me what's unclear about this lecture—talk about it." The two-minute exercise works well, because it really doesn't take a lot of time and it's independent of the size of the class. It also helps students to feel valued in the learning process because what they are thinking and understanding is central to the class. I'm using it more and more. Typically I use them at least once, and frequently several times during a lecture period. When I first started doing this, I was a little skittish about putting it into my classes, but the more I do it, the more I see the benefits of it. The process provides immediate feedback to me, empowers me to explain concepts in a different way, and most importantly, helps students learn better. Also, I see that students become more engaged during classes as the quarter progresses.