OLIVER DE WECK: Concept questions are a fairly recent instrument for checking the understanding of students in real time during the class. One way to administer concept questions is using clicker systems. They've been around for several years. A concept question is typically a very short question that requires either reflection, or some very simple calculation, that can be done in less than a minute.

The concept question is intended to surface misconceptions, but also alignment and understanding. And I do administer the concept questions using, in this case, Google Forms. But there's other ways to do it, essentially providing the students a very short URL-- a link that they can enter either on their laptops, even on their smartphones or on their tablets.

And usually, a concept question is a multiple choice question. Sometimes, it's very easy. Sometimes, it's quite tricky. And I give the students about 30 seconds or so to think about it, work out an answer, respond online. And then, once the answer period is over, I display the responses in real time. And what's nice about it, in the context of a SPOC, it doesn't matter where the students sit, whether they're with you in the classroom, whether they're online. Everybody has the same link. So you're getting everybody's responses at the same time. So it's a great mechanism for engagement.

Sometimes, everybody agrees-- 100% or 90% agreement. Everybody chose the right answer. And in that case, there's not much discussion needed. Because it's clear that it clicked. You know the concept is well understood.

My favorite concept questions are the ones where the answers are all over the map. You have five possible choices, and each of them got close to 20%. That's great, because now, you have a hook for discussion. So I would then, if that happens. spend the next three, four, five minutes in the class reiterating the concept, and then asking students, who voted for A? Who voted for B? Why did you do that? What was your opinion?

And so you get a great discussion going, which, again, can have the in-classroom, and then the online component, as well. We also use the chat during those post-concept questions. And it's a great way to activate it. And there's a second reason I also do concept questions, at least one during lecture, which is, it's a great way to track attendance.

And I'm up front with the students about this. Because you can see the time tag when students

responded. So you know exactly who responded to the chat during the class. And I do use that for participation grading.