



MELBOURNE CSHE TEACHING AND LEARNING SHORT GUIDE SERIES

ASKING QUESTIONS TO SUPPORT STUDENT LEARNING IN CLASS: STRATEGIES AND TIPS FOR SMALL-GROUP TEACHING

Samantha Marangell

Melbourne Centre for the Study of Higher Education

Asking students questions is a ubiquitous but often underestimated aspect of teaching within higher education. Questions can be used to engage students in discussion, to check their understanding, and to encourage participation or sharing of ideas. However, while it is a useful strategy to prepare a few key questions before class, many questions will be formed on-the-spot in response to the progression of a discussion. This improvised nature can make it feel more difficult to pose clear, effective questions in front of the class.

This short guide has been prepared for those new to teaching in higher education. The purpose is to identify helpful strategies for posing questions to suit five common objectives within the small-group learning environment.

The many purposes of questioning

The type of question that you might use as a teacher depends largely on the particular purpose for asking the question. A question used to encourage participation in discussion, for example, may be different to a question used to check a student's understanding of the material. This section presents five of the more common purposes of asking questions in higher education classrooms.

1. Prompting thinking

A question may be posed with the intention of preparing students for a new concept or discussion. Such questions are often hypothetical questions with no obvious correct answer, intended to get students to think of the many complexities or possibilities of a scenario. While asking open-ended hypothetical questions can be a good strategy, here are some other question strategies that can serve to prompt students' thinking in a new area:

- **Use a simple-to-complex question chain.** Start with closed-choice, easy-to-answer questions first that remind students what they already know about the topic and then gradually build to more complex, open-ended questions. This progression can also build students' confidence.
- **Brainstorm as many possible answers as possible.** Make a list on the whiteboard (or on a Word document if sharing your screen via Zoom) and write down all answers provided by the group. It could help to ask for "as many suggestions as possible". The idea is to collect many answers before commenting on them. This can allow you to respond to ideas as a whole rather than call out one student individually, thus reducing feelings of embarrassment or judgment.

- **Pose the question and come back to it later.** This might serve as a bookend, to tie together the content from the day into one main lesson. It can also prompt students to keep in mind what you want them to consider about the upcoming content. Be sure to give students time to ponder their response (and perhaps record it) so that they can come back and reflect on how their thinking might have changed over the course of the lesson.

2. Checking students' understanding

One helpful way to see how well students understand something is to ask them to explain it. Asking students to define a concept or term in their own words or provide an example for something can also demonstrate how well they understand it. If students answer correctly but you still aren't confident that they fully understand an idea, then try asking for the same information but in a different way, or, alternatively, give them a slightly different context in which to apply the concept. For example:

- Could you tell us more about that?
- Could you give me an example?
- What would that look like in [different context]?

There might also be instances when it's necessary to clarify what the student said, such as when there is confusion due to word choice, accent, clarity of expression, or other communication-related factors. While seemingly straightforward, asking a student to clarify or repeat what they said is often described by teachers as being awkward, uncomfortable, and potentially embarrassing for students.

When it's a matter of communication skills rather than content, it can be helpful to first acknowledge students' contributions before asking them to clarify, such as by saying, "I think that's an

interesting point". Then, you could present back to the student what you believe they've said by asking, for example, "Did you mean [rephrase]?" or "Did you mean [X] or [Y]?"

If there is confusion, try asking the student to rephrase, explain, or elaborate. This will serve both to clarify what the student has said and to better gauge their full understanding of the concept.

3. Displaying information publicly

This type of questioning strategy aims to establish that everyone is more or less on the same page. It is functionally similar to checking understanding; however, its main purpose is to confirm or clarify key points or concepts. Importantly, it is also done for the benefit of the whole group, rather than checking an individual student's understanding. This might be especially helpful, for example, if there was some confusion over an idea, after which you may want to ask a question for the specific purpose of demonstrating or confirming the accurate information. In such circumstances, it is important that you

- call on those who have individually demonstrated already that they know the answer or understand the point,
- aren't asking students to present new information, and
- confirm or clarify the accuracy of the response.

4. Encouraging discussion

Ideally, an engaging discussion will build on its own and lead to a dynamic exchange of different perspectives. Sometimes, however, the discussion stagnates, and you may need to facilitate the discussion more actively. Two main challenges seem to spark this need: either no one is responding, or one person seems to be doing all the talking.

When no one responds:

The main challenge in addressing a silent class is that it is difficult to know why no one is responding. Do the students not know the answer? Have they not understood the question? Do they feel hesitant or uncomfortable about speaking up? Different reasons would require different strategies. Trying one (or more) of the strategies below could both help determine the cause of the silence and make it easier and/or more comfortable for students to respond.

- **Wait.** It's possible that students understood the question and simply need more time to gather their thoughts or work through possible responses. Waiting can sometimes be all that it takes.
- **Rephrase the question.** In contrast to the waiting strategy, perhaps students have not quite understood the question or aren't entirely sure how to respond to it. Phrasing the question in a different way could help make it clearer and/or easier to answer.
- **Try a closed-choice question.** If, after waiting and rephrasing, there is still silence, it's possible that the prompt is too complex, that it's not clear what you're getting at, or that students are otherwise uncomfortable answering. In such cases, you could switch to a closed-choice question or one with a multiple-choice option. Such closed-choice questions can also be used to help warm students up to answer more open-ended or abstract questions.

- **Call on someone.** This strategy can work when students are able to respond but may just need a little nudge. Perhaps students are waiting for someone else to speak (or they know that, if they stay silent, you will answer for them). However, it may be a good idea to resist calling on random students unless you are certain that the cause of the silence is not due to confusion, discomfort, or nervousness. There are also many ways that cold-calling can backfire, such as by accidentally embarrassing a student who doesn't know the answer. See page 5 for a list of conditions that can make cold-calling more likely to be effective.

When one person talks the whole time:

As with occasions of silence, there could be multiple reasons why only one or two people seem to be contributing to the discussion. For example, some students may not answer questions or contribute to discussion because they prefer to prepare their responses before speaking out loud or may not have the opportunity to speak because their classmates respond more quickly. Depending on the situation, the following strategies may be useful:

- **Calling on a table or saying "I'd like to hear from someone on this side of the room..."** This option may be a good alternative to putting an individual student on the spot. It can feel less threatening to call on a group while still prompting specific students to consider responding.

- **Thanking the participating student(s) and asking for others explicitly.** There is nothing wrong with saying that you would like to hear from other people. Doing so is only problematic when it sounds as if you are criticising the person who was participating, rather than appreciating their response but also wanting to hear from more people.
- **Asking for others to take the first student's ideas and then build on or counter them.** Some specific ways to phrase this include, "Those are excellent ideas, thank you. Does anyone else have a different idea?" or "Can anyone else take X's idea and tell me what it might look like if...?" The last suggestion specifically may make it a little easier for the other students to respond by giving them a more focused question than "What do you think?" It also makes it clear that you are adding to the first student's helpful contributions rather than dismissing them.

5. Facilitating critical thinking

Well-targeted questions can encourage students to develop and express specific critical thinking skills, such as problem-solving, considering multiple perspectives, or the ability to critically analyse. Bloom's Revised Taxonomy (Krathwohl, 2002) provides a helpful tool for describing the various types (and levels) of thinking for which a question may be aiming. The following question stems, based on Bloom's levels, provide possible starting points for questions that target the respective level of thinking.

Bloom's level	Possible question stems
Remember	How would you define ____? What do you remember about _____?
Understand	How can you describe ____? How would you paraphrase the main idea of ____?
Apply	Why does ____ work? How would you alter ____ to ____?
Analyse	How can you compare ___ and ___? How is ____ connected to ____?
Evaluate	What is the most important ___ and why? What criteria would you use to prioritise ____?
Create	What alternative would you suggest for ____? How would you elaborate on the previous ideas?

Importantly, a specific question stem may serve multiple levels of thinking depending on students' prior knowledge, the complexity of the question, and the context in which it is presented. For example, if you had previously discussed in class how X works, then asking "How does X work?" would target whether students remember the answer, not whether they can apply the concept. In such a case, expanding the question to consider a new variable (e.g., "How does X work in [new context]?" or "How would X work if you didn't have a [specific component]?") might be better for checking whether students can apply their understanding of a concept.

Favourable conditions for cold-calling

As noted in previous sections of this guide, calling on students randomly can backfire under certain circumstances. The following conditions can help make cold-calling more effective and reduce the likelihood of embarrassment for a student who was not prepared to answer:

1. The expectation was set

Giving students warning, for example at the first class or at the beginning of a group discussion, that you may sometimes call on them randomly to contribute may make it less surprising when you do.

2. Students had time to prepare/think/write first

It can be helpful for students, especially those for whom English is an additional language, to prepare their thoughts or responses before needing to share them aloud. Without preparation time, you may find yourself met with silence and/or likely to call on someone who is not ready to respond.

3. Students had time to check or confer

Students may feel more confident in their answer if they have had time to first discuss with each other or to check their ideas against a reference, such as a book or information sheet.

4. There are multiple possible answers or ways to respond

Another way to reduce the possibility of inadvertently embarrassing a student is to ask a question for which there could be many possible answers. This would also make the question less risky (and, therefore, less intimidating) from the perspective of the student you call on.

5. You start with the confident students

Although one aim of cold-calling may be to give voice to the quieter students, it can be helpful sometimes to first call on students that you know to be more confident. Doing so can help demonstrate for the quieter students that the cold-calling process will be comfortable and positive.

6. You had monitored the previous discussion or task

If you monitored students' earlier small-group discussions or observed their progress on a task, you may have directly observed which student(s) would be able to answer a question correctly and comfortably. You could even let that student know that you will ask them to share with the group.

7. Your response is supportive

Even if the above six conditions are met, it might seem rather unfair to call on students who did not volunteer and then critique their answer. When teachers respond to each comment respectfully and supportively, it can make cold-calling less risky and less likely to lead to embarrassment.

Key Points

1. Asking questions is one of the most important skills for teachers because questions can support many different teaching and learning objectives. While there may be many ways to ask questions, the most suitable type of question is determined by your purpose for asking it.
2. It can sometimes be helpful to write specific questions (or question sequences) in advance of class to ensure that you will ask questions that meet particular objectives.
3. The effectiveness of a question depends both on its clarity and the way students interpret it. It is common for even the most experienced teachers to need to clarify or rephrase their questions.
4. A warm classroom environment where students feel comfortable making mistakes and a teacher who models comfortable clarification techniques can help make posing and answering questions go more smoothly.

References and further reading

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Melbourne Centre for the Study of Higher Education

Level 1, Elisabeth Murdoch Building, Spencer Road
The University of Melbourne
Victoria 3010 Australia
melbourne-cshe@unimelb.edu.au

 melbourne-cshe.unimelb.edu.au