

Basic instructor habits to keep students engaged

by Carl Wieman

It is best to start doing all of these at beginning of the term.

1. **Pay special attention to the back of the room, particularly in a lecture theatre.** Walk up aisle as frequently as practical, look at back of room frequently, call on students at back in preference to students in front, repeat student questions so the class can hear, ask students to speak loudly when asking or responding to a question, regularly ask students in back if they can see what is on screen or board and hear what is being said, and don't let chatter in back of the room get out of hand. ALWAYS be conscious of your natural tendency to engage in what effectively becomes a private discussion between you and an individual student in the first or second row.
[See end of document](#) for more detailed advice on paying special attention to the back of the room.
2. **When you are talking, regularly stop and ask for questions. Make sure you wait an adequate length of time for response.** What seems like very long time to you is actually short amount of time for a person to collect their thoughts and phrase a question. Instructors typically wait less than 2 seconds, often less than one, before concluding there are no questions and moving on. A few such very short waits convince students that when you say that you are asking for questions it is just a ritual, and you do not actually want any. Since your time sense in this situation is so skewed, initially you might even use a watch to time yourself to ensure you have waited an adequate amount of time, like 20-30 seconds.
3. **If you have a clear impression from facial expressions that students are lost, just say you sense that, and say you need them to ask questions so you can help them, and then wait.** At first they won't believe you, but if you wait long enough (a minute seems like an eternity in that situation) and you look directly at them, someone will ALWAYS ask a question and that starts a discussion. Do that once or twice early in term, and they will learn that you do expect them to raise questions and will then do so quickly.
4. **When a student asks a question, sometimes offer the question to the whole class before answering it yourself.** This reinforces the message that whole class, rather than just you and questioner, should be involved with, and learning from, student questions and answers.
5. **Avoid the tendency to sit back and wait while students discuss a clicker question or in-class activity.** Instead, circulate around the room and listen to them, so you can use what you hear in the follow-up discussion.
6. **After completing a clicker question or in class activity, share student thinking.** If you solicit some answers/explanation or questions from students, rather than you just explaining it, it sends the message that this is about communication and feedback, and it will stimulate ongoing questions from students. If they have written down answers, project some of those (if you have a document projector) or sketch them on the board to share with the class. Sharing answers or calling on a student is not very traumatic for them if they have already worked as group. Call on them to present their group's thinking or answer. Students are normally full of questions after any such activity in which they are obviously engaged, so if you are not getting any questions, you need to figure out what to change.
7. **Define transitions clearly,** such as switching between times for activities involving general student discussion and times when there needs to be general quiet and raising hands before speaking. If you don't, the boundaries get fuzzy, and there can be enough noise in the room that those in back cannot hear and feel left out. Markers that signal a boundary, such as sounding a bell, are quite effective.
8. **Be careful not to send out messages that suppress student engagement.** Obvious examples are suggesting a question is annoying or stupid, asking for questions and only waiting a second, or overlooking raised hands. Some others are:
 - a. Jumping in to correct student use of terminology or a small error when main point is correct or relevant. Either ignore the part that is wrong, or correct as an afterthought after discussing the main point.
 - b. Suggesting at the outset that a clicker question or activity should be very easy for them. This tends to decrease student motivation to discuss it amongst themselves or to ask you questions.
 - c. Not discouraging highly vocal students who are asking questions primarily to show off rather than to seek an answer. It can send message that asking a question in class is only about showing off.

9. **Avoid facing away from any part of the classroom.** As soon as you are talking with your back to the students, you are conveying that this is a monologue, not a conversation/explanation to them.
10. **Avoid distractions that split their attention.** For example, having a complex image displayed while actually talking about something else. Students will quickly become lost and disengaged.

More detailed advice on paying special attention to the back of the room, particularly in a lecture theatre:

- a. Walk up aisle as frequently as practical.
- b. Very explicitly look at back of room frequently. Call on students at back in preference to students in front, and sometimes explicitly call for answer to question only from students in back. Look at the back and wait patiently for answer when you do so.
- c. It is almost impossible not to sometimes overlook raised hands in the back half or sides of even a mid-sized classroom and never realize it. This only has to happen 2 or 3 times and you have sent clear message that those students in back are not really part of the class, and they will all stop asking questions from then on. Every now and then apologize for the possibility and encourage students to call out and let you know if this happens.
- d. When a student at front says something, if room size allows, ask them to repeat loudly enough and turn so the rest of the class can hear, and regularly remind students when asking questions to do so. In larger rooms (including any where you use microphone), you always need to repeat the student question or comment. Force yourself to do that consistently. Even if it is a room that you will have to repeat question for the back, regularly encourage students to talk as loudly as possible so other students can hear them. The best context for this is when there is good question-- make a comment like "That is excellent question, everybody in room should hear and think about that, so can you say as loudly as possible so others can hear?" This sends an explicit message that whole class is involved and should be learning from student questions, and that it is not just a conversation between you and one student.

ALWAYS be conscious of your natural tendency to engage in what effectively becomes a private discussion between you and an individual student in the first or second row.
- e. Regularly ask students in back if they can see what is on screen or board and hear what is being said. Instructors very frequently fail to recognize what cannot be seen or heard from the back. (Whenever you have walked up aisle, look down to see what viewing is like from student perspective.) Just the act of your checking with them makes them feel more involved and part of the class.
- f. A common error in a large classroom is to ignore bunch of chatter going on in back of room and then only teach to the front half. DON'T. The earlier in the term you recognize and act on this, the less of a problem it will be. The best preventative measure is regularly walking up the aisle and so you are talking directly to the people in back as much as possible. Also, when you hear chatter in back growing, go up and ask non-talking students in back if they can hear what you were saying and student questions asked from the front. When they say they can't, tell the students to stop talking so other students can hear. (This is a much better tactic than justifying their being quiet on explicit or implicit grounds they are being rude to you.) If that still fails to quiet the chatter, just stop talking and calmly wait while looking at the noisy students in the back.
- g. The best preventative to avoid chatter getting out of hand is early in term pick someone who seems to be among the worst, find out their name, and then when they start talking, call on them by name, asking them if they have a question. If they are actually talking about class material and do have question, great. Answer it, then add some comment like, "When you have a question, just raise your hand and ask--we are in same room after all." If they were talking about something else entirely and confess to no question, then gently admonish them to be quiet so students around them can hear the class material. Point out that students often complain about others in back talking in class, making it hard to hear, and they need to be more considerate of their fellow students.
- h. When groups are engaged in clicker question discussion or small group activity, try to first walk to the back of class and interact with the students there. Avoid the very common mistake of frequently getting grabbed by students at the front and spending a lot of time with one group and so you seldom get up to the back.