Best Practices for Teaching Virtually on Zoom v 2.0

Introduction

This document offers suggested best practices regarding teaching virtually on Zoom. It is primarily aimed at case-method teaching as practiced at Harvard Business School in March 2020. It distills lessons and insights from Harvard Business Analytics Program (HBAP) faculty, who have been teaching case discussions on Zoom since spring 2018. This document focuses on teaching best practices; separate documents ("A Quick Reference Guide for Faculty Teaching Cases on Zoom," and an "Annotated Reference Guide for Faculty Teaching Cases in Zoom," ) offer guidelines and tips on using Zoom technology for teaching. Both documents are available on this site.

This document is organized into three main sections: The Zoom Classroom, During Class, and End of Class/After Class.

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This document presumes you have Zoom loaded on your machine and are familiar with the basics of the technology.
The Zoom Classroom

The Zoom “classroom” environment is different from a traditional classroom. You are standing or seated in front of your computer rather than moving around a physical classroom. You and your students will experience the learning environment in physical isolation—the dynamism and energy you typically bring to your class sessions through interaction, movement and gestures may be curtailed.

Your cognitive map of the classroom will also need to shift. Students will appear in small video tiles, and their location on your screen will shift during class sessions. It may be difficult to see participants’ faces, which makes it more challenging to get a “read of the room,” that is, to sense when there is agreement or disagreement, lack of understanding, student questions, etc. Body language is more difficult to read on the small screen. Given the diminution of the usual visual and aural cues we rely upon in the physical classroom, it may be more difficult to orient yourself. It may not even be clear who is speaking (a yellow/green border around the speaker’s tile indicates whose microphone has been activated by speech or other background noise).

Given these differences, it is critical that you devote some time to thinking about how you want to teach using this technology. In particular, we encourage you to think about which of your classroom-teaching strategies translate well to the remote setting, which don’t, and what new approaches you might incorporate into your teaching plans.

Orienting Yourself to the Zoom Environment

To teach online you’ll need to become comfortable switching between the various tools embedded in Zoom (Chat, hand-raising, screen-sharing) and gaining familiarity with how to use traditional applications (e.g., PowerPoint, Word, Excel, videos) in the new setting. Combining these tools effectively to create a vigorous learning discussion will require some time, focused effort, and additional thought about adapting your teaching to the new classroom environment.

Camera:  Keep in mind where your camera is. It is the window through which the class your students will see you as you teach.

- Make sure you are facing a light source and that your face is well lit.
- Look directly at your camera as often as possible to ensure that students see you speaking to them. Try to look at the camera regularly when you are typing or writing during class.
- Consider taping your teaching plan notes/diagrams close to your camera so you can glance at them when you look into the camera.
- Be alert to your facial expressions, especially when students speak. They will read your every cue.

Audio:  Speak clearly, and make sure your audio equipment permits everyone to hear you.

- Remember that most of your movements will not be visible to students, so your voice and the content of what you say will need to replace body language. Consider narrating what you are doing so students can follow along (“I’m going to clear hands,” or “Let’s move to the next question.”).

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1 Use of these tools is detailed in the “Annotated Reference Guide for Faculty Teaching Cases in Zoom.”
**Embrace Imperfections**  Expect something to go wrong! You may drop your pen while speaking, forcing you to briefly move out of the camera range. Smile and keep going!

**Pre-Class Preparation**

**Material Coverage.** Expect that you will cover less than you do in a physical classroom and adapt your teaching plans accordingly.

- Faculty who have taught with Zoom find they teach about 75% of their physical classroom-based teaching plans, or about 60 minutes’ worth of material in an 80-minute session.
- Although activities such as muting/unmuting, sharing screens, raising hands, and creating/closing breakout rooms take only a few extra seconds each, cumulatively they will reduce your class discussion time.

**Use of Breakout Rooms.** Determine if your teaching plan will incorporate breakout rooms, i.e., setting students into smaller groups for discussion on your own (similar to buzz groups).

- Think of key points in the discussion where there is tension and build the use of breakout rooms for these points into your teaching plan.
- Breakout rooms are a great way to vary the discussion and allow students more direct interaction and engagement with each other.
- Breakout rooms give you time to collect your thoughts and make mid-session adjustments.
- Randomly assigning students can happen on the fly during your session. Assigning students to particular groups takes a bit more time and effort and can only be done after the Zoom sessions has begun, so can take time away from your teaching. If you have a teaching assistant (TA) helping facilitate, you can provide them with a list of designated groups in advance of class and they can set up the specified breakout rooms once the session has begun.

**If You Have a TA.** At least 15 minutes before class, discuss the class plan and corresponding Zoom mechanics with your TA. Some things to keep in mind:

- Coordinate who will be responsible for clearing hands, loading/playing videos, running polls, etc.
- If you will use breakout rooms, specify whether you want to assign specific students to groups or randomly assign them, as well as when and how long the breakout rooms should run.2

**Computer Hygiene** The following checklist is crucial to reduce the likelihood of technology crises in the middle of your Zoom class session:

- **Always restart your computer** before your session and be sure you are plugged into a power source before your session starts.
- If you are running your session from outside of your campus office, you may want to **hardwire your Internet connection to your machine using an Ethernet cable**, especially if you will be

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2 For more information, see the “Annotated Reference Guide for Faculty Teaching Cases in Zoom.”
showing video. If not, **be sure you are sitting as close to your router as you can** for the best Wi-Fi connection.

- If you are using an iPad or Surface, be sure to **charge your stylus** (iPad, iPencil) or **have extra batteries** (Surface).

**Boards**

Boarding is different in the Zoom classroom. As one HBAP Faculty notes, “This is beyond just a technical issue.” In a physical classroom you may be used to having several visible black boards to capture various elements of your case teaching plan. The boards serve as a reference point for ongoing discussion (you can point to them during class), connective tissue for tracking the progression of ideas, and scaffolding to reveal a larger conceptual canvas. The Zoom classroom is different, and you will need to carefully think how to translate your board plan to Zoom. Here are some tips for managing your boards:

- You can capture students’ comments by typing directly into a blank Word document or PowerPoint slide. You may wish to pre-type headings in advance with the scaffolding of topics and options you expect to discuss in the class.

- Alternatively, you can use Zoom’s Whiteboard function, or a tablet on which you can draw or write freehand. Some HBAP faculty have even prerecorded videos of board illustrations and then played them during class.

- It is possible to run a Zoom case discussion without relying on any boards.

- The most significant contrast with a physical classroom is that you will want to use your virtual chalkboards sparingly. One HBAP Professor suggests using PowerPoint or other virtual “chalkboards” like the Zoom whiteboard, only for those pastures where illustration and capture of student views is particularly important. Sharing your screen takes up a lot of screen “real estate,” and experienced Zoom faculty note that students will get more out of seeing you and each other and holding a real discussion than watching a PowerPoint or tablet screen.

- You can capture student comments separately outside of the Zoom environment (e.g., create a PowerPoint slide) during the discussion and then share the slide at the end of the pasture as a transition to the next discussion.

- If you find it difficult to type while maintaining the class discussion and do not want to risk using additional technology as boards, consider going “old-school” for boards—either drawing and/or writing notes on a flip chart in view of your camera, or even on a pad of paper which you can then hold up to your web cam for students to see.

Adapting to online teaching entails thinking in fresh ways about how to replace the functions the board serves in the physical classroom. All seasoned Zoom faculty agree you will find that you will settle on a mode that works best for you.

**Your Screen(s)**

Think about your own screen configuration ahead of time and how you will manage transitions during your session. Some faculty prefer to teach with more than one screen, others find that makes for too much going on.

Typical screen recommendations include:
• Keep the “Manage Participants” open on the side of your screen and stretched top to bottom to maximize the number of student virtual hands you can see. With two screens, you may be able to put your participant list on a separate screen, allowing it to expand so you see more names.

• Close all the windows on your computer (desktop, laptop) that you won’t be using (particularly personal e-mail, skype, etc.). One best practice is to sweep all your active desktop folders and files into a “temp” folder before you teach so your desktop is clear of everything but what you need for that day’s Zoom session.

During Class

Session Norms

The Harvard MBA Program outline the following guiding principles for classroom norms:

Bring to the virtual classroom the norms, expectations, and effort that you bring to the physical classroom. These are key to what makes the HBS educational experience so exceptional. Specifically, HBS Community Standards and the four Ps we introduced when you first arrived at HBS—Preparation, Participation, Presence, and Professionalism—continue to apply in the virtual classroom and inform our expectations for each other. Given the online context, these expectations include being familiar with the virtual classroom technology and finding a place from which to attend class that is appropriate for class discussion. When in doubt about a particular question, use as a guide the answer you would give in the context of the physical classroom.

Additionally, HBS requires students to have and use a camera and microphone when attending class sessions. (Noise-cancelling headsets are particularly effective.)

In addition to your school’s program requirements, you may wish to share some tips with your students about optimizing the technology and their behavior to create a productive classroom environment:

• Make sure there is a light source in front of you, so your face is clearly visible.
• Make eye contact with the camera (the camera is the class!)
• Mute mics when you’re not contributing; unmute mics when you are called on
• Speak in a conversational tone—you don’t need to raise your voice
• Be and look engaged on camera. Nonverbal behavior can contribute positively to the discussion. Even just nodding when you agree with other students’ comments can be a big help.

In general, communicate and enforce the same norms in principle as you would in the classroom. Although these principles may translate differently in this medium, they are no less important. The overarching principle here is students should be enhancing the learning environment for themselves and others, not detracting from it. In this medium, this means things like being present in the quietest space possible with minimal visual stimuli in the background, dressing as they might for class, and not talking over others to jump the queue.

Managing Discussions

Motivating class discussion is similar in many ways to a traditional classroom experience. One difference is that the students will not be in fixed seats, so your cognitive map of the classroom will be
disrupted. You will also have a harder time seeing all of the participants at once—you cannot easily glance around the “room” to select whom to call on. Further, the order of the “tiles” on the Zoom screen will shift during class. All of these can make keeping track of your calling patterns more difficult.

Some tips for managing this include:

1. **Calling List**: To guide your in-class calling patterns, before class prepare a list of students who have not participated recently or who have backgrounds relevant to the discussion.

2. **Tracking comments**: If you have one, keep a printout of a list of your students or your seating chart (from your physical classroom) on your desk to mark students as they speak, and perhaps to make a quick note of their perspectives (e.g., pro/con) on a case issue.

3. **Pause before calling on students**: After posing a question, give sufficient time to allow students to raise their hands. This will expand your choice of students to call upon and ensure that class participation is not driven primarily by students’ hand-raising speed. (Note: There can be a brief technical lag before you see the blue “raised” hands in your participant list.)

4. Students at the top of the participant list represent the earliest hands raised, and thus are more likely to take the discussion back to earlier topics. There are several ways to manage this:
   a. Scroll through your participant list regularly to select hands; keep your pre-prepared list nearby.
   b. Don’t regularly call on students at the top of the list. Instead, call on the student on the list whom you would call on in a physical class (based on their participation frequency or recency, their background, or their previous comments).
   c. As a discussion progresses, consider calling on students who have raised their hands most recently (i.e., those whose names appear near the bottom of the list). These students are most likely to respond to the most recent discussion topics.
   d. **Clear hands** on a regular basis. To provide transparency, consider saying, “I’m going to clear all your hands now so we can see who wants to respond to this latest topic.”
   e. Consider guiding students to lower their own hands by saying, “Let’s stay with the issue xxx has raised. Please lower your hand unless you want to address this specific issue.”
   f. When starting a new discussion pasture, consider saying, “We are now going to turn our discussion to zzz. I’m going to put all of your hands down so we can start with fresh hands.”

5. As you might in your traditional classrooms, when appropriate, call on students with experience on a particular topic germane to the discussion.

6. **Breakout rooms**: Rely on breakout rooms to let students interact directly with each other; pose a question that will stimulate debate or deeper analysis and send them to breakout rooms.³
   a. **NB**: Students will not be able to hear you after the breakout rooms are launched, so be sure to repeat and reinforce the question or topic you wish them to discuss in their groups. You can also message students when they are in their breakout rooms.

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³ A maximum of about six students per breakout room is suggested.
b. If your TA is the host, ask him or her to take screenshots of the student names by breakout group and send them to you. This can help guide your calling patterns when you debrief the breakout room session.

c. After closing the breakout rooms, invite students to report their conclusions back to the main group.

7. **Recaps:** In online teaching, you may wish to rely on more frequent recaps as you make transitions between pastures.

**Participation**

Faculty can use multiple approaches to ensure there are broad-based opportunities for participation in the online environment. For example:

- Consider making multiple cold calls during a class session, perhaps guided by a prioritized call list you prepared in advance or by pre-class submissions.
- Consider asking students to submit in advance of class a brief (e.g., 100 words) written assignment to assess student views before class and/or to guide your calling patterns.
- Simple yes/no votes are easy to do on Zoom and can help generate tension around particular teaching points. Some faculty may wish to use more sophisticated polls.
- To increase student engagement:
  - Create breakout groups—these can increase engagement since they allow more students to participate and require students to engage directly with each other.\(^4\)
  - Call out two students to interact directly with each other to debate different views.
  - Invite students to share analyses they have performed or other written work by sharing their screens.
- Ask students to individually summarize or synthesize a discussion pasture (perhaps in writing). Take volunteers or cold call a student to share their summary.
- Depending on your inclinations, consider using contributions via Chat. You might monitor student chat and use those comments to select students to speak during class or save the chat activity and evaluate student contributions after class. One HBAP Faculty calls Chat “giving voice to the thought bubbles hanging over students’ heads.”

Zoom classes can be recorded and you can use the recordings to provide input into grading processes.

**Sharing Content in the Classroom**

Faculty can share content with students using Zoom’s Share Screen function. Information on how to do this is detailed in the “Annotated Reference Guide for Faculty Teaching Cases in Zoom.”

- Remember to select the application (file or video) to share, rather than sharing your desktop screen.

\(^4\) Your TA can help put breakout rooms together very quickly mid-session as long as students are randomly assigned to rooms.
For Video: You can stream video directly from YouTube or Kaltura or download video to play from your local hard drive (to avoid potential connectivity issues). Remember to cue the selected video to the designated start point and to select “share computer sound” so the audio plays clearly.

Class Guests

If you invite guests or case protagonists to class, make sure

- they have a Zoom account and have tested their Internet connectivity.
- they have received and understand the material in the Virtual Class Meeting Guest Speaker Checklist.

**NB:** You or your TA may want to do a brief Zoom test with your guest ensure the guest understands the Zoom functions that will allow them to fully able to participate in the class discussion.

Share your Zoom session ID with the guest and make sure they understand class timing, etc.

**NB:** Don’t share your Zoom session IDs broadly—if your sessions are not domain-protected, anyone with the Zoom ID may be able to join the session. Using a waiting room is considered best practice for online classes. The waiting room allows you (or a TA) to check names as you admit students into the classroom to ensure that only students and invited guests are admitted.

End of Class/After Class

As you would in your traditional classroom session, recap key lessons covered in the session as appropriate. You might post slides or board documents you generate after the session.

Faculty may opt to keep the Zoom “classroom” open for a few minutes beyond the class session time and encourage students who want to ask questions or discuss course material to stay. Students may “clap” or give a “thumbs up” at times during or at the end of the class, and you will find other cues that indicate their mood or experience. It won’t be the same as the physical classroom experience, but small adjustments can allow you to “read” the class even in this virtual environment.