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Teaching with Cases Online

INTRODUCTION

In this article, we attempt to collect and systematize experiences in online case teaching, writing for teachers with experience in face-to-face case teaching (i.e., with physical classrooms) who are about to embark on teaching cases in an online environment. Online case teaching is an area that evolves rapidly (mostly because the software tools and learning environments do), so please see this document as a description of what we have learned so far rather than a fully developed methodology. Though this document is specifically about online case teaching, we have included a number of tips and tricks that may work well in "regular" online teaching as well.

In online case teaching, interactions with students take place through some form of Internet-based software platform, accessed through a device such as a PC, a tablet, or, increasingly, a smartphone. The interaction may be synchronous, in which students meet at the same time (for example, via videoconferencing or teleconferencing), or asynchronous, in which students discuss elements of a case—primarily via written comments or video—in a learning management system or discussion forum, or a combination of the two, often referred to as hybrid.

Case teaching is a question of preparing the course, actually teaching it, and doing the evaluation and grading—or, as we call it in our case teaching book (Andersen & Schiano, 2014): foundations, flow, and feedback. Online case teaching is no different, but it requires some adaptations in all 3 parts of planning a course.

When planning for an online case-based course, remember that the mark of success is whether the students learn how to think rather than merely being exposed to or memorizing required material. To make this happen, you need to facilitate an evolutionary process rather than make sure that the students have seen and read everything they are supposed to.

A note on technology: We try to avoid making references to specific technologies, aside from a few sample tool names. Information technology evolves rapidly, and different tools are used in different environments. We will try to use generic terms (e.g., "personal information managers" rather than

Evernote or OneNote) whenever possible. When we mention specific technologies, it is as examples only and does not necessarily constitute an endorsement from us.

FOUNDATION: PREPARING THE COURSE

When preparing for an online case course, an instructor must plan interactions in detail. And that detail in preparation comes with a bonus: delivering a course via electronic format makes it easy to create a record (e.g., text-based discussions, recordings of videoconferences, chat logs, etc.) that can be mined for areas to improve and partially reused in the next course iteration. Electronic interaction leaves electronic traces—see them as a resource!

Designing the content of an online case course is not different from designing a face-to-face class session. Start with learning objectives, break them into chunks, and find cases and exercises that let the students deduce and/or apply theory. The main difference lies in the design of the teaching of each individual case—an instructor has to be more explicit about the discussion structure (sometimes literally, depending on the medium in which the discussion takes place) and be much more specific about how and when people get access to the discussion pastures. Especially in the asynchronous format, in which an individual case discussion can take a week, you will need a different understanding of timing. An online case discussion can be similar to an underwater video of a starfish colony. At regular video speed, the starfish move slowly and seem solitary, but speed up the film and you will find that they have a lively, if slow, interaction—and are quite social animals.

Managing your time

Teaching online, discussion-based courses can be a time sink (not unlike social media, come to think of it). With physical classroom teaching, the interaction itself is well bounded by meeting times. Online preparation and teaching add an element of invisibility: as you develop and deliver an online course, it is easy to become unaware of how much time you invest.

The first step we recommend is to adapt Peter Drucker's advice (Drucker, 1999) and document how much time you expect to commit to your next course; then keep an informal log of the time you really spend and what you are doing for the first several weeks. Once you have the data, look for potential efficiencies, consider how you are allocating your time, and decide whether that distribution is in line with your goals for the course. You may be surprised by the breakdown of your time. Seemingly small efforts to check on a discussion forum can add up quickly. Your time may be well spent—but there may be even better ways to spend the time on the course.

The nature of your course, your institution, and your other commitments will drive your allocation of hours to the course. Faculty participants in Harvard Business Publishing's web-based seminar "Teaching with Cases Online" expressed a wide range of expectations of themselves in a 15-week, 3-credit course, from less than 4 hours per week to more than 14. Whatever number you choose, use those hours in ways that will optimize student learning. Throughout this article, we will focus on both effectiveness and efficiency in facilitating case analysis and discussion in an online course.

Accelerating the learning curve: ramping up quickly

Effort in an online course for faculty is not linear throughout the semester—it requires more time up front than in the middle or end. The effort required early in the course will vary depending on the online experience of you and your students and the tools used. If you are teaching the first case class your students have had, or if you are using cases in a way that is different from what the students are used to, you will need to invest time in helping students adjust to the process of case discussion.

Any course requires setting norms and a learning contract, which then evolve. An online instructor must be more involved early in the course when norms are formed. We see this as an investment: time spent early will pay dividends in less intervention required later. Help the students understand the technology they are going to use, particularly if it is new to them. Often, generic resources (documentation, courses) are available for training students in the technology, but you may want to consider giving an introduction and technology orientation class yourself, perhaps as a voluntary lesson preceding the course. Not only does this give you a chance to assess student technology skills and motivation, but it also allows you to give the students an indication of your expectations and your preferences about how to use the technology. We have found that case teachers vary in how they use available technologies, often using a variety of tools in addition to what may be offered by the school, or using them in different ways.

What do you expect from students?

Part of making better use of your time is having students do more; after all, case teaching is about being student-centered. When designing an online case course, you must establish the minimum (and perhaps maximum) level of effort you expect from students. The minimum constitutes the time it would take students to read and prepare the case, along with whatever involvement and creation of deliverables are required for them to receive a passing grade. The scope of your learning objectives, and your choice of pedagogy, will be constrained in part by the level of expected student preparation.

We will discuss below how to motivate students to do at least the minimum—and ideally more than that—for them to excel in the course. In some schools and programs, there are norms for calculating this, and in many institutions, there is a wide range of acceptable standards. We have found that you can be above the norm for your program or institution if you sufficiently articulate the benefits to students of investing more time in your course. In fact, we have found that expecting this added investment sends a powerful signal to students and can help motivate them to prepare. Consider making this explicit in your syllabus, perhaps with this example.

In your career, much of your work will be in meetings and discussions with colleagues working remotely, analyzing business situations, and formulating plans together. Our discussions are your best opportunity to build the necessary skills to excel. But doing so requires everyone to prepare the cases in depth and engage actively in the discussions.

Even motivated students may need help preparing cases. Two excellent resources for this are Harvard Business Publishing's Case Analysis Coach (Austin, 2012) and Bill Ellet's Case Study Handbook (Ellet, 2007). You may also refer the students to a set of videos on case preparation by Espen Andersen and Hanno Roberts of BI Norwegian Business School, found at https://goo.gl/08Epny.

If you have domain-specific or other expectations for student preparation, or if your use of cases is unique, make that explicit. Even if you are teaching students who have had other case courses at your

school or in your program, be sure that your expectations of case analysis and preparation are consistent with what they've seen in other courses, or else make any differences clear to them at the outset.

Communication Plan (Wong, 2011)

- Who—the target audience(s)

While many of your messages will go to the entire class, contacting individual students and subsets of the class can be more effective. Personalizing messages to individual students can have an enormous impact, especially early in the semester. Peppering your message with a specific reference about a comment the student made in a discussion and implying whether it is good or bad, and perhaps why, shows that you are paying close attention and helps students adjust their behavior quickly or feel reinforcement of good performance. Among those you may want to contact:

- o Students who are actively participating. Acknowledge their contributions and perhaps encourage them to draw out fellow students.

- o Students who are not active enough. Contacting them early in the course sends a powerful signal that you are paying attention. We have found it helpful to be encouraging and enthusiastic about the value of contributing, in addition to reminding recipients about lost learning opportunities, their obligations to classmates, and any grade implications.

- o Groups. You may want to communicate with groups individually. Use the learning management system (LMS) functionality to make this easier, or set up a mailing list for each group in your email.

- o These messages can be written ahead of time and reused from semester to semester. You can also decide how personalized to make the message—that is, whether you want students to know they are part of a group receiving the message. This can be done by individualizing each message (perhaps using a mail merge to facilitate scale) or utilizing the blind carbon copy (BCC) function in your email system.

- What—the desired outcome(s)

Carefully consider what you hope to accomplish with your message and how you would measure its success. Do you want students to take a specific action? The more explicit you are in your goals, the more likely the message will be effective.

- Where—the communication media

Whatever media you are going to use, be sure to notify students in advance. Many students, for instance, will disable notifications from the LMS to reduce spam. If you are going to use the LMS as your primary means of communication, you need to let students know that so that they will enable the functionality. If you are going to use social media, make sure that all students have the appropriate account(s). Then be consistent about it. Don't go to the trouble of creating a Facebook group just to post to it only once during the course. Be sure to make explicit what's required. If you are going to require it, make usage part of the evaluation process if possible.

- When—time of display/delivery/frequency

Consider a plan that includes several versions of the same message to increase its effectiveness, especially when related to deadlines. Many of us now rely on software to remind us of things, and it is not unreasonable for students to want the same from the LMS. When will the case discussion open? A reminder email a few hours later can be useful to say that the discussion is open and to encourage participation. However, be careful not to send too many messages—you want the students to feel the responsibility for keeping up with the course and what is happening is theirs, not yours.

- How—the way message will be conveyed

As faculty, we often assume our communications are clear and readily understood, but students may misinterpret them, or students may absorb only one aspect of them. For online classes, you do not get the benefit of the blank stares that tell you something was not understood. Consequently, you need to have an extreme focus on clarity, and repetition may be necessary for student understanding. Make things clear; don't send long and confusing emails. If you have several messages, consider separating them into individual messages to increase the likelihood they will be understood (and read). If in doubt, test the text on an unsuspecting victim.

- Action—who is to do what

Decide whether there are aspects of the communication that could be handled by a teaching assistant if you have one, or even better, by students instead of you. For instance, if you have students responsible for leading some discussions, let them send out reminders and prompts to participants. If you have shared documents—such as the syllabus—consider making them editable by the students, which means that they can fix errors (particularly links to online resources) themselves rather than alerting you to fix them.

Type of students

The design and conduct of the course will differ based on the types of students, including:

- Undergraduate versus graduate versus executive. Undergraduates have less experience to speak from and a higher tendency to stick to rote answers; graduate students can be good at theoretical discussions and may have some real-world experience to hitch their arguments to; students in executive classes tend to have lots of experience but sometimes see things from narrow perspectives. This is something to know and account for, and it is more important in the shaping of the content and the tone of discussion than in the design of the course itself. At the design stage, be sure to include sufficient contextual information and supplemental reading to provide a foundation for your planned discussion.

- International versus domestic (where "domestic" means fluent in the language used for discussion and steeped in the culture of the country in which the teaching takes place). Language difficulties and familiarity with public speaking—in asynchronous teaching, students may have more time to shape their answers, reducing any disadvantage of those reluctant to participate in a face-to-face classroom. Cultural issues remain—in some parts of the world, students will contribute what they think the teacher wants (interpreting an intention), whereas in others, demonstrating mastery of details and opposing the teacher are seen as the way to excel. Consider the workload for those not participating in their native languages; if appropriate, look for materials that may have translations, and clarify your objectives and expectations.

- Full time versus part time. Full-time students have more time—and more important, have more concurrent time in which to prepare and discuss. When you are designing courses and discussions, remember that part-time students will require longer times for both preparation and discussion.

- Skilled versus passive communicators. Students with a communications or journalism background can dominate classes through keyboard speed and verbal dexterity. Espen once had a class where half the students came from a communications consultancy and the other half came from a (collaborating) engineering firm, with predictable differences in discussion volume and style.

Combining synchronous and asynchronous

In many courses, you can combine synchronous and asynchronous elements. Synchronous meeting time is precious, and if you have the luxury of such meetings with or among your students, think carefully about when to schedule the meetings (in general, the earlier in the course the better, so they get to know each other in more dimensions than a keyboard can afford) and how to get the most out of them. Spending time lecturing synchronously in an online course is wasteful. If you have lecture material you feel is best delivered that way, then record the lecture, post it online, require the students to watch it, and spend the synchronous meetings fostering interaction (perhaps based on the content of the lectures).

Using teaching assistants

If you have a teaching assistant (TA), set the division of labor explicitly, and be sure to discuss the tone of the communications with students. We often encourage TAs to be approachable and behave more as students' peers and less as faculty in discussions but to maintain some professional distance, especially if they are grading. To improve coverage, we find it helpful when possible to have TAs available and/or engaged in the discussions at times when we are not. When working with a new TA, we follow his or her work closely initially, provide guidance as necessary, and step back when we are confident that the TA is helping the course as intended.

For synchronous sessions, we find TAs especially helpful as producers of the videoconferences. They greet students as they arrive in the virtual classroom, test audio and video connections, provide technical support, screen questions/comments, manage the queue if there are multiple students who want to speak, mute open microphones, and determine the selection and relative size of cameras displayed on screen. We always have a side communication channel to the TA during the session. If the TA is remote, we use text messaging; if we are in the same room, we pass notes or use hand signals. If the TA has the capacity, he or she may also participate in the chat discussion. That participation can range from addressing technical difficulties to responding to case discussion issues.

Selecting cases

The more a case resonates with students as they read it, the more likely they are to engage with it. A case that develops beautifully in a physical classroom may not work as well asynchronously, since you can't make use of the energy available to you when present in person. Students won't have the

shared experience of receiving the opening question at the same time nor have a discussion unfolding at a uniform pace. You may have to choose a case specifically for how it unfolds in an asynchronous discussion. Ideally, the case should so grab students that they anxiously await the opening of the online discussion.

Here are some attributes we have found helpful in choosing a case for an online class:

- **Compelling company, industry, or protagonist.** Is the company or industry one where some of the students have worked or want to work? Is the case of specific economic or social interest? Is the protagonist interesting to the students? This could be someone with whom they can identify or just a vividly painted character who will prompt reactions.

- **Recent.** Students prefer newer cases. While we regularly use older cases, we are very aware it increases our need to convince students that preparing and discussing the case are worthwhile.

- **Novel.** Particularly for students in a case-based program, many cases can seem discouragingly similar. Is there something different about this one in style or content? For instance, the iPremier case (Austin, 2009) about a company experiencing a cyberattack is available in a graphic novel (i.e., cartoon) format, which provides a welcome break in an otherwise purely text-based case course, particularly for students whose first language is not English.

- **Multimedia.** Cases with digital or online components fit well in an online course. And the variety of aspects of the multimedia elements can be more easily explored in an asynchronous format, as students can review detailed aspects or replay video before responding to questions.

- **Well written.** Some cases can be, well, hard to read simply because the language is complicated. This is particularly important if you have students not reading the case in their first language.

- **With areas of tension and conflict.** Look for cases that are likely to provoke strong feelings, particularly with disagreement within the class. You may want to emphasize the conflicts in cases to engender better discussion (but be careful so students don't lose their cool and start to behave like comment field trolls).

- **Multipart.** A multipart case is one with B, C, and sometimes even more cases. These can energize a discussion and facilitate transitioning to a new topic. Keep in mind that the follow-on "cases" need not be formally published cases. If there aren't formal, extant, multipart cases, make your own. These can include published articles about a company, blog posts, press releases (the right sequence of press releases can trigger great discussions), or even fictionalized scenarios you create to prompt discussion.

- **Complex and/or long.** If you manage the discussion sequence well, you can use more complex cases because students can refer to the case after seeing the question before contributing to discussions. Also, discussion of each part of a complex case can happen across multiple assignment periods. However, long, complex cases are generally not a recipe for engagement, so they are best left for later in the course, after students are used to the process and engaged in the course.

Be sure to introduce each case with some context (such as why is it included in the course or how it relates to other cases) to motivate students to prepare it. Many students will not see the connections from case to case, so make them explicit at the course design and execution stages.

A well-written intro to a case can also serve as a motivator for students to bite into a challenging case. "The next case is X. Prior students have found this case quite challenging, but I keep it in the syllabus because it is historically important and shows the hard details of a really important management problem. A good way to approach it is to focus on this particular story line…" We have found that if students are told a case is a bit of a challenge and are given a structure for understanding it, they put much more effort in. If you feel it is hard to write such an intro, perhaps you should rethink using the case.

Preparing a case for online teaching

An excellent starting point for an online case teaching plan is to think about the chunks (or pastures) of the discussion, sequencing them according to their relative importance and complexity. Then you choose or design the questions you would use to introduce or motivate those discussions. We have also found adaptations to be helpful, and in some cases necessary, depending on the modality you are using to teach the case. When creating the plan, use headings for each pasture, which will allow you to reorder them easily in your word processor or whatever authoring tool you use.

In synchronous sessions, be generous with time for each pasture to allow for time lag in the system and the lack or lower fidelity of nonverbal signals, which can slow transitions from one speaker to the next. You may also need to spend more time creating a sense of community among the students (see below). We tend to plan for time to recap discussions periodically as well, given the risk of lower attention rates in an online discussion.

Planning and using "the board"

- A "board" in a synchronous online session will be a portion of the screen under the control of the teacher, and perhaps of the entire class. In some videoconferencing systems, it is just a shared screen; in others, it is a board simulating a physical whiteboard. As with much technology, there can be performance issues — while you can control the timing of your own interaction with the computer, you have little control over when and how information reaches students. Simplicity is paramount, as is having a fallback position should the technology cease to cooperate. Options for using an online board (shared visual space) during a discussion include:

- Pre-produced slides. In some cases, you can predict many of the case issues that will arise, and you could have slides ready for them, in much the same way you might use hidden slides to anticipate questions in a lecture or presentation. This obviates the need to "write" on the board during the session, but we prefer not to use these because this makes the discussion seem pro forma to the students since you already had "the answers" packaged. This also creates pressure to provide the slides in advance or even instead of the discussion. One variation would be to use slides with only pre-produced pasture headers, filling in detail from each discussion as it happens.

- Live typing. This has the advantage of legibility, and depending on your typing speed, it can be as fast as or faster than using a traditional board. A quiet keyboard and good isolation for your microphone are important. You can highlight and organize items by creating separate documents as you would use separate boards, or you can make use of caps, font, font size, text color, and highlighting in most tools. For most discussions, this remains our preferred method.

- Voice recognition. Real-time voice recognition is now a viable option for many speakers, depending on language, enunciation, and accent. But most of the time, what you want on the board is not a transcription of words spoken but a distillation, so the value of voice recognition is limited for synchronous teaching. And providing a transcript of only your words deemphasizes the discussion aspect and makes it seem as if your words are more important than those of the students.

- Handwriting. Stylus technologies have advanced sufficiently that you can write well on many touch screens. This can be the closest analog to a traditional classroom board—you can draw pictures, circle items, make connections, and write freehand. But be sure to test the system you are using for quality and response time. On many systems, there is a noticeable lag between your hand movements and what appears on the screen. Bill finds this so distracting that he will not use the whiteboard function unless it is lag-free.

Asynchronous

Individual discussion pastures require much longer blocks of time than face-to-face teaching does, depending on the frequency with which students will log in to the system. You also have the opportunity to be more thoughtful about modifying your teaching plan as the class progresses. In an asynchronous course, you can reread the case, do research, consult colleagues, and even sleep on it before taking action in the discussion. This means teaching an asynchronous course can be less stressful than teaching a real-time, face-to-face one—particularly if you are of a somewhat timid disposition.

Using individual cases in hybrid format

You may choose to conduct a discussion of the case purely in the synchronous session. This can work in the same way as in a traditional classroom with the adaptations we described above. You could also span the discussion across synchronous and asynchronous "meetings." You might open the discussion in an asynchronous forum and then complete it in synchronous mode, building on the discussion from the asynchronous forums. You can also use the asynchronous forums to continue a discussion you started in the synchronous class time. This can offer wonderful opportunities to drill into details that you did not have time to address synchronously. When deciding how to allocate the discussions, you might consider:

- Which pastures might work better in which format. Long, complex deep dives lend themselves to asynchronous sessions (for instance, students can run numbers or do outside research for their posts).

- How closely you want to guide the discussion. Synchronous sessions give you immediate control in a brief time frame to shape the direction of the discussion and decide who participates when.

- Ordering the synchronous and asynchronous. All permutations can work well—synchronous sessions can motivate asynchronous sessions, and asynchronous discussions can prime the group for outstanding synchronous sessions. The key is to make the transitions explicit and make them work for you.

Smart use of recorded lectures and discussion can make the students feel they have had much more interaction with you than they really have. Espen once arranged for a group of executives to see (together, in a meeting room) a one-hour recorded lecture by a well-known professor. The group then spent an hour discussing questions asked by the professor and then an hour in a videoconference with him. For the students, the feeling was that they had spent 3 hours with the well-known professor. For him, it was a one-hour videoconference discussion with interested and well-prepared students—a good experience for all parties.

Leveraging the learning management system

The learning management system (LMS) is the first impression of the course for most students. The technology is your classroom, and you should master it just as you master the physical environment in a traditional classroom. We always advise teachers to get to know the online course platform intimately before students connect to the course—familiarize yourself with the layout, make changes as appropriate, test the tools you will use, etc. This will improve your self-confidence, make you more efficient and effective, and improve your image with students. It will also improve your ability to troubleshoot issues as they arise.

One thing that has consistently surprised us is how many students are unable and/or unwilling to navigate the LMS successfully, cannot find materials, are unaware of assignments or changes to the course, and cannot accomplish required tasks such as submitting files, using discussion forums, or reading feedback. We have developed a few guidelines when setting up a course to help reduce these issues:

- Make the layout look professional with consistent if not creative design, and keep it as simple as possible. Make sure that every unit (say, a case description) has the same information elements in the same places throughout the whole course. You can do this by creating skeleton frameworks when appropriate. For instance, if you cluster things by week, create a set of blank folders labeled by week at the outset. This makes consistency in information much easier and also allows you to pace yourself in your preparation.

- Take advantage of the LMS features. These vary, but some we have found useful are:

    o "To-do list" functionality that will remind students about due dates.

    o Assignment evaluation processes. We are often hesitant to adapt our own process to the system, but many LMSs have good processes for assignment evaluation and feedback, facilitating entry of text and audio comments and automatic distribution to students. Be sure to set the system to not publish anything until you have evaluated all the assignments—this saves you queries from students whose papers you have

not graded who heard grades were posted, and allows you to recalibrate grades as needed.

- o Plagiarism detection—turn it on by default, even if you never look at it, as it disciplines the students.

- o Bulk downloading of assignments, in case you want to read things off-line.

- o Timed publication—you can make documents, assignments, and other things available at a specific time, meaning you can do a lot of prep early, go away, and the next discussion pasture will still be up at the right time.

- Have one version of the truth but many links to it. We find it essential to post information in only one place—that way, if we need to change it, we need to make the change in only one place, and we know everything is current. But it is important to post reminders and pointers to it in many places.

- Have a communication plan.

- Be precise when appropriate. We have had students complain about ambiguities in due dates, and we find it particularly helpful to use one time zone for all posts and clearly delineate it whenever a time is given (14:00 Eastern time, for example), then offer a link to a conversion for those in other time zones.

- Think about reuse. Here are a few tips to save time for the next course iteration:

- o Don't put dates directly in documents, or if you must include them, use your word processor's automatic date function; if that is not viable, always keep them only at the top or bottom to make updating faster.

- o Modularize your content so that you do not need to update entire chunks. For instance, separate instructions from problems, and process from content, by having separate documents for the case, the case discussion questions, and the context description of the case.

- o Use clear, long document names and titles so that you can easily identify them later.

- o Use the copy function in the LMS to move content from one course iteration to the next.

- Ask for tricks. Every LMS has its idiosyncrasies, and colleagues and support staff have likely found workarounds and time-saving techniques. Online forums also can help.

- Create a checklist for setting up a course and a discussion forum. (See Appendix A.)

- Use common online tools as much as possible. For instance, the editing features of most LMSs tend to be clunky compared to sophisticated online shared tools such as Google Drive or Microsoft OneDrive, so edit your documents in those tools and make them available through the LMS. You can do this either directly (it looks rather elegant with a "real" document in an LMS) or as a shared folder (in which case you can also use shared folder tools such as Dropbox), which makes it easy to have course folders on your own hard drive that are automatically synched for sharing with students. Some of these tools also allow students to comment and even edit shared documents, which can be useful for all sorts of

things. Similarly, blogging tools such as WordPress are elegant and have many client-side tools that allow for easy editing and interaction. We tend to use the LMS mainly as a mechanism for keeping track of who has access to the course material and then provide most of the content in more widely available tools. (However, be aware that the availability of these tools may vary in many countries—Google Docs and WordPress, for instance, are unavailable in China as of this writing.)

- Prepare next year's course during this year's course. If you know you are going to teach the same course again next semester, ask your LMS administrator to create the next course instance right away and make it available only to you. If that is not possible due to administrative routines, create an online folder for the course material. Copy all your created material to that next course (or folder). As you teach your way through the current course, you will inevitably find errors or things to change. Rather than making a note of it and trying to remember to fix it next time, just make the change on the new course instance. When the new course comes up—and if you are anything like us, it will come as something of a surprise—you have already done most of the preparation.

Making the most of analytics

Every LMS provides some level of information about how the students use the system. In some cases, the information is quite detailed.

Even in the most extensive systems, the data are limited—you can know only whether students are logged in, what links they open and close, and when. Just because they opened the file does not mean they read it. But it is a good proxy, and if the numbers are low, it tells you a great deal. For many instructors, it is revelatory to learn that many students did not look at the syllabus or many of the readings. Learning this early provides opportunities for intervention (see the sidebar on communications plans) and signals to the class that you are paying attention and genuinely interested in seeing students engaged in the course.

Setting up your own infrastructure

Your own environment can greatly improve your efficiency and effectiveness. Below, we list some of our experiences and tricks for our technology environments. If you are doing things solely asynchronously and through a text-based interface, the main things are a really good keyboard, lots of monitor space, and a comfortable place to sit or stand and work, as well as well-chosen software tools. What tools you use certainly is something you should figure out yourself—Bill and Espen never can agree on what is best— but the important messages here are (a) don't skimp on equipment; it is your workplace, and (b) do what works for you. The following are the issues we do agree on—and then we include a picture and a description of our individual setups as examples:

- Hardware:

  o Get a big monitor. Or even better, 2 big monitors. Or 3. You will need to be able to see lots of information and introduce it into the discussion, in both synchronous and asynchronous teaching. Enough screen real estate increases productivity. (Be aware of a problem that plagues system development, though; while you may have lots of screen real estate, a screaming processor, and fast, stable Internet connectivity, some of your

students may not. Hence, make sure you visit your course pages and learning material with a slow laptop and a cell phone to see what they look like.)

o Get a good keyboard. Opinions about what this means are very divided (and subject to endless online discussions), but make sure that you like to write on it and it does not tire you or introduce errors. If you are doing anything that involves a microphone, make sure the keyboard is as quiet as possible. If you are using your laptop's microphone, use an external keyboard to minimize interference.

o Built-in microphones are getting good, but you may want to invest in a good external microphone, especially if you do things that involve talking to or interviewing someone in the same room. Put it on a stand or a rubber mat so vibrations from the keyboard and desktop are isolated.

o If you are going to use video, get a good camera and set up good lighting. Set the camera so you are looking into it (not looking at your own image or the group) and creating direct eye contact. Frequently, this means setting it in front of the monitor. Many people on web conferences look detached or evasive because they are looking not into the camera but somewhere else on the screen, generally at the audience or themselves.

• Software and productivity tools:

o Get familiar with the LMS and/or videoconferencing software.

o If applicable, get software to manage the video camera. There are programs that allow you to do various things with the camera, such as display yourself in black and white or use other effects. Being able to "freeze" the picture so you can sneak off to locate some information (or freshen up your coffee) while someone else is speaking, for instance, can be surprisingly useful in a pinch.

o Consider using a text expander—a piece of software that allows you to abbreviate certain oft-repeated words or phrases to speed up your typing speed ("tc" for "transaction cost," for instance). Depending on your system, you may need to install it as a special application or create shortcuts or macros.

o Keep your system updated, but not on the bleeding edge. Don't do a big system upgrade just before you are teaching, for instance, and don't introduce new tools to work in combination with the LMS or the videoconferencing system without having tried them first.

o Know how to turn off distractions. We all have seen presenters getting pop-ups announcing upcoming activities or emails, sometimes things that are quite private. Before you start the teaching session, exit all unnecessary applications and turn off alarms for your email and calendar. (And remember to turn off the ringtone on your cell phone.)

• Physical space:

o For tele- and videoconferencing, you need to reduce ambient noise such as from the ventilation system, computers, and fluorescent lights.

- o Light the area well—in particular, make sure you have light from the front toward your face so you avoid the "haggard raccoon" look with dark shadows under your eyes from overhead lighting. Espen uses an office lamp with a LED light bulb (to avoid the fire hazard) filtered through a sheet of white paper.

- o Consider your video background—ideally, make the background neutral (for university professors, the ubiquitous bookshelf is, of course, de rigeur). Espen has a blue floor-to-ceiling curtain behind him in his home office, hiding bookshelves and general clutter behind a "professional" background. If you want to get very fancy, you could get curtains or a screen in sharp green and superimpose whatever you want on it (greenscreening).

- o Try to avoid sitting in the middle of the picture, at least when you are creating videos. Instead, sit a little off center, about one-third of the way in. This is what many news anchors do—the effect makes you look a bit more professional, less like a staring amateur in front of a laptop and more like a reflective academic in command. It also allows you to have a slide beside you in the frame.

- o Bill has found he is far more energetic, engaging, and effective when standing, so he has a motorized desk that changes height with a push of a button. There are ways to move to a standing setup for under $100; just search for "inexpensive standing desk" for a wealth of options.

In his Bentley office, Bill has an all-in-one HP computer running the latest version of Windows (Bill always likes to run the latest software but doesn't recommend this to others, as he spends a lot of time debugging issues) and an additional, relatively inexpensive 28″ monitor. The PC and additional monitor are mounted on a heavy-duty dual-head arm. He keeps a Yeti microphone on a boom (not pictured) to isolate it from motion and an inexpensive screen in front of it to protect the mic from his sometimes-too-loud voice. This high-quality microphone also works for voice recognition, although he also keeps a wireless Logitech headset for when he would prefer to move more around the office. For videoconferencing, he uses a Microsoft Lifecam studio camera. Everything is mounted on a NextDesk Terra motorized standing desk.
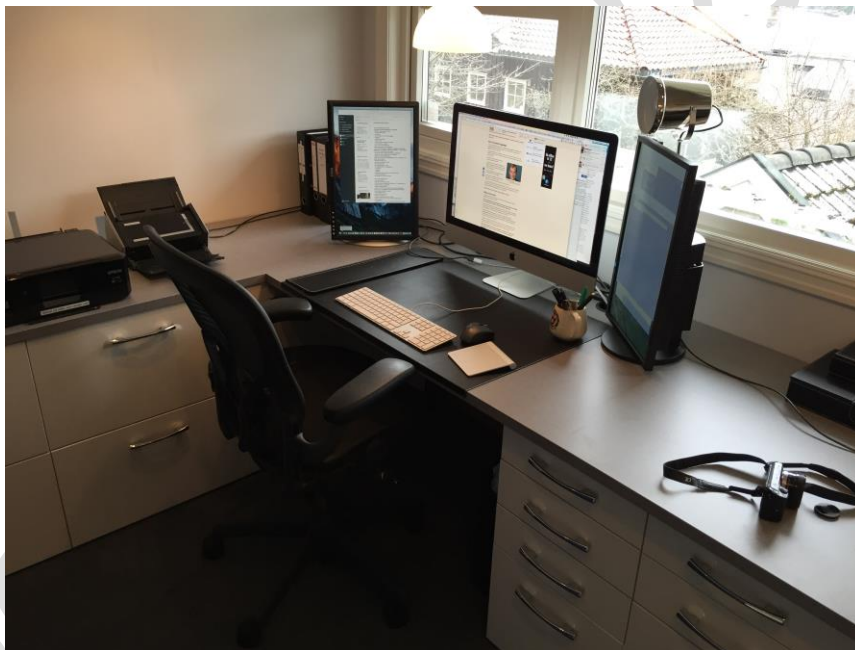
Figure 2: Bill's setup (Windows) as of July 2016

Figure 3: Espen's setup (Apple) as of July 2016

In his home office, Espen uses an iMac with a 27" screen and 2 vertical side screens, with a standard Mac keyboard (which is rather quiet) and a 2-button PC mouse. For videoconferencing, he uses the iMac's internal camera and microphone. The camera cannot be zoomed in, so he uses an application called iGlasses, which permits zooming and cropping of the picture, as well as various video effects.

If he needs better sound, he plugs in a Bose noise-canceling earplug set (rather inconspicuous; often the students don't notice it) with a microphone. When videoconferencing, he uses the middle screen for the videoconference software, making the picture window small, centered, and as close to the top of the screen and the camera as possible (to make sure he looks into the camera rather than below it). The side screens are used for notes and literature (left screen) and email/chat and other support tools such as his calendar (right screen). In his work office, he uses a MacBook, a 24" external screen, and a Logitech webcam with its own microphone.

FLOW: TEACHING THE COURSE

Achieving your learning objectives in an online course requires forethought and effort to motivate and challenge students.

Managing the learning contract/building community

A sense of community enhances student engagement in the course and makes case discussions more productive as students build trust in each other and open up. Online, with students physically separate, this needs to be deliberately nurtured. Fostering community should start before the course even begins. Whether through social media or the LMS, have students create profiles, including information that may be helpful in case discussions and to facilitate conversations among them. Just as in a physical classroom, establish a contract and set clear expectations. Reinforce the message, make sure it's received, and model the behavior.

Engaging students

Engaging students is one of the greatest challenges in online teaching. Selecting good cases and establishing a community and learning contract as we suggested above will certainly help, but that is not enough.

The first step is to establish what constitutes engagement. We think of engagement as multidimensional, with each dimension having varying levels. To what extent are students preparing? Reading and posting in discussions? Thinking deeply about the material? Engaging with each other? Assuming they understand case analysis, we can try to engage them more along all these dimensions. Some things we find helpful:

- Start early. Make the opening of your course as "case-based" and interactive as possible. Get students engaged in discussion at the outset of the course. This sets a critical precedent. The longer they are in passive mode, the harder it will be to transition the course into being student-centered.

- Sell, sell, sell. You need to promote the value of the case method regularly and vociferously. We are both shameless promoters, using everything at our disposal to motivate students to engage in the case discussions. For business students, links to career skills and job-hunting success are particularly helpful.

- Use more cases. If cases are seen as only an adjunct to the course, or something used to illustrate other points, there is little incentive for students to invest deeply in preparing or discussing them.

- Give students every opportunity to engage through discussions, polls, and assignments.

- Use class assessment to motivate, making participation a significant portion of the grade if possible.

- Ask good questions (see below).

- Use warm calls publicly and privately. Calling out individual students can be useful. This can be done directly in discussions as a cold call in a synchronous session ("Jeffrey, what do you think?"). In an asynchronous class (with some exceptions such as timer-based tools that require responses shortly after sharing a prompt), calls are warm at best, as students have time to think before responding. But these calls can be done publicly in front of the group or privately via email or other channels. Private calls can be particularly helpful when drawing out reticent students or trying to change a student's tenor in the discussions.

- Project enthusiasm, even if it feels inauthentic. It is critical that you show enthusiasm at the outset to build momentum. Online teaching can feel detached to students because of the lack of subtle signals sent in person. You may find that you need to fake enthusiasm for some topics. We prefer to be authentic because it is compelling, and inauthenticity is exhausting. However, we always project as much energy and enthusiasm as we can at the outset to build necessary momentum in the class.

- Build peer pressure. You can do this through explicit grading structures. For instance, make students responsible for the quality of discussions and the need to motivate classmates, or create groups and award the lowest grade earned by any group member to the entire group.

- Consider shame. If students are not living up to their obligations in the course, shame can be a powerful motivator. While some faculty (rules differ from country to country) go so far as to post grades or activity metrics with student names sorted in descending order, we prefer subtler signals, such as reminding students of their obligations and expressing disappointment to the class if necessary. (That being said, if you give students their ranking with their grade—"Your grade was B+, and you ranked number 14 out of 56 students."—you cut down on complaints simply because the students grasp that they are being compared to others.)

- If you have non-native speakers in class, declare a general amnesty for spelling mistakes and messy language. Be aware (and remind students) that expressions and comments translated from other languages can seem more aggressive or less clear than they are meant. Fluent English speakers have a tendency to split hairs, if not infinitives, which may impose a level of precision a non-native English speaker can find unnecessarily challenging. Also, remind people to show courtesy to students who need a bit more time to think when answering—though this will be less of an issue in a text-based discussion.

Fostering interaction among students

Engaging students is a powerful first step but not enough to move beyond student-faculty interaction. It is easy to say a course is participant-centered. Delivering such a course is more difficult. Determine whether your course content and structure are furthering your goal of making the course student-centered. How interactive is the course? How much of that interaction is student-to-student rather than with (or for) you? For many of us, the most crucial step is getting out of the way and letting students speak with each other.

Reward students for building on the points of others. If your students are sufficiently mature, consider peer evaluation and critique as formal assignments. Perhaps even divide the class into groups and require group A to respond to posts from group B members. And think about all phases of the discussion. Often the opening of the discussion gets disproportionate attention in terms of building interaction, and the middle and conclusion can easily revert to the instructor's providing summaries.

Integrating theory and cases

Helping students integrate theory with class discussions can be challenging. Your techniques from physical classrooms can be applied to varying degrees in synchronous sessions, except for those requiring body language cues. While asynchronous classes limit your repertoire, they also afford the opportunity to demand more of students, since they can take time to consider theory before responding to questions.

Using polls

Most LMSs and videoconferencing software have polling functionality. If yours does not, use a dedicated polling application or an online form or spreadsheet. Polls give you an opportunity to take the pulse of the class about their preparation, opinions, or analysis while also engaging the group. You can craft many polls ahead of time. Be sure to save them in a format that will make them easy to reuse in subsequent iterations of the course. It can also be very powerful to build them on the fly when an unanticipated question arises. Polling can also be useful before opening a discussion or moving to a new pasture.

Keep your poll questions brief, and be as clear as possible. We often like to limit options for pedagogical reasons ("Should the protagonist do X or Y?"), but if we do so, we craft the question to eliminate other choices as options ("Assume the board of directors has narrowed the choices to only X or Y. Which should the protagonist choose?") to prevent pushback about "What about a mix of X and Y?" or "What about doing neither?" Many tools allow you to see who gave which response, which facilitates follow-ups. This is particularly helpful when your poll has several categories and you want representatives from each.

Facilitating discussion forums

Running a good discussion forum amounts to being a good host. You need to make people feel comfortable and embody the culture you want to have in the forum. You start by asking questions to spark discussion, and then guide the conversation through further questions, comments, and structuring until it is time to close the discussion and move on. Just as in the physical classroom, you need to balance exploration and focus, although online you have more room for exploring tangents and taking deep dives than in a time-limited physical classroom. Resist the urge to respond to every comment—let the students develop the discussion. Not only does this foster interaction, but it saves a lot of instructor time as well.

Asking good questions

Much of what you do as a case teacher is ask questions. The C. Roland Christensen Center for Teaching and Learning offers excellent advice on asking questions, along the 4 categories listed below (C. Roland Christensen Center, 2008). This advice applies for online, and we offer some extensions we have found helpful:

- Starting a discussion pasture. In a synchronous discussion, if you ask an ineffective question, you get quick feedback, and you can adjust by reframing the question or cajoling students into engaging. But in an asynchronous discussion, you may not be returning to the discussion for hours, or some students may enter, see the poor question, and not return for a day or more. Particularly for asynchronous discussions, we suggest making each question as immersive as possible:

  o Make it crystal clear. Err on the side of clarity, and be careful of ambiguous or unnecessarily complicated language (sesquipedalianism), particularly for non-native speakers. We have been astonished regularly by the impact of ambiguity, and we rarely regret editing our questions harshly. This is not to say you cannot ask broad or complex questions, but make the complexity in the answering, not in interpreting what is being asked.

  o Evoke emotions. This is not the time for subtlety—use any devices you have to enhance engagement with the question. "If your partner/best friend/sibling were in this situation, how would you advise him or her?"

  o Polarize. Try to craft questions on which students will disagree, or assign students to opposing groups. "For this discussion, if your last name begins with A through M, assume you are the VP of risk management, and if your last name begins with N through Z, assume you are VP of sales."

  o Put students in a role. Have them respond as a case protagonist, a board member, an analyst, a consultant, a blogger, or any other role that will give them a particular perspective. "Assume you are an analyst for a venture capital firm. What questions would you ask about the business model?"

  o Decide how formal you want to be. A question that refers to "Ms. Smith" will be addressed differently from one about "Jane." Think about your audience and the nature of responses you want when crafting your questions.

        o   Use inductive (letting the students draw their own conclusions) versus deductive (applying theory and frameworks to specific issues) reasoning. Both can work, and you can mix up the use over the course.

- Following up. Follow-up questions can be tricky in an asynchronous discussion because there may be many comments made in response before you get your chance to follow up. To the extent appropriate, try to incorporate the existing responses into your question ("Alice, as Bob noted, there are high transaction costs here. How would you address them?") so you do not seem to be ignoring the flow of the discussion. But if there is an issue on which you want to follow up that other students did not pursue, reply directly to the post in question, and acknowledge that you are taking a different tack ("Alice, I'd like to return to your statement that barriers to entry are high. How might emerging technologies change that?").

- Transitioning. While the questions you ask to transition to a new topic may be the same in synchronous and asynchronous classes, you must decide whether you want to hold both discussions simultaneously. If you want to stop the current discussion (because it is exhausted, off topic, or unproductive), you can close the thread to new posts. This is effective and clear but can feel abrupt and may frustrate students who have not yet had time to enter their thoughts. If we are going to close a thread, we try to give notice to students and leave some time for them to enter their final comments.

- Handling special challenges. Asynchronous discussions offer additional options to manage special challenges. You can delete offending comments, though this is a drastic measure. We always prefer to have the authors revise or delete them or post clarifications/apologies—unless there is something particularly egregious. You can also handle such challenges privately, away from the rest of the class during a discussion.

- Making sure students don't create "perfect" discussion entries external to the discussion board, then paste them in. Many students are afraid of showing intermediate work, which slows down the discussion. This can be made explicit in discussion guidelines, reinforced by rewarding prompt responses, or made as a teaching point. In one of his courses, Espen requires his students to suggest topics and groups for a final term paper in a shared (Google) document. Midway through the course, he regularly teaches the Dassault Systèmes case (Thomke and Beyersdorfer, 2010), which at one point describes an issue with engineers not checking early drafts of aircraft components into a collaborative CAD system, preferring to store and polish them offline. Thus, many of the productivity gains coming from spotting and ironing out early misunderstandings are lost. When the students berate the engineers for doing this, Espen points to the shared course document and asks why so few of them have written anything. The students explain they want to polish up their descriptions before putting them in … Q.E.D.

Vary the types of questions you ask—this will make the discussions less predictable and more engaging.

Deciding how much to set bounds for questions

The more latitude you give in the question, the more you risk the discussion will drift from your intended topic and into myriad others. Depending on how active your students are, how well your norms are established, and whether you are allowing students to open new threads, this could get

out of control in just a few hours. Given that you cannot be continuously present to keep the discussion focused, you need to decide how to manage that. You might want to use students as assistants, as described above, but you may also want to devise the question specifically to help constrain the discussion. You can bind the discussion by asking narrow questions or by explicitly excluding topics. Some of this can be done by foreshadowing later topics: "Please hold off on discussion of implementation—we will deal with that later."

Enhancing conversation and analysis

Once you have asked your question, you still want to facilitate the best discussion you can. This requires thinking through the structure and nature of the interactions.

Structuring discussions

You have a wide range of options when it comes to structuring asynchronous discussions. You can keep all discussion of one case within a single thread, a series of sequential threads, or multiple parallel threads. In most systems, you can allow students to start new threads themselves, which can increase students' ownership of the discussions and reduce your workload.

Allowing parallel threads can lead to powerful, simultaneous, focused discussions taking place and make it easier to follow conversations. However, you need to establish strong norms and be quite explicit about when it is appropriate to start a new thread, or the entire forum can quickly become disjointed, with redundant posts and confusion about where to make new contributions. Even well-intentioned students who have read the norms about where to post can get confused unless the threads themselves are well labeled. In fact, an important role of an online case teacher is to make students aware of redundant discussions and explicitly point them to the appropriate place.

We prefer some parallel discussions to allow students to focus on their areas of interest, but try to keep the number to single digits. We also like to move posts into appropriate threads if the system permits this. This can be a powerful way of highlighting especially salient points.

How long should a discussion go?

A discussion can, in principle, last from a few minutes to weeks. We generally try to keep discussion of a single case to less than a week to keep participants from forgetting the early part of the discussion. If students are online synchronously, the discussion can be as rapid as in a physical classroom. But often a primary reason for teaching online is to enable asynchronous elements. These factors will vary by program and student composition, not to mention that some schools that do online teaching have more official discussion requirements (duration, maximum/minimum number of comments, etc.) you may have to follow.

When deciding how long to allow a discussion to run, you need to consider a number of factors:

- How many times do you want students participating? If you are satisfied with each student contributing only once or twice to a discussion, then it can be reasonable to keep a forum open for only a few hours or days. But if you would prefer to see sustained conversations with students communicating back and forth, you may need a longer time period.

- How frequently can you demand they log in? Depending on the nature of your program, it may not be appropriate or feasible for you to require students to log in multiple times a day or even daily. If this is the case, it becomes difficult to complete a case discussion in under a week.

- Consider how to keep those with flexible schedules from dominating. It has become common to find that the first comment on a blog or other website was from someone who just typed the word "First!" We often see a similar phenomenon in our classes, in which a full-time student, or someone with a job that allows them to be engaged in an online course while at work, will post answers to questions immediately after you post the questions. This can be frustrating to students with busier schedules—by the time they log in, many of the relevant (and perhaps "easy") points related to the question have already been raised. There are a number of potential remedies to this:

    o Rotate students who may post in the first window of a discussion.

    o Vary the times of day at which new topics are posted.

    o Privately contact students who are dominating and ask them not to post in the first several hours of a discussion.

    o Do not allow students to read discussions until they have posted. We do not prefer this because it often creates a long list of repetitive posts.

What makes a good post?

Instructors must set norms for what constitutes a good comment so students know what to aspire to. This should include whether the comment is on point, builds on the previous comments, and is in appropriate depth. Depending on your teaching style and the goals of your course, you may place emphasis on the quality of the writing in the comment.

Part of this hinges on how much spontaneity you want. The more formal you expect the posts to be, the less spontaneous the posts will be. This can lead to longer lags between posts and less engagement among the group. On the other hand, spontaneity can produce posts written in stream of consciousness, which may be less valuable to the discussion because they are less considered.

Some faculty enforce word or character limits on posts. In some cases, this encourages tighter editing, but it can also just lead to trivial or vapid comments.

As much as it makes us uncomfortable, we tend to be forgiving of careless punctuation and grammar but draw the line at misspellings. If students agonize over every post (and many students are not participating in their first language), they will have less time to devote to other facets of the course. It is critical that students be comfortable in conversation, and for many of them, their writing style on social media does not look like traditional formal business communication. Then again, neither does much modern business communication. LOL! We do emphasize professionalism, and in written assignments, we require more formal writing.

Using gamification

Many LMSs have the ability to let the participants allocate points to each other and publish the results. For some students, this can be motivating. Whether posts are "liked" or rated, it allows students to evaluate the posts of others. The system can then flag or even promote the best-liked ones. We have found this works best with students who have some experience with online case discussion and have a more developed sense of what constitutes a good post. Even with norms established, this takes experience to build.

While students can collude and therefore distort the system, we have not heard many complaints about this. If you do suspect this is taking place, you can manage it by calling out students (publicly in the system or privately, as you see fit) to explain why they highlighted that post, perhaps relative to other, stronger posts. You could also require students to issue some low ratings to keep ratings inflation and gaming (I rate you high, you rate me high) in check.

Debriefing cases

Once a case discussion ends, there is strong desire from students and often from faculty to summarize what has been learned from the discussion. This desire can be amplified in online discussions, particularly asynchronous discussions, where there is no board and the discussions are often not as tightly focused and managed as in a traditional classroom.

We suggest varying your approach with some mix of these techniques:

- Have students summarize learning points. They were the ones doing the discussing, so let them summarize the lessons. This is also a helpful mechanism for you to assess what they have learned. Push them to generalize beyond the narrow analysis of the case itself. For instance, how well did the theory in the course apply to the case? What lessons are relevant to other cases you have discussed? How might the lessons apply in other situations/companies/industries?

- Provide a summary yourself—at your peril. You don't want to be seen as the arbiter of truth, and you also don't want to make it seem there was a right answer you were expecting all along. If you are going to summarize the discussion yourself, consider not doing it after each case and making your "summary comments" about larger themes than simply the "conclusion" from a given case. This approach has the added benefit of connecting issues from multiple cases or course modules with larger themes. If you do this, be sure to refer to student comments to show that you are summarizing their discussion.

- Don't always put a neat bow on it.

- Consider leaving them with a question instead—this is an effective way to help students remember what they have learned.

- Relate the case to other cases.

Managing group work

Group work is useful in handling the scale of a class. Opinions differ about the ideal class size—and, of course, it depends on the level of interaction. We have found 20 to 50 students to be ideal for balancing momentum in discussions with sufficient opportunity for each student to be actively engaged. Groups smaller than 20 typically lack the desired breath of opinion so vital for case discussion, and unless you can demand frequent logins from students, the pace of discussion can be lethargic. Classes larger than 50 quickly become unwieldy; we suggest subdividing the class for asynchronous work so that at any one time, students are engaging with a group of a manageable size. Group work also gives reticent students a chance to open up. Common techniques for managing group work also apply to online teaching: clarifying expectations, composing groups with eclectic backgrounds, deciding on timing and deliverables. However, with online teaching, you have the opportunity to be more involved in the groups if you choose. This makes it critical to circumscribe your role.

Unless your course is intended to teach students how to work effectively in groups, think carefully about how to limit the extent of your role in students' group work. Find ways to facilitate their work without taking up your own time. These are the online-specific areas we have found crucial:

- Handling group dysfunction. In many instances, just handling students unhappy with the nature of their group functioning could constitute a complete teaching load for a course. You should make a conscious choice about when you will get involved in such issues. There are some strategies for managing this:

    o Make heavy use of peer evaluation (see below).

    o Set expectations that all groups will struggle and that you expect them to work the issues out among themselves.

    o Penalize groups that bring dysfunction to you; you can frame this as a consulting fee the group must pay in the form of a grade penalty, for instance.

- Suggest process. Just because students have experience with group work does not mean they are effective or even efficient at it. Of course, if your course is about process, you may want to invest time in an analysis of the process itself.

- Make checking in on group work easy. You can require students to use LMS tools or have them include you in the external tools they use. Most of our students prefer to use non-LMS tools for interacting in group work (messaging, project management, shared documents, version control, etc.). You can also require certain group processes (regular meetings, minutes of meetings, status updates, intermediate deliverables, evaluations, etc.). For instance, you can create a simple status report form each group must file that will give you key data points about their performance and help raise red flags before the groups get into trouble.

- Have groups meet synchronously. You may be able to facilitate this through the composition of the groups (for instance, 1 group per time zone).

- Use peer evaluation. This is critical to managing free rider issues as well as helping with participant development. You can automate much of the work with a dedicated tool, but an online survey tool or Google form is also easy to set up and works well.

Using breakout groups in synchronous

Using breakout groups can be worthwhile, even when synchronous time is at a premium. The more intense and personal interactions that take place in the smaller groups build connection among participants and offer a welcome break from the larger web conference. To make the most of the exercises, plan ahead and manage the time carefully. We have found a few techniques particularly helpful:

- Make the task clear.

- Set group breakout rooms and assign students to them before the session starts.

- Orient students to the room before pushing them into it.

- Prepopulate the room with the question and any relevant instructions.

- Set clear norms for how students should engage (voice, text, video, whiteboard, etc.).

- Provide a timer—either make a student responsible for keeping time (so the breakout finishes when it is supposed to) or load an application providing the same service.

- Visit each room early on if possible to ensure students are working productively.

Using chat

Most synchronous meeting tools have the ability to open a chat window for all participants as a supplement to audio and/or video. There are many advantages to having such a channel open. If participants have ideas simultaneously, they are able to air them through the chat. If there is interest in pursuing an idea raised in the audio/video channel, that can be done in the chat window. Students can get clarification of points made without slowing down the rest of the class. With an active chat window, there is a sense of intellectual momentum in the synchronous class. The chat provides an often-exportable archive of ideas being exchanged. The chat allows the faculty member to see what areas spark interest or create confusion. Our feeling is that such side channels are likely to exist. If you do not open one in the course, other forms of social media or communication will likely appear in its place, but you may not be privy to the conversations. Of course, opening the chat window can also be distracting for both faculty and students, so you might consider opening chat only periodically during the course of a synchronous discussion.

FEEDBACK

The primary differences in feedback and assessment online are that you can't physically oversee the work and you have a readily available record where the quantitative aspects are readily tallied for you, freeing up time to focus on qualitative aspects.

Assignments

Enhance online assignments by employing shared documents within groups to do case write-ups—for instance, by having students drafting a memo to a case protagonist or having students record presentations in lieu of some written work. Unless individual presentation skills are part of the learning objectives, we seldom assign individual presentations unless a student has specific knowledge (say, has worked for the case company).

If groups are giving presentations, we prefer to give each a different topic. If students have to watch several presentations on the same topic from the same case, they are likely to tune out, giving the presenters viewed first an unfair advantage. If they need to be on the same topic for pedagogical reasons, then try to give each group a different angle on the problem (perhaps they ground in different theories, emphasize different aspects of a framework, etc.). Or consider not requiring all students to view all presentations; they could each get a couple of random ones to compare, or you could view the presentations. Alternatively, modularize the presentation assignment such that groups might present only part of it (1 of the 5 forces, or 1 component each of the marketing mix).

Decide whether there is added value in using precious synchronous class time (if you have any) for student or group presentations. If the groups are doing only voiceovers for slides without any interaction with the audience, have them record the presentation and have participants view it before the synchronous session and submit questions, and perhaps analysis and evaluations, ahead of time. Then use synchronous time for questions and answers/discussion.

Exams and quizzes

Most LMSs have good tools for structuring automatically graded exams and quizzes. Pop quizzes can be helpful in ensuring preparation. We have found online students view answering questions and interacting with the system as an organic part of an online course, and they are less resentful of such quizzes than in a traditional classroom where they can feel infantilizing, especially at the graduate level. The key here is to make it relatively low-effort for faculty and students. If you are concerned about academic honesty, you can create a pool of questions for each case and randomize which question(s) students get. You can also set a short deadline for completing the quiz.

Participation grades

- Quantity

The LMS should be able to provide data on the number of times students have viewed pages and posted. This can be helpful in identifying students who have failed to meet minimum standards for activity, but of course, it does not address what the students have contributed.

- Quality

If the scale of your course and your time permit, the gold standard for judging the quality of participation is to read and evaluate the comments of students in the context of the discussions. You can do this using the same basic method you use for evaluating class participation in traditional classrooms, except here you can keep your gradebook open and pause whenever you like without disrupting the flow of the discussion.

If you need more efficiency, you can view the posts by an individual student and judge his or her portfolio. You miss the context of the discussions, although you may recall some of it if you have been following the discussions. If the course is long enough, you may be able to use sampling to evaluate the quality of students' contributions. Some other tips for assessing quality:

- Self-evaluations. Have students identify their best comments for each case. You could also post the analytics and ask students to evaluate themselves relative to that data.

- Peer rankings of posts. Give some weight to what classmates thought of the comments. If you suspect students are gaming the system, enforce rankings.

- Summaries of discussions. Have students summarize discussions and attribute the best comments to specific authors.

- Groups. Do at least some of your evaluation at the group level.

Rubrics

Rubrics (a specific list of detailed grading criteria and their relative weight) can speed grading of assignments and discussion posts and help shape norms if you share the rubric with students. How much of the rubric you share with students should depend in part on your learning objectives. Explicit criteria and point allocations will lead students to allocate their time and effort accordingly. If you want students to develop perspective and analysis skills, you may not want to be so directive. If you choose, you can also share part or the remainder of the rubric after you return the graded papers.

We prefer our rubrics short and simple, and we do not break down points by area to avoid students splitting hairs about various aspects. We like discussions about grades to focus on the larger issues of a student's contributions to the course and to the learning of their fellow students. Appendix B is the guidelines for discussion boards we distribute in the web-based seminar "Teaching with Cases Online." Some faculty like to provide sample good and poor posts; we have found that doing so leads to students trying to force their comments into the structure of those we provided, often with counterproductive results.

Academic honesty

For asynchronous portions of a course, instructors have limited ability to oversee the work of students. It is crucial to have a clear policy delineating what is permitted and what is not. A particular problem for case classes is the availability, for fees or for free, of online "solutions" to cases. Be very clear that searching for or using such prepared solutions constitutes cheating. One argument we have found effective is to tell the students that very often the available case solutions are of very low quality—and we recognize them. Leave no room for ambiguity in the policy, and make this language as simple as you can. Keep it brief, and use bullet points if appropriate. Setting clear rules will help a great deal and may even keep the majority of students behaving appropriately. You should also emphasize that you will enforce the rules. Examples of prior offenses and penalties, at the school or in your program/course, can be especially helpful. Such teeth lend credibility to the academic honesty policy.

For written work, you can use software to look for plagiarism. Many schools integrate such tools into the LMS. You can spot-check work, routinely check submissions, or have students check their own work before submitting it. The latter is particularly helpful for students who are unclear on what

constitutes plagiarism at your school, particularly international and first-year students, but can sometimes make them fiddle with the copied language rather than provide a reference. Be aware that LMS-based plagiarism tools can overlook things—if you find a passage in some student work that looks too neat, by all means enter it into Google to check it. These measures are crucial signals to students and administration that academic honesty is taken seriously in online courses.

The key in the ongoing fight against cheating and plagiarism is to make dishonesty more expensive. For students sufficiently motivated to hire others to do their work, only the most severe measures will work.

For exams, you can proctor the students with the help of webcams or third-party proctoring services. If you have the luxury of requiring synchronous meetings, this can reduce the passing of questions and responses. You can also check for students hiring others to do their work by having oral examinations via videoconferencing, where a student who has done his or her own work can easily discuss it, whereas a cheater cannot.

For assignments and especially for exams, design questions unlikely to have canned answers available on the Internet. A few powerful techniques for this include:

- Choose a case from another discipline or ask a question from the case related to a "minor" issue or character. Cases may have more than sufficient data for the students to address a question, even though that was not an intended teaching point of the case.

- Create a new exhibit for an existing case, or revise an existing exhibit with new data.

- Assign an update to the case, real or fictional, and ask questions about that.

- Ask questions that relate one case to another. For instance, "What could the protagonist of case A learn from case B?"

Be sure to create new questions for each iteration of the course, or at least rotate the questions to reduce the likelihood students will have access to them. By applying these measures, enforcement of academic honesty can rise at least to the level of the typical physical classroom, where sufficiently motivated students can still find ways to cheat if they so choose.

CONCLUSION

Online case teaching offers a way to reach many students who otherwise could not participate. The field is new and open for innovation, and you may well be able to discover ways of effective case teaching online that other instructors have not thought of before. Best of all: though it might be a lot of work up front, almost everything you do is reusable, resulting over time in a very good and personal infrastructure for case teaching.

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Appendix A: Checklist for Creating Courses and Discussions

Course

- ☐ Establish student account for testing

- ☐ Copy content from previous iteration

- ☐ Review notes from previous iteration

- ☐ Develop communication plan

  - o Post and send course opening announcement

  - o Preload and set release dates for announcements as feasible

- ☐ Post syllabus

- ☐ Post instructor information (or links to it)

- ☐ Create folder structure

  - o Post readings and other files

    - Set release dates as appropriate

- ☐ Test all links

- ☐ Check permissions/availability

- ☐ Set assignment due dates

□ Create/flag student to do items

Discussion

□ Load discussion topics

□ Set options as desired

 o Will participants be allowed to rate posts?

 o Must students post before reading?

 o Are students allowed to create new threads/discussions?

□ Confirm availability of discussion

 o Set start and stop days/times

 o Restrict to subgroups as appropriate

□ Set announcements for availability of discussion

Appendix B: Sample Guidelines for Discussion Board

Good discussion posts:

Are timely. The best messages in the world won't do any good if they're posted after the bulk of the discussion is over!

Are well written. Take time to revise your post. If your post is too long or poorly constructed, it will most likely not be read or will cause your peers frustration while trying to read it.

Are "on message." Think through your messages in advance. Carefully read and consider the assignment, the discussion prompt, and your peers' postings before you post a response.

Are generous and respectful. Suggest resources or ideas that may help others in their learning. When disagreements arise, allow others the benefit of the doubt—value deeper insight and communication over trying to prove you are right.

Stimulate thinking. Pose provocative questions, raise alternative viewpoints or explanations, and provide creative, breakthrough ideas.

Are grounded in evidence. Make explicit connections between course concepts and readings, your firsthand experience, and the experiences of others in your cohort.

Encourage others to provide evidence. Good follow-up messages ask peers to explain "why," helping them clarify their thoughts, uncover inconsistencies or misconceptions, and take their understanding to a new level.

Move the understanding of the class forward. Raise questions and encourage your peers to raise questions. Help your colleagues address questions. Good messages also create connections between course concepts and the thoughts and ideas of others in your cohort.

Source: Harvard Business Publishing Teaching with Cases Online, Adapted from the LESN program at the Harvard Graduate School of Education, Programs in Professional Education by Lynda St. Clair.