HARVARD
Office of the Vice Provost for Advances in Learning

Designing Your Course for Online Instruction: Principles and Tips[1]

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Guiding Principles behind this advice:

1. We recognize that faculty are time constrained so we have tried to keep this guidance **simple, concrete, and actionable**.
2. For the same reason, in offering these tips we have favored curation and **having a point of view** over being comprehensive or merely aggregating materials that are publicly available.
3. We have tried to offer guidance that faculty can **implement by themselves**, rather than relying on additional resources. Of course, we also list resources for faculty to be able to turn to in case additional help or input is desired.

As teachers, there are three core questions that we consider in our everyday teaching:
- **Content**: What are the core concepts or ideas that we want our students to learn in a particular class, module, and course?
- **Pedagogy**: What is the most effective way that we can get our students to engage with the material to understand these concepts and maximize learning? In particular, how should students engage with the material (a) before the class (asynchronously); (b) during class (synchronously); and (c) after class (asynchronously)?
- **Assessment**: How can we assess their understanding of the material most effectively?

These same questions are central to online teaching. Although the online medium precludes certain forms of interactions that can occur in-person, it also creates opportunities for new ways to teach and learn. We highlight some of the most relevant considerations in what follows.

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[1] This document represents the views of the Vice Provost for Advances in Learning (VPAL) Academic Planning Group comprising Bharat Anand (VPAL and HBS), Amanda Claybaugh (FAS), Barbara Cockrill (HMS), Glenn Cohen (HLS), Suzanne Cooper (HKS), Erin Driver-Linn (HSPH), Johanna Gutlerner (HMS), Janet Gyatso (HDS), Niall Kirk-wood (GSD), Anne Margulies (HUIT), Eric Mazur (SEAS), Rahul Mehrotra (GSD), Matt Miller (HGSE), Meredith Quinn (Radcliffe), Jan Rivkin (HBS), Teddy Svoronos (HKS), Dustin Tingley (VPAL and FAS), as well as the input of Rebecca Nesson (FAS), Zofia Gajdos, Mary Godfrey, Jonathan Lehrich, Andrew Rawson, and Casey Roehrig (all VPAL).

Tips:

I. Considerations at the course level

    a. Reconsider your course's asynchronous-synchronous mix.

        i. In contrast to Spring 2020, you have more time to create asynchronous content for your semester courses and, as a result, more flexibility in choosing **the right mix of synchronous and asynchronous** learning.

        ii. One of the main reasons why the appropriate mix for your online course may be different from your residential offering is that online is largely a "lean forward" medium. As a result, online teaching ought to take advantage of interactivity with the students. **Long lectures *do not work*** as well in online teaching, either in synchronous sessions or asynchronous materials.

        iii. This also implies that the change in mix **will depend on the teaching modality** you typically employ for your residential course. For example, if you use case studies as the basis for a discussion in class, you may not need to create new asynchronous materials. However, if you rely primarily on lectures in class, you can convert (and chunk up) a fair amount of this material to asynchronous content, which in turn opens up different opportunities for your live sessions.

    b. Think about ways to **create peer communities** at the level of both an activity and the course.

        i. Effective learning comes not only from the transfer of knowledge, but also from the **intellectual community** that students are a part of – study groups, project work, office hours, sections, or serendipitous hallway conversations. Relatedly, learning is most effective when students can engage not only with the material, but with each other – which requires trust, familiarity, and the **social community** of peers. So think of your online course not only in terms of how you can deliver content to your students but how you can create an intellectual community. (This is what students often feel is missing the most in online courses relative to the residential experience).

        ii. For example, review your course activities to see whether there are ways that the **activities can bring students together** in peer groups. Group projects are a simple and effective way to do this, and can be formative (ungraded). Design individual peer learning activities with particular care and thought to issues of inclusion and equity. For example, because leaving peer activities unstructured can have the unintended consequence of some students feeling isolated, try making sure that *all* students are engaged with peers in some activities. You might assign them to work

in specific groups rather than leave them to self-assort, and might create study groups more intentionally so that certain groups of students aren't left out.[2]

c. Take advantage of **interactivity and peer learning** – the key features of the online medium – by **designing your course "digital-first**."

i. The ability to reach large audiences is often touted as the primary advantage of the online medium. In our view, however, the most interesting learning opportunities from online have less to do with the scale (or "hub-to-spokes") benefit and more to do with the opportunities for new forms of **interactive** learning experiences. These can be **student-to-faculty** interactions ("spoke-to-hub") or **peer-to-peer** interactions (student-to-student, or "spoke-to-spoke").[3] Conversely, if you are *not* creating interactive or/and peer-to-peer learning experiences (group, team work) you will not be taking advantage of what's powerful about online learning. Think about ways to take advantage of opportunities for active and peer-to-peer learning in both your synchronous and asynchronous teaching.

ii. Rather than trying to replicate the residential format, it's useful to **embrace a "digital-first" mindset**. Faculty can get frustrated when they merely try to recreate what they do residentially in the online format.[4] While we miss many aspects of in-person interactions, it's often more useful to recognize how online learning formats can create new or different experiences – enabled, for example (and as many faculty colleagues observed this past spring), by features such as breakout rooms, the chat function, "no back row," collaborative online workspaces, share screen, "raise your hand" responses, and the fact that everyone is only "one click away." Asynchronous learning experiences can be more active too than simply reading a paper or book chapter or watching a video (more on this below).

II. Considerations around asynchronous content creation

Here are a few suggestions to keep in mind when creating asynchronous materials.

a. **Asynchronous ≠ Video**.

i. Moving lectures online neither implies nor requires creating high-quality videos (of the kind often ascribed to "HarvardX-style courses").

ii. Videos by themselves don't make for effective learning experiences. Indeed, they are merely one format amongst many – polls, reflections, text, articles, discussion,

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[2] For example, in STEM courses women and underrepresented minority students are often passed over in study groups.

[3] In addition, there is valuable additional **flexibility** for students in controlling their schedules and the time they spend on different course elements.

[4] A related preoccupation is whether online is "better" or "worse" than residential. Even though in various respects the online medium isn't nearly as good as the residential classroom, in other dimensions it offers new and different features.

simulations, graphics - that you can use to create effective learning experiences. Utilizing a variety of formats can help make your course materials more engaging and help your students stay focused.

iii. **Asynchronous activities can**, and should, **be interactive** too. More important than the distinction between video and text for content delivery are the opportunities you provide for students to check their understanding, integrate their learning, and reflect.

b. **Focus on the principles of effective pedagogy** rather than the particular medium (video, simulation, text, etc.) in order to create engaging asynchronous materials.

i. Principles of pedagogy effective for online learning are similar to ones that are effective in the residential classroom: **Effective teaching sparks curiosity, allows for discovery, and illustrates generalizability.**

ii. Here are three simple questions to keep in mind when creating asynchronous content:

1. How can you **provoke** the students to get them to engage on a particular topic? For example, asking a question that forces them to make a decision or take a stand, introducing a problem that they have to solve, or inviting their views on a contemporary issue that they can relate to.

2. How can you get your students to **discover** the key ideas and concepts themselves through active learning rather than passive listening or "show and tell"?

3. How can you get your students to appreciate the bigger picture of why and how the particular learning concept **generalizes** beyond the particular application?

These simple considerations – how to Provoke, Discover, and Generalize – can go a long way towards creating asynchronous materials that are interactive and engaging. The particular ways they find expression for different fields may vary.[5]

iii. Keep in mind ways for your students not only to interact with the material, but also to **interact with each other** – for example, through reading and engaging with peers' responses to a poll question, through conversation on Canvas discussion boards, or through a Slack channel.

iv. Your asynchronous materials can also **complement** your live sessions in important ways. For example, **pre-class polls** can help you both determine the aggregate sentiment of the students and track the responses of individuals before class, which you can then use to anchor the discussion in the live class or create more intentional calling patterns.

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[5] For example, in the sciences one might reframe this as "Elicit, Confront, Resolve."

     v.   You can **engage with students in asynchronous ways** too – for example, through online discussions or feedback via surveys.

  c. **Pedagogy > Tools.**

     i.   As a corollary to II.b, spend more time **grounding your course in good pedagogy** than using every technology, or mastering every online tool or feature, at your disposal.

     ii. **Keep it simple**. Familiarizing yourself with a handful of important features of Zoom and Canvas can take you a long way. In addition, each new technology creates an additional burden for both teaching staff and students.

     iii. Think first about what you're trying to accomplish – your learning objectives – and what capabilities you need to deliver an effective online experience. Then see whether it can be done with existing tools before adding new ones.

III. Additional tips

  a. **Experts are one click away**. You can rely more easily on outside experts when creating both asynchronous and synchronous learning experiences for your students.

     i.   In the online world, everyone is **one click away**. Therefore consider ways to create opportunities for your students to benefit from the resulting possibilities.[6]

     ii. Experts can **complement** your own wisdom and knowledge in helpful ways for the students. Seeking out guests with varied backgrounds can expose your students to new ideas and more **diverse** experiences and viewpoints.

     iii. Here again, interactivity is important. Your role in moderating conversations with the speakers, or between the speakers and your students, will be central. Avoid lecture formats.

  b. **Assessments can be learning experiences too**.

     i.   Assessments don't need to focus solely on the ability to remember or understand.

     ii. Have a mix of (relatively frequent) low-stakes and high-stakes assessments. Low-stakes and even zero-stakes assessments can give teaching staff good indicators of student comprehension and engagement and be a less stressful way for students to gauge their own learning.

  c. **Consider content reusability** (beyond a semester).

     i.   Nearly every University and School around the world is engaged in remote teaching of some kind this coming semester/year. As you create asynchronous materials,

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[6] As one notable example, the Economics 10 course at Harvard College expanded its list of guest speakers during the remote spring semester to include: a former Chair of the Federal Reserve System, two former Secretaries of the Treasury, two former Chief Economists at the IMF, one former Chair of the Council of Economic Advisers, and one former Chief Economist at the Treasury Department. As the lead faculty noted, "out-of-town participation would have been impossible without Zoom."

consider the potential for other teachers to (re)use your materials in their courses, as well as the possibilities for others to benefit from these learning materials (including lifelong learners, professional training, Harvard alumni, etc.). This may reap dividends (not just monetary!) into the future.

IV. Concluding notes:

Do **lean on your peers** as you prepare for your semester teaching. Collectively, the rest of the Harvard faculty are the single best resource to draw upon for advice on any question you might have about your teaching. One advantage of Zoom is that it's never been easier to get your colleagues to "visit your class" in case you'd like to benefit from their input.[7] Moreover, **share** your experiences, learnings, or content assets with others. As one faculty member recently noted, "the online teaching experience has created a community of teachers across Harvard, not just a community of scholars."

We have focused on considerations of pedagogy and community through these principles. As you prepare asynchronous content, we've spotlighted certain **tools, technologies, and platforms** that you may find useful as well. We've intentionally kept this guidance simple so it is not a distraction, and guided the advice by the question, "What are the minimally sufficient tools you need to have to create terrific learning experiences?"

Finally, please do send any feedback you may have on this document. We will continuously curate it in order to try to make your experience with online teaching less overwhelming.

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[7] There are other people across the University who are also available for advice – the various Teaching and Learning Centers, and a set of teams from VPAL who are available for consultative advice to individual faculty teaching "large" courses as designated by the Schools.