

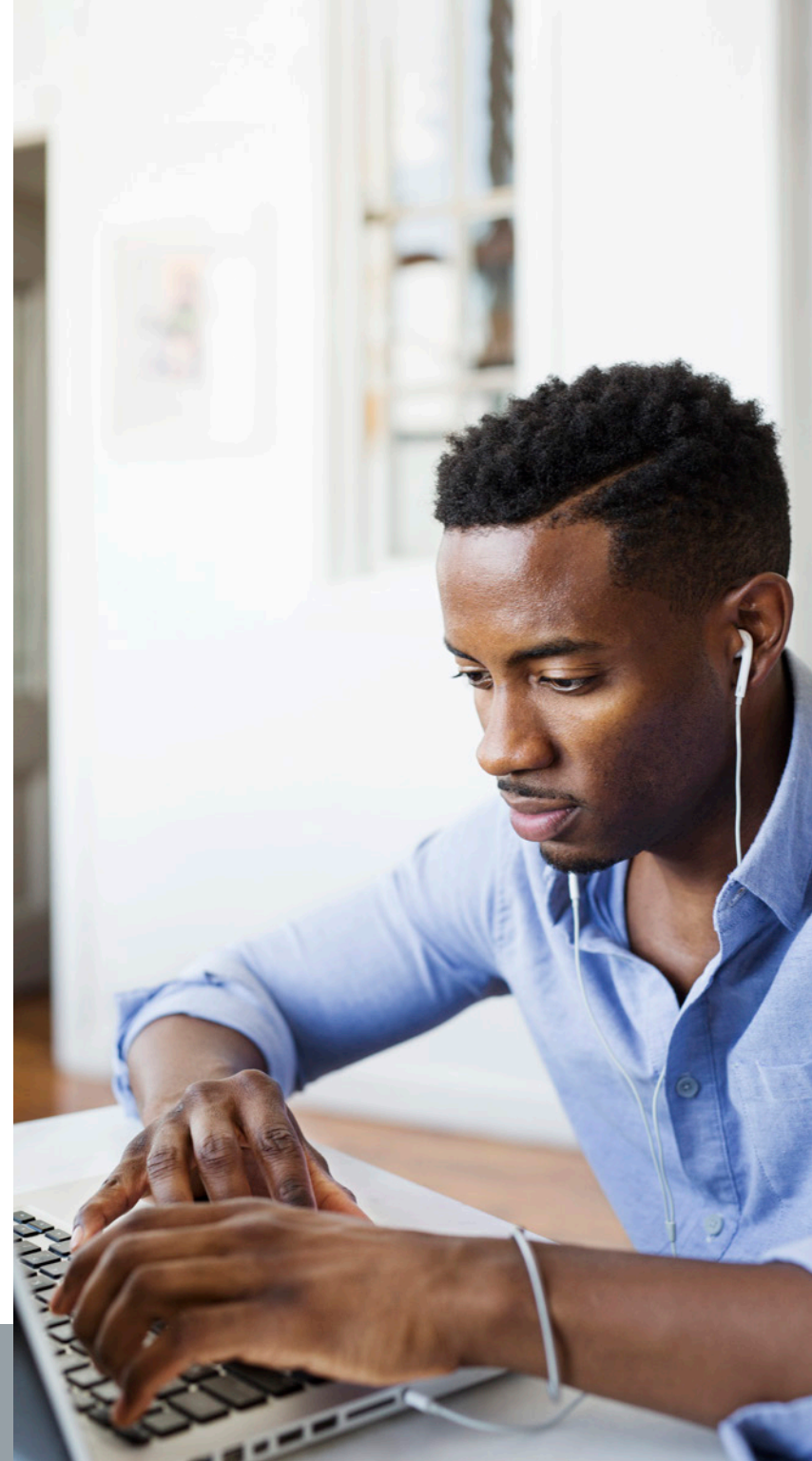


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TEACHING SIMULATIONS ONLINE THE BASICS



In an online, hybrid, or in-person setting, simulations remain a highly effective teaching tool for students. They help level the field between students with and without business experience, providing a safe environment for them to take risks and test out skills. Simulations are uniquely suited to virtual learning as students interact with them using an online interface, so moving from the simulation itself to an online debrief isn't disruptive. Teaching them online involves many of the same approaches as teaching in a physical classroom, with some adjustments. We hope the following pages shed some light on transitioning simulations to an online classroom.



PREPARING TO TEACH SIMULATIONS ONLINE

Choosing Simulations for Your Online Class

Determine If Simulations Are the Right Teaching Tool

The first step, even before deciding to introduce a simulation in a class or course syllabus, is to determine whether a simulation is likely to add value to the course.

Business simulations provide students with internet-based, synthetic learning environments where decisions are made within a complex and dynamic setting, and where students experience real-time information and feedback. Instructors should decide whether students will benefit from such an experience in the context of the learning objectives of the course. These are just a few of the benefits simulations can bring to your students:

- Students will gain a deeper understanding of course materials.
- Students develop personal skills such as teamwork and critical thinking.

- Students will be more engaged with the course content and other students.
- Students can have meaningful discussions long after the simulation is over.

For blended and online courses in particular, simulations can provide a more engaging way for students to learn and work together, and the issue of time constraints arises less often than in traditional classes. In all cases, instructors need to consider a simulation as an integral part of the course in order to maximize the student benefit. The simulation should illustrate concepts that are central to the course rather than serve as a separate or additional component of the curriculum.

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This section and the next were excerpted and adapted from “[When—and When Not—to Choose a Business Simulation for Your Course](#),” by Tim Rogmans, *Inspiring Minds* by Harvard Business Publishing Education, July 19, 2019.

Select a Specific Simulation to Use Online

Once you decide that a class can benefit from playing a simulation, the next step is to consider which simulation would be the best fit. Categorizing simulations—by their level of customization, setup considerations, simulation duration (or seat time), and complexity—can organize the selection process and help you choose the best simulation for your needs.

Customization. There are many simulations on the market for a variety of disciplines, and you usually can tailor some parts of the simulation on your own, without the publisher needing to intervene. At a minimum, instructors can make some decisions on the duration and complexity of the simulation in order to suit the specific needs of their students.

Setup. Instructors can usually choose whether to have students play individually or in teams, according to the specific circumstances of the course. However, some simulations lend themselves better to an individual option or a team option. Individual play is best if the simulation will be used to assess student performance, as this method will help to avoid

issues of free ridership. On the other hand, if the objective is to build teamwork skills, then a team option is preferable. Simulations are a great way to demonstrate that considering different perspectives can lead to better decision making. Additionally, some simulations are specifically designed to be used by single players against the computer, or with multiple students playing against each other.

Seat time. Simulation runs have different durations, ranging from short, 30- to 90-minute runs that can be played in one class session to longer, four-hour (or more) runs that require multiple class sessions. Longer simulations are sometimes used as integrative capstone experiences, whereas



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shorter simulations tend to align with specific learning objectives. Longer simulations are also more complex and require more preparation by the instructor. Shorter simulations can be run several times during the same course if the learning content is sufficiently rich. Alternatively, it's possible to run two different short simulations during a course.

Complexity. The number of decisions and variables in the simulation model determines its complexity. More complex simulations can often seem more realistic but are not always useful. Additional complexity can inhibit the ability for students to determine the cause and effect relationships that the simulation is designed to demonstrate. On the other hand, overly simple simulations can fail to engage students. It's important to determine the right level of complexity to meet your learning objectives. If you're not sure whether a certain simulation is right for a particular group of students, run a small trial group to get feedback on whether and how to use the simulation in class.

“Simulations are useful in reaffirming those situations in which, **even when you think you've understood what the problem is** and you've built a working model, you still have to remain agile because things are constantly changing.”

LILIAN AJAYI-ORE, FACULTY MEMBER, NEW YORK UNIVERSITY SCHOOL OF PROFESSIONAL STUDIES

[Read more of Lilian Ajayi-Ore's insights →](#)

Decide Between Asynchronous and Synchronous Simulations Online

The difference between **asynchronous** and **synchronous** simulations is even more important in an online classroom than it is in a physical one. While both can work very well, they provide different advantages that may or may not be suited to your class's learning needs. As such, it is important to consider each option and how they would function in your online classroom.

Asynchronous single-player simulations are the most easily adapted for virtual delivery. These simulations can be assigned and played by students individually ahead of a class period. This relieves instructors of the burden of trying to troubleshoot an entire class at once, while trying not to use up valuable simulation run time. When the simulation is introduced, consider providing a list of questions to consider during or after play, which will tee them up for the debrief.

SAMPLE CLASS PLAN:

- Introduce and assign the simulation by email or at the end of the previous class session. (5 minutes)
- Play the simulation outside of class time. (20–90 minutes)
- Debrief with students during online class time. (20–90 minutes, depending on learning objectives)
- Optionally, reset the simulation so the students can apply their learning with an additional run (or runs) after the debrief.



Asynchronous multiplayer simulations can also be played outside of a class period. Teams are set up in advance, and students within each team must coordinate a mutually agreeable time to play together. This can be a good way to resolve scheduling issues in a class which spans several time zones.

SAMPLE CLASS PLAN:

- Introduce and assign the simulation by email or at the end of the previous class session. (5 minutes)
- Assign students to team, inform them which students are on a team together, and ask the teams to coordinate a time to play the simulation prior to the set class debrief session.
- Play the simulation outside of class time. (20–90 minutes)
- Debrief with students during online class time. (20–90 minutes, depending on learning objectives)

Some synchronous simulations can be used in an online setting only when all students are online at the same time, because synchronous play is an integral part of the experience. For these simulations, groups are formed just before the simulation play begins, and students generally do not communicate with each other except through the simulation (i.e., as part of game play, or through a chat feature).

SAMPLE CLASS PLAN:

- Introduce and assign the simulation by email or at the end of the previous class session, or at the beginning of the class time in which they will be playing. (5 minutes)
- If using a multiplayer/team-based simulation, make sure to assign students to teams within the simulation before students log in.
- Play the simulation when all students are “in” your online class. (20–90 minutes)
- Debrief with students during online class time. (20–90 minutes, depending on learning objectives)

Asynchronous multiplayer simulations can be a good way to resolve scheduling issues in a class which spans several time zones.

Adopting a Simulation

If you have looked through simulations and think you found one that would work well for your course, there are many ways to confirm whether or not it would work during the adoption process.

- First, try it out. All [simulations sold by Harvard Business Publishing](#) have a [free trial](#) feature to allow you to play the simulation as a student.
- Similarly, you can also [try the facilitator side](#) of the simulation in order to see how your class's data would populate and inform the debrief.
- Don't forget to glance through the teaching note. Teaching notes generally give very detailed debrief

plans corresponding to the learning objectives of the simulation; this can help you determine how to structure your own debrief.

- If you use a Harvard Business Publishing simulation, you will add it to a Coursepack for your students. They will then be automatically added to the simulation's [user list](#) when they access that Coursepack.

All simulations sold by Harvard Business Publishing have a [free trial feature](#) to allow you to play the simulation as a student.

Determine Where a Simulation Fits in Your Syllabus

Simulations can be valuable teaching tools throughout a semester. Here are some suggestions as to the best ways to use them in order for students to gain the most learning:

- Early as a semester ice breaker.
- In the middle, as core skill builder.
- At the end, to pull the course together.
- Run a simulation multiple times. Many simulations can be customized in terms of richness and difficulty, allowing for deeper class discussions with each play.



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Before Simulation Play

Now that you've selected a simulation which fits both your teaching objectives and online class structure, communicate with your students a week or so ahead of the simulation run. Use this opportunity to not only assign any pre-reading, but to also set expectations for simulation play. These considerations might include the following:

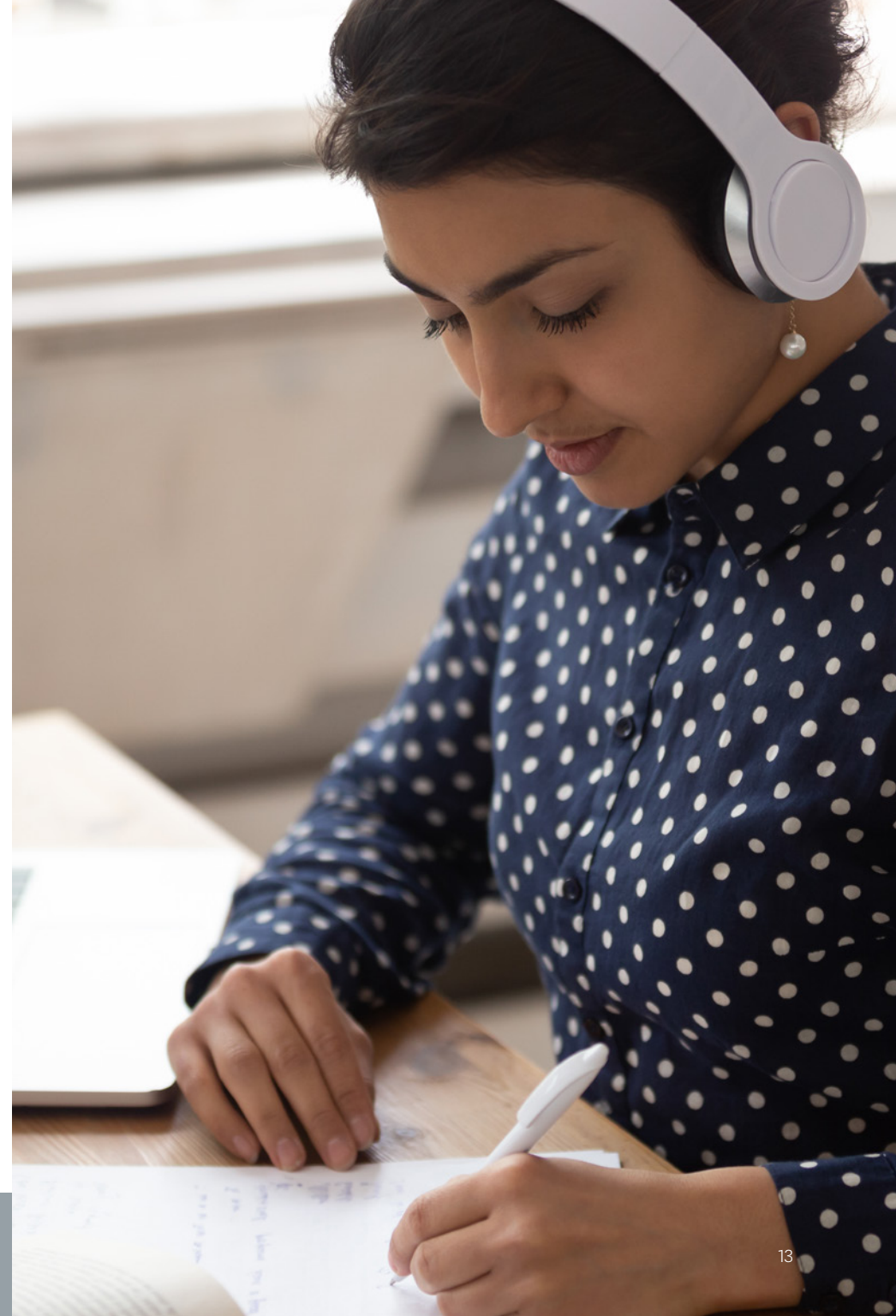
- Confirm that students have a high-speed internet connection and an up-to-date web browser. They can check their system compatibility [here](#).
 - Advise them about what [browsers and devices](#) can be used. Note that this is different for each simulation.
 - Let students know how long the seat time is expected to be; in the case of asynchronous team play, this will help them plan their run outside of class.
 - Help prepare students by calibrating the levels of competitiveness versus teamwork expected within the class, depending on learning objectives and simulation mechanics.
- For multiplayer simulations:
- Do they compete for resources independently, or within the same universe?
 - Do they work in teams?
 - Does each team member have a defined role?
 - In the case of asynchronous team play, it can be useful to assign a team leader who owns team play scheduling.

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- Ensure that students know what teleconference or web platforms are available to them to communicate, if playing a team simulation. Some simulations include chat functions within the interface, but students may want to also use some sort of video call.
- Go over some basic rules (i.e., the simulation should cover gameplay and interface instructions in a tutorial, but redundancy might help students' absorption).
- Let students know how this simulation fits in the context of the broader syllabus as well as how the simulation will be assessed, if at all. We do not recommend grading student performance in a simulation.
- Give broad learning objectives, but just enough to focus students on the goal of the simulation, not so much that it spoils the secret sauce.

If students are playing in pre-selected teams, it is advisable to set up those teams within the simulation's administrative interface before the simulation begins.



During Simulation Play

- Check the mechanics of your specific simulation in its teaching note to see if all students must be successfully logged in before opening play, or if you can open the simulation and address technical issues individually.
- Some simulations offer information about student progress throughout. If your simulation includes this, it would be called something like “Run Progress” on the facilitator side.
- If students are playing the simulation synchronously and in teams, you may consider using a teleconferencing tool (Zoom, Webex, Google Hangout, etc.). From within the teleconferencing tool, you can place teams into “breakout rooms” which will allow students to communicate visually and verbally with their teammates. Alternatively, you can ask them to handle their own teleconferencing and rejoin yours when complete.
- If playing synchronously in class, once you open the simulation, some students may experience technical issues. Ask those students to discuss those issues with you on a one-on-one basis once the rest of the class is playing. [Here is a page](#) with some on-the-fly troubleshooting tips. Customer service is also always available to you 24/7.
- When the simulation is complete, the full suite of available results will populate—you may need to refresh the facilitator side for them to fully display.
- At the end of the run, instructors can access and customize debrief materials and can share them with their students as desired. Be sure to download class results slides (if available) after the run, or be prepared to share your facilitator screen during the class debrief.

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Debriefing Simulation Play Online

The energy of an in-class debrief may be hard to replicate online, but you can take steps to ensure that it remains engaging and participatory.

Anyone who has participated in an online meeting has experienced the awkwardness of knowing when someone is about to speak, or when the air is clear to join in. Students who are already inclined toward shyness may retreat even more, and it can be disorienting trying to engage a group whose cameras are all turned off.

This is where a few extra preparatory minutes after the simulation run can help. It is important to spend some extra time setting a supportive context before calling on a student to share their experience. If you have identified a student who has exhibited behavior during simulation play which you would like to bring into the debrief, certainly cold calling remains a valid and valuable way to pull students into the conversation. However, consider sending them a message privately to prepare a few thoughts about their strategy. Or, using the class results outputs on

the facilitator side of the simulation, identify a small group of students who all exhibited the behavior you would like to explore. This way, students may feel more comfortable sharing their strategies or reasoning as one of a group rather than singled out.

The video conferencing software over which you are conducting the class discussion may have some features you can utilize to add variety to the session. If the students played different scenarios within the same simulation, group students by scenario and send them into breakout rooms with a list of questions to discuss, and have them report back to the group. Transition between debrief topics by asking students to answer a quick poll question, either yes/no or multiple choice. Use this as a jumping-off point for the next discussion.



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The Importance of the Debrief

While there are many choices that instructors might make in using this simulation online that we would encourage, there is one choice that we would not endorse: skipping the debrief or carrying it out in asynchronous mode. While the game play can certainly be asynchronous, we believe that an instructor facilitated debrief is essential, and that a debrief results in better learning outcomes in a synchronous mode. In a live session debrief, the instructor can direct the group's focus and coax out learning that comes from comparing student experiences. Students left on their own to do will probably, we believe, not dig deeply or compare broadly enough. The model that underlies this simulation is complex, and we find that the students do need active help in inferring valid takeaways from their simulation experiences.

Excerpted from "Project Management Simulation: Scope, Resources, Schedule Teaching Note," by Robert D. Austin, Harvard Business Publishing, 2020.



Evaluating Simulation Effectiveness

Once you complete the simulation play and debrief with students, you can evaluate the experience and plan any changes for the next iteration of using the simulation.

Aside from the usual modes of gathering student feedback such as course evaluations, you can track student activity to assess how engaged they were during the exercise. Such measures can include the same activity information obtained during playtime, as well as data about the frequency and quality of student interaction during the simulation and debrief, and the quality of results from any assessments administered.

It's risky, however, to evaluate the success of the simulation exercise based on only a personal impression or anecdotal evidence. Instead, a brief anonymous online survey, an analysis of student course evaluations and learning journals, or a focus group discussion are low-cost ways to evaluate the effectiveness of the exercise. Any lessons learned from the simulation should then be incorporated in future online teaching activities.

In a virtual classroom, try not to over-emphasize competitive elements in the simulation or make students' scores count in the grading for the course. There is more value in the experience and debrief than in attempting to quantify their performance.

The use of online simulations is well established across the world and continues to gain momentum, even among more reluctant professors. Once instructors try teaching with simulations, their confidence and enthusiasm usually grows quickly, while the investment in preparation drops. As you have more insights regarding online simulation teaching, please share them with us at editorial@hbsp.harvard.edu so we can share emerging best practices with other educators!

In a virtual classroom, try not to over-emphasize competitive elements in the simulation or make students' scores count in the grading for the course.

This section was excerpted and adapted from "Yes, Business Simulation Can—and Should—Be Taught Online," and "Brief, Play, Debrief," by Tim Rogmans, Inspiring Minds by Harvard Business Publishing Education.

What's Different When You Teach with Simulations Online?

Advice from Professor Špela Trefalt



Špela Trefalt, Diana K. Trust
Associate Professor in Leadership
Development, Simmons University
School of Business

The way I've prepared to move those simulation runs online is to literally sit down and write out the steps the students need to take in order to make their decisions, and then think through which parts might be affected by being online. I am really thinking hard about the human aspect. In class, I can walk around and look at their screens as they are playing. How are we going to do that now? How can I support them online?

Through platforms like Zoom, some of it is a little clunkier. But some of it is actually easier—for example, sending people to breakout rooms so that they can work in their own teams. Now, it's a click of a button, whereas in a physical classroom everyone would have to pack their stuff and walk across the room or to a separate room. So certain things are easier.

Think through all the steps, and for each step ask yourself what is different. Be sure to also ask your students what is different, because maybe you're not seeing everything. I'm not always in the weeds with how they're doing things, so it's important I ask what is going to be challenging for them and how can I support them. Students appreciate the acknowledgement that they're dealing with a lot. They also are understanding of the fact that we, too, are dealing with a lot. Creating that open communication where you can tell each other what needs to be done or what would be helpful makes a big difference.

This section was excerpted and adapted from "[What's Different When You Teach with Simulations Online?](#)" Inspiring Minds by Harvard Business Publishing Education, April 21, 2020.