Zoom has become omnipresent; the pandemic has compelled us to use Zoom for teaching. Some faculty have used it to record lectures for asynchronous viewing. Others use Zoom to replicate a face-to-face class lecture. While others are using it to conduct discussions, elaborate on content first encountered through readings, recorded lectures, and videos.

Zoom is a video-conferencing tool that’s built for interaction, “without student interaction, we are working against the design of the tool.”¹ This interaction should encourage students to engage with course content in meaningful ways that deepens their understanding and ensure they thrive. In Zoom that interaction may occur through a variety of ways: discussion, demonstration, review, clarification, elaboration, quizzing. Zoom features create many interactive opportunities. We can share our screen, students can share their screens, and we can even allow students to remote into our computers -- for example remote into a faculty computer to demonstrate how to use specialized software. Zoom’s white board and annotation tools can approximate a classroom chalkboard or flip chart. And our ability to share URLs through the chat and as a QR code, gives students quick access to a multitude of apps that promise to deepen engagement (e.g. Office 365, Google Docs, Flipgrid, Jamboard, Kahoots, Polleverywhere, Mentimeter, etc…) If we are compelled to lecture using Zoom, bear in mind that students will be even more easily distracted, so the lecture should be broken into small chunks, 5-10 minutes, with interactive exercises to check for student understanding, applying, evaluating, etc. In this Teaching Tip, discussion methods and how to leverage Zoom features will be the focus.

Discussions – Purpose

Jennifer Herman and Linda Nilson note that discussions might serve a variety of goals: “exchange of different interpretations, explanations, approaches to a problem, or possible solutions; collective analysis of arguments or claims; expression of varying opinions, positions, or perspectives, along with justifications;” and in the process students practice expressing their thoughts to gain new knowledge or perspectives. Discussions are not recitations in which students answer questions drawing upon their ability to recall facts, a retrieval practice that is also important to learning.² Discussions require higher level thinking, e.g. application, analysis, evaluation; they can lead in many directions compared to a recitation.

¹ Johnson, 67.
² Herman and Nilson, 1.
Discussions are a valuable learning experience if they promote active listening, critical thinking, deepen understanding, sharpen verbal skills, encourage perspective-taking, require problem-solving or brainstorming, and encourage the integration of new ideas. These higher-level cognitive goals make content more memorable and enduring.

**Good discussions start with good course design.** Prepare discussions in the same way you create a course: backward design. What are your goals for the discussion? How will you know your students achieved those goals? What learning and teaching activities must you develop to help students achieve those goals? Potential goals for discussion: develop an ability to debate or defend claims; improve communication skills; appreciate diversity of perspectives; challenge assumptions; brainstorm; solve problems. In advance, share the learning goals with students.

**Let the goals determine the type of assessment.** Some possible ways to assess discussion:

1. **Monitor frequency of participation.** If you have a manageable class size, perhaps thirty-five, tally participation as students offer substantive contributions (dis/agreeing or the use of emoticons would not likely be substantive). If you record the Zoom session, you can always revisit if students challenge your evaluation. If you have set your Zoom to save the chat automatically, then you can download the chat to remind yourself who contributed that way. Logging in and walking away is equivalent to being absent, so make note of student behaviors that suggest they are doing this.

2. **Monitor quality of participation by making note if they support claims with evidence or build on a classmate’s contributions.** What criteria might you look for? It will depend upon the goals for discussion. Herman and Nilson list several criteria: “quantity/frequency of contributions; listening skills; accuracy of content; demonstration of knowledge gained from assigned material; relevancy /responsiveness to the discussion issues; insight into discussion issues; demonstration of higher level thinking; evidence offered to support claims; sense of community fostered; professionalism; responsiveness to instructor feedback; responsiveness to student feedback; and quality of follow-up responses and feedback to other students.”

3. **Have students provide “entry tickets” that demonstrate they have thought about the material that will inform the discussion.** Examples include, bring in three quotations from the discussion reading, 3-2-1 Prompt (three things that you learned, 2 questions that you have, 1 thing you liked), or written responses to questions provided in advance. These can be collected through BOLT: assignment folder, discussion board, or link to a collaborative document or app. During the Zoom session, students can post to Chat, contribute on white board, complete a poll or survey, and again share through a collaborative Word document, etc.

4. **Have students provide “exit tickets”, a writing prompt, quiz, or survey that measures if goals were accomplished submitted when the class ends or upload to BOLT later.**

5. **Ask students to grade their participation based upon criteria or a rubric that you provide (or they help to create).** Ask them to comment on how they will improve for future discussions. Their self-grades could be collected in through an Office 365 or Google Form (just be sure to uncheck the setting to make it anonymous). In addition, explore how you could adapt BOLT’s quiz feature to encourage self-assessment.4

6. **Survey students on the quality of discussion and if it met goals.**

7. **For discussion boards, monitor length and quality of the posts.**

8. **Collect worksheets (i.e. collaborative Office 365) completed during group work.**

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### Building Student-Faculty Relations

In our brick and mortar class spaces, we have many opportunities to chat with students in the hallways or in our classrooms before and after class. To create something comparable with Zoom sessions, open the room 10-15 minutes early, share screen and select “share sound” option to play music as you admit students into the room. Say hello, chit-chat, and give them something fun to do. For example, I often have a word search or hidden pictures puzzle. Ethan Krupp and Christina Francis gave their students a color book page. Ethan saved the students' work as a memento. If you

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3 Herman and Nilson, 67.
4 Thanks to Jon Hedrick for bringing this to my attention.
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have time at the end of class, do not close the meeting until all students have left. Discovery Education offers many free puzzle-makers.

To help acquaint students with Zoom tools, such as the Reactions, play “Simon Says.” And keep screen shots available to remind students where a Zoom tool is located.

“Twelve Principles to Guide Class Discussion” (and Zoom adaptations)

Before thinking about what works in Zoom, we need to ponder what works best to promote meaningful discussions for students. In Creating Engaging Discussions: Strategies for ‘Avoiding Crickets’ in any size Classroom and Online, Jennifer Herman and Linda Nilson identify the challenges and offer approaches that can increase the likelihood that discussions achieve their purpose. Their book is worth exploring in depth. First, they outline and explain, the “12 Principles to Guide Class Discussion.” Those principles include:

1. **“Students must be prepared for discussion.”** Perhaps most important and most difficult to achieve. In addition to creating incentives for doing the preparatory work, such as a quiz or informal writing assignment, helping students understand the purpose of discussions is equally valuable. Pre-discussion assignments, such as reading, watching a video, or listening to a podcast, should be clearly linked to the goals for discussion. Give students a road map, be transparent. For example, have students submit study or reflection questions that they upload to BOLT drawn from the readings. Ask them to have these handy when discussion begins, or have students submit several hours in advance, then faculty review and reference these during the synchronous session. If we make reference to the pre-discussion assignments in a synchronous session, then we emphasize the relevancy and purposefulness of the work. This process is an adaptation of Just-in-time-teaching (JITT).6

2. **“Students must feel safe to express themselves.”** We should create a positive environment of respect in which all students feel safe to contribute; that no one feels marginalized.
   - Create rules of engagement and/or have students create those rules. If you have students create, it’s best to plant seeds by giving them some ideas or a checklist of possibilities (frequency, preparedness, misbehaviors and microaggressions, quality). One example: if you were the last one to speak, you must wait until two others have contributed before you participate again.7 Other examples: before you speak, summarize the last person’s comments; to substantiate claims, students should use assigned materials or be based on research.
   - In addition, deepen your awareness and appreciation for the impact that the “hidden curriculum” has on students, especially if they are first generation or enter university under-prepared. In the context of discussion, students may be unfamiliar with the disciplinary language and reluctant to contribute out of fear of drawing attention to their inexperience or ignorance.
   - Finally, make yourself aware of microaggressions that either you or your students might commit that have a deleterious impact on creating an equitable environment.

3. **“Students need good reasons to listen actively.”**
   - Do your students know what it means to engage in a discussion? Herman and Nilson suggest that we outline the goal for discussion.
   - As students contribute, make notes on a collaborative word document or whiteboard that can be shared with the class (you could assign a student to be the note-taker for a day).
   - Guide them on how to take notes during discussion. Many students may believe that discussions are more of a social event than a learning opportunity and do not know what to note.
   - We are likely to increase active listening if quizzes, exams, or assignments require students to make use of discussion content.

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5 Herman and Nilson, 11-12 is where the list appears, and chapter 2 is dedicated to explaining. In this section, I am summarizing their work and offering examples for online specifically.

6 https://cft.vanderbilt.edu/guides-sub-pages/just-in-time-teaching-jitt/ accessed on 8 February 2021

1. After small breakouts, have groups summarize results or randomly call on students to share.
2. Have students submit an “exit ticket” that responds, analyzes, evaluates, explores the goals of the discussion. Create an exit ticket using Office 365 Form or Quiz (results can be downloaded as excel files) and share the URL a few minutes before the end of class. Alternatively make use of the whiteboard and annotation tools and create a space for students to share and debrief.

4. “Students respond well to a variety of structured discussion formats.” In a F2F context, the structure might be a gallery walk, poster session, debate format, jigsaw, fishbowl, etc. The following examples point to online adaptations. Google the discussion format combined with remote learning to find examples.
   - Graffiti Boards face-to-face and remote learning
   - Fishbowl face-to-face and remote learning
   - Gallery Walk face-to-face and remote learning (see Big Paper adaptation)
   - Big Paper face-to-face and remote learning

In Zoom, whole class and breakout rooms can be adapted to many discussion formats. A multitude of apps, Office 365, and Google drive allow you to create collaborative documents that you share by URL in Zoom’s chat feature. Use these in breakouts or in the main room to create structure, provide directions, define goals, facilitate note-taking.

5. “Students contribute equally as the discussion structure requires.” In summarizing research on class discussions, Jay Howard notes that “a small number of students (five to eight) will account for 75 to 95 percent of all student verbal contributions to discussion regardless of class size.” This trend is called the “norm of the consolidation of responsibility,” in which the majority of students allow the minority to “carry the discussion for the rest of the class … not perceiving themselves obligated to participate in the conversation.” If the minority who participate are the same group of students, they may come to resent the burden of responsibility or be resented for dominating. Faculty become frustrated when the same students always participate, which likely undermines the benefits of discussion. So how do we break the norm? From the beginning of the semester, have a toolbox of techniques ready to use. Here are some ideas:
   - Share with students why you have adopted this teaching practice and the benefits.
   - Encourage students to develop the habit of having reading material and reading notes available with note-making supplies. Jumping between computer windows and apps can slow down their contributions. (I encourage students to have hard copies of their reading assignments.)
   - Develop rules of engagement at the beginning of the semester that explains the norm of the consolidation of civil responsibility and how they want to manage this tendency in their rules.
   - After presenting a prompt, set a timer for 15 seconds or longer (depending upon your question prompt). Waiting for the timer requires considerable self-restraint, especially if the gallery view is a block of names. Have students write their thoughts on paper, which gives introverts time to ponder and slows down the eager. When the timer tolls, you have several options as an alternative to calling on the first hand raised.
     - Have everyone type a response into the Zoom chat, but they cannot press enter until you say “Go.”
     - Have students hold their notes up on video.
     - Have students share their ideas on a collaborative Word or PowerPoint document.
     - Have students contribute to the white board available in Zoom (save it as a screen shot for later use).
   - In all of these cases, if you have allowed students time to ponder and write before soliciting their input. What is more, you will create a more random sampling of students to call upon.
   - Provide discussion questions in advance, have students submit their responses as homework, and have them share in breakouts what they discovered. (If meeting F2F, students show their responses to enter the class.)
   - Require breakout groups to have deliverables ready when the large class discussion resumes.

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9 Howard, 50.
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- Adapt “Talking Chips” to the situation by requiring students to tally their contributions or you tally. Give each student three virtual talking chips; they must surrender one with each contribution, and they may no longer contribute when they run out of chips.

- During a Zoom session poll or survey students. In addition to Zoom polling and Office 365 or Google forms, create a space where students can respond to a “key ideas” question – assign each student a space to write in. You could also screen share a word document or PowerPoint in which each student is assigned a space, then ask them to annotate using the whiteboard feature. To track who is responding, you can toggle on the names of those who wrote, or just have students initial or write their names with their response. Save the image for later reference.

- Once you poll students, you can more randomly call on a variety of students. Kevin Kelly, co-author of Advancing Online Teaching: Creating Equity-Based Digital Learning Environments, recommends that we keep track of who we call on during the course of the semester, so that we can increase our awareness of gravitating towards the same individuals.

6. “Students respond well to questions with multiple good answers.” Questions with one correct answer are recitations. Develop questions that achieve your goals: open-ended, brainstorming, hypothetical, role-playing or perspective-taking, evaluation, synthesis, etc.

7. “Students benefit from having time to think before contributing.”
   - Set a timer that gives students time to ponder their response to a question and do not solicit responses until the time is up.
   - Develop activities or assignments that get students to ponder the discussion prompts in advance. These can be collected in advance through Discussion Boards, Office 365 collaborative Word documents or PowerPoint slide decks, Google slides, Padlet, etc. For example, in order to prompt discussion on the limits and possibilities of learning history through documentary films, I asked students to share their initial ideas using Office 365 PowerPoint. I created a slide deck in which each student was assigned a slide. Each slide was divided into four sectors, in which students responded to an open-ended question in each sector. This preparatory work allowed me to share screen these PowerPoints and then call upon students to elaborate or defend their responses. In doing so, I felt confident to call upon shy students to participate, which built their confidence.

8. “Students benefit from expressing themselves in motion and space.” Physical movement can strengthen learning and memory. Examples in a F2F class include: solving problems on a chalkboard, gallery walk, rotating stations, “take-a-stand,” reenactment, flipcharts. How can this be adapted to online?
   - Provide students with a two-minute stretch or play a short tune and encourage students to dance (videos optional).
   - Introduce or practice “the 20-20-20 method, recommended by the American Association of Optometry. Turn away from your screen, fixing gaze at an object 20 feet away, for 20 seconds, every 20 minutes.”
   - Make creative use of the whiteboard and annotation tools in Zoom, allow students to share screen, use Flipgrid or other apps that allow students to create graphic organizers, illustrate, etc which can easily be shared and discussed. For example, if the question to be discussed might include a range of responses along a spectrum, create a PowerPoint slide with a line, on one end type “completely agree” and on the opposite end type “completely disagree.” Have students annotate where they stand, then solicit input on their responses. Another example, if you have arguments “for and against,” then create a PowerPoint slide with a T-square in which students use the text tool or you type their responses.

9. “Students can benefit from expressing themselves graphically.” Herman and Nilson note, students hone their conceptual thinking skills if they are asked to represent them graphically. Within Zoom, make use of the annotation and white board tools. Have students create posters collaboratively using Office 365 PowerPoint (or Google Slides). There are many apps that allow students to create graphic organizers and timelines which can have multiple users and contributors. Many of these apps, such as Flipgrid, have a free version for educators. Office 365 is available to all BU faculty, staff, and students.

10. “Students respond well to novel stimuli, such as outside ideas or research.” Discussions could ask students to evaluate or analyze two or more competing interpretations or perspectives. An interactive lecture

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10 Brennan, 79.
could pause every 10 minutes to check for understanding, especially useful in those moments when the content or concepts are particularly challenging.

11. “Students participate according to how effectively a discussion is moderated.” As facilitators or moderators, faculty should encourage students to engage with one another.
   - Adopt ideas on how to create equitable discussions (number five above).
   - Invite students to share their reactions or build upon what their classmate has said. Encourage students to support their claims with evidence or resources assigned for discussion.
   - If the discussion becomes heated, offensive, or misinformed, the moderator must get the students back on track. If you or your students have developed rules of engagement, bring those up as a reminder. You might even make a Zoom background with ground rules for discussion, which appears behind the host’s head in the video.
   - To determine if you are moderating effectively, periodically during the semester conduct a short survey. For example, simply ask students to respond anonymously: 1. Did your instructor, the facilitator, create an equitable learning environment? 2. Do you have any suggestions on how this instructor might improve the facilitation of discussion? 3. Do you have any ideas on how you may contribute to a more equitable learning environment?
   - Aaron Johnson, suggests these two survey questions for online group work to determine if students believe the learning environment is equitable: “1. What made you conversation feel balanced, or perhaps out of balance? 2. As you look toward future team discussions (or tasks), what would help you strike a balance of participation?”
   - If you have “rules of engagement,” create a likert scale survey that asks students if they agree that the rules are being followed.

12. “Students must see their personal value as separate from the value of their contributions.”
   - Consider framing discussions as an opportunity for developing skills where there are rarely right or wrong answers. This may create a space for students who believe their self-worth is tied to “the quality of their contribution.”
   - Herman and Nilson offer a couple of F2F options that allow students to detach themselves from the contributions, e.g. card swap and snowball exercise. In both instances, students respond to a question, quotation, etc, then the responses are shuffled enough that it becomes difficult to know the individual contributor. During a Zoom session, there are many ways to solicit anonymous opinions or correct answers: Kahoots, Office 365 Forms or Quizzes, Mentimeter, Polleverywhere, to name a few. In addition, in Zoom, names associated with whiteboard annotations can be toggled on and off making the responses anonymous.
   - To separate the person from the comment, through the participant’s panel, next to the student name, temporarily have students change their names and profile pictures into something random. Pose the question, then ask them to respond under their pseudonym. By the way, if you want students to play roles in Zoom, changing their profile names and pictures works quite well.

Preventing & Responding to Discussion Pitfalls

Herman and Nilson dedicate a chapter to “Preventing and Responding to Common Discussion Pitfalls.” They identify twelve challenges: “Students who dominate conversation; Crickets; Narcissists; Perpetually silent students; Students having a lack of opportunity to engage; Inattention and multitaskers; Personal attacks and related incivilities; Sensitive subjects and trigger warnings; Microaggressions; Students with autism spectrum disorder; Asynchronous online discussions; Synchronous online discussions.” Below I will summarize some of their suggestions and Zoom adaptations.

If dominators are allowed to prevail, it can be a challenge to create a norm for broad participation.

11 Johnson, 130.
12 Herman and Nilson, 34.
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- Be patient and willing to slow down the pace of discussion by avoiding the temptation to call on the first student who raises their hand. See the suggestions above in number five.
- Begin discussion with a reminder of its purpose, goals, and rules of engagement.

Herman and Nilson separate narcissists from dominators. The narcissist tries to distract or talk about their personal experiences, not because they are trying to make sense of the content, but because they assume discussion is simply social.13 If personal experiences are not going to further the discussion, be sure to include this expectation at the beginning of class and in the rules of engagement. If a student tries to share personal experiences to support a claim rather than use assigned sources, remind them of expectations. If they persist, a private chat message during the Zoom session to tamp down the behavior or a private email after class is appropriate.

Crickets are the sound of summer, though it has emerged as a synonym for silence at a time when we expect dialogue. Herman and Nilson offer a number of suggestions that work for F2F or online synchronous.

- Provide learning goals for the day that defines the relevancy of discussion and creates a road map for making notes and active listening.
- Create opening activities that are low-risk and encourage retrieval. Either ask students to recall or summarize the previous class meeting, reading, podcast, videos, or pose questions that encourage recall. When you are met with silence give them time to search their memory or review notes. In addition, a writing prompt allows for quiet contemplation, and it might even ask students to recall their emotional reaction, while a brainstorming question will equip students to ponder the outcome of an experiment or scenario. See the above ideas about Graffiti Board and Big Paper.14
- If discussion sags, read or have students read a key passage, play devil’s advocate, break students into groups or deploy a think-pair-share activity. All of these can be adapted to Zoom.15 In general, to lift a sagging discussion always have back up plans that allow you to adapt.

If students have failed to prepare for discussion, making the technique impossible, do not resort to lecture. Depending upon the context, I might quickly survey students on why they did not prepare. Their reasons will shape my next step: if students are procrastinating or are overwhelmed, hold a brainstorming activity on ways to combat and promote a discussion on what learning is, how it occurs, and who is responsible; if lack of structure or ineffective study habits are the cause, have some suggestions ready to share and discuss; if the assignments, course design, or my behaviors are a cause, solicit anonymous suggestions; if students do not understand the purpose of an assignment, topic, be more transparent; if it’s an isolated incident, then shrug it off.

Many additional ideas on the promotion of discussion and facing challenges are offered by contributors to Herman and Nilson’s book (chapters 6-13).

Using Zoom Features for Discussions

Zoom’s features allow students and faculty to participate in discussion. As you read the ideas below, match the tool to your goal: students can share their thoughts by taking the microphone, typing in Chat, using the annotation tools, writing on a white board, using emoticons, and share screen.

- Several of the tools can achieve similar goals. For example, a Think-Pair-Share can be easily achieved using Chat or Breakout Rooms, so consider what makes sense given your goals and time. Changing up the tools may reduce monotony if we diversify.
- Think about what is the best use of Zoom time, compared to what students might do between classes. If part of discussion requires students to read an excerpt, which I want to unveil at a particular time in our discussion, I avoid lengthy passages and create excerpts with five minutes or less reading time. If you are conducting a peer review in Zoom, does it make more sense for students to read the peer draft in advance? What part of the peer

13 Herman and Nilson, 38.
14 Herman and Nilson, 36.
15 Herman and Nilson, 36.
review discussion should occur in the Main Room or in Breakouts? Should peer reviewers meet independently of the professor in Zoom? Should peer reviewers use asynchronous methods?

**Share Screen**

Zoom continues to develop its Screen Share options. Starting and stopping a screen share automatically closes the Participants Panel, Video Gallery, and Chat, a bit annoying. Zoom offers a way to select several apps in their Basic share option. Yet what I prefer is a feature in the Advance Share option’s Portion of Screen. In the Advanced Share, select Portion of Screen, and a green box appears on your monitor. Any content, window, or app that appears in the green box, can be seen by participants. The green box can be moved, resized, and you can move content in and out of the green box. It is less disruptive than sharing/stop sharing.

If you might play audio or video from your computer, be sure to select these options in the bottom of Basic and Advanced Share “Share sound” and “Optimize for video clip.” By the way, you should avoid using Zoom to screen a full-length documentary or film for a couple of reasons. First, student internet speeds may not be able to stream the video. Second, watching a film together through Zoom is not interactive. Find alternative ways to share a film that encourages students to make note and use Zoom for the discussion part.

**Polls**

Zoom has a polling option that allows for single or multiple choice answers. You ideally create these in advance in the relevant Meeting Room, but you can also create them in the moment. John Brennan lists a variety of potential polling questions that we might include as segues into discussions or wrapping them up. Brennan’s list includes: academic or social icebreakers, gauging prior knowledge or perceptions, “entry tickets,” predictive or reflective surveys, levels of engagement during the Zoom session, surveys on student progress on projects, quizzing, testing for comprehension, and as closing activities. If you find the polling feature in Zoom to have limited functionality, for example you want text responses, polling can also be accomplished through Office 365 and Google forms, Qualtrics, and many apps such as Pollevewhere. As long as the tool can generate a URL shared through the chat or generated into a QR Code, you can easily poll.

**Chat**

Chat is a familiar type of communication mode for students which we can leverage to promote discussions. Even when students are encouraged to use their Mics, some prefer Chat perhaps the result of shyness, fear of forgetting what they will say, eagerness to participate, or their mic is not functioning.

**Be aware of Zoom's Chat settings.** You can control the availability of chat at your profile and at your meeting level. If you use Zoom for more than teaching, at the profile level, select chat and private chat setting and select auto save chat. Then at the meeting level, as host, you can restrict chat to “No One,” “Host only,” “Everyone Publicly,” and “Everyone Publicly and Directly.” The “Host only” setting is useful if you want to give students a safe space to pose questions or answers without appearing to ask a “dumb question” or “look stupid.” By setting the Chat to “host only” you prevent the possibility that students accidentally send a response to everyone. If you want to prevent students from holding side conversations, then you will likely select the “Everyone Publicly.” However, if you want students to use Chat for most of the techniques below, you need to select “Everyone Publicly and Directly.” Advise students that none of their chats are actually private since they are saved in Zoom. You can adjust the availability of Chat as needed throughout the class meeting.

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16 Brennan, 1-10.
17 Brennan, 15.
Chat can be used to send URLs and documents in a timely way. This feature allows you to send collaborative Office 365 documents, PowerPoints, surveys that students will use in the Main Room or Breakouts. If you want to unleash a source at a given moment for students to ponder, perhaps new evidence that could complicate a problem that they are working on, as long as you can upload it to Chat, you can share it. Share the URL of a website for students to explore independently and return to discuss with classmates. Any video clip in the form of a URL can be shared in the Chat (e.g. YouTube, Mediasite, Vimeo), send the clip, ask students to view on their device in preparation to discuss. What is more, you can add files (word, pdf, jpg, etc) from your computer, using the upload file option in Chat. Screen Share enables us to engage in sharing any of this content in the Main Room, so contemplate which technique meets your instructional goals. If you are sending links simply for students to explore later, these might be more effectively shared in a BOLT announcement, content modules, or email.

If you plan to have students Chat directly with individual participants, do some preparation. In advance, make a list (or lists) of students’ names in pairs, so they will know who their Chat partner is. Before the activity begins, Share Screen to reveal the Chat partner pairings. Decide if you want to create a single list of pairs to use all semester, or if you want to change it up for variety. You may also need to pair specific students to one another for a particular activity or project.

When you want to make student Chat contributions anonymous, instruct all of them to change their name and profile picture temporarily to a pseudonym, then when they respond in the Chat, they are anonymous. The ability to change names and profile pictures is useful if you want students to play roles during a Zoom session.

Chat can be a participant equalizer if we employ this simple technique: do not have students press their enter key until you say “Go.” Pose a question, scenario, problem to achieve the instructional goal. Give students time to ponder an answer and type it into the chat, however, they can only press enter when you say “Go.” The responses stream in, take a moment to scan (you can download the chat at any time), then randomly call on participants.

If you encourage the use of Chat, but you struggle to monitor while conducting the class, then assign or request student volunteers to serve as “D.J.” or “Text Chat Monitor.” Periodically call on them to summarize what has appeared in the Chat, or to bring anything that you missed to your attention.

**Chat Examples**

**Think-Pair-Share (TPS):** In F2F, this collaborative activity occurs in three stages. First, think: Pose a problem or question that will further the instructional goals. The question might be open-ended, seek opinions, or ask students to solve a problem. Students should be given 1-2 minutes and time to write their response. (If students are solving a problem, you might then poll them on their initial answers.) Second, pair: Students pair up with someone sitting close by to discuss both responses, share thought processes, evidence, etc for 3-5 minutes depending upon the complexity. (If students are solving a problem, you might poll again to see if greater consensus has occurred from talking through the problem as a pair.). Third, share: share and discuss results. The results might lead to a short lecture to clarify or as a bridge to the next stage of learning. When conducting a Think-Pair-Share in Zoom, pose the question, problem, etc, and set a timer for two minutes to allow individual students to ponder and write. Then Share Screen to show Chat partner lists and instruct students to Chat directly with whom they have been paired for 3-5 minutes. Then bring everyone’s attention back in the third stage to discuss, elaborate, clarify. (Breakout Rooms can be used for TPS in addition to Chat.)

John Brennan offers several examples to use Chat at the beginning of class or during the middle to encourage students to check in on each other, social icebreakers, or topic-based. The goal is to create community and is based on the assumption that one-on-one conversations are beneficial to students. Brennan’s “Feedback Chats” suggest that students could exchange ideas about the draft of a project, essay, or even just a sentence or paragraph they have composed; they could ask each other about progress on a project or exchange ideas on challenges that they are facing in their studies.19

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18 [https://www.kent.edu/ctl/think-pair-share](https://www.kent.edu/ctl/think-pair-share)
19 Brennan, 14-17.
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Quizzing through Chat. Since retrieval is essential to learning, quiz questions developed by students can be shared through Chat as a review practice. One example that Brennan offers, “The instructor assigns one student at a time to send a quiz chat question to the entire group. This can be conducted as a game in which the first student to answer correctly then sends a new question to the class. The instructor can also increase participation by asking that all students wait a certain time period … and then send a response [directly] to the instructor [not all participants]. The instructor can select from among the correct answers to ask that this student then send the class the next quiz question. The instructor can respond to other students who answered incorrectly (individually) or look for patterns in incorrect responses and discuss these answers with the entire class, verbally or through chat.”20 Brennan offers additional alternatives, including students quiz with their Chat partner.

Breakout Rooms
Breakout Rooms are the “equivalent of dragging chairs into a smaller huddle”.21 In F2F, you may have planned it in advance with group handouts, roles, etc, or it may be an impromptu move on your part. While impromptu Breakout Zoom sessions may be productive, the more preparation that you do, the more productive small groups can be in their Breakouts.

- Create a PowerPoint slide deck that you will draw from regularly that includes screen shots. Information that might be shared regularly with students: directions for the group work (including volunteer roles for recorder, task manager, time keeper); making note of their Breakout Group Number; how to ask for help from the host; your ability to broadcast to Rooms; the Zoom tools they can use in the Breakout (whiteboard, annotation, chat, video); how to save Breakout whiteboard annotations; and how to join the Breakout and return to the Main Room.
- The easiest way to move information (oftentimes worksheets in F2F) between the Main Room and Breakout Room is a collaborative Word document, PowerPoint, Excel sheet created with Office 365 or alternative in Google Drive. Providing only oral instructions before sending students into the Breakout Room will likely lead to confusion, so share the instructions in writing. When they are called back to the Main Room, you have the collaborative document to Screen Share with students. This collaborative document can also be shared through BOLT.
- After instructions are provided, allow students time to ask questions for clarification. Once in the Breakout Rooms, you can monitor their progress by observing the collaborative document and/or popping into Breakout Rooms.
- Use the Broadcast function to send directions, reminders such as changing roles in their group, suggesting where they should be given the time remaining, or periodic time reminders. There is no ability for the professor to use Chat or for Breakout Rooms to Chat outside of their room.
- Leaving or Closing the Breakout Room: Students can rejoin the Main Room at any time perhaps to speak with the professor; you can return them to their Breakout Room; they can leave the Breakout manually or wait to move if you have set the room to close on a countdown. WARNING: The leave Breakout and Leave Meeting buttons are very close together. As the Host, be careful that you close the Breakout Rooms and not close the entire meeting.
- When students return to the Main Room, it may help you keep track of their groups by asking them to change their profile name to their group name + student name (e.g. One + Lisa). Or if the Breakout Rooms were responsible for a variety of subtopics (subtopic + student name). When their names appear in the Participant’s panel, they will be clustered according to their group name.

Types of Activities in Breakout Rooms
Remember many of the reasons and activities that we complete in a F2F class by huddling around a few desks can be adapted to Zoom Breakout Rooms, just keep in mind, it takes more time in Zoom. John Brennan offers a number of ideas around social ice-breakers, group quizzing, learning partner activities, small-group discussions, Jigsaw Teams, and

20 Brennan, 19.
21 Brennan, 24.
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Fishbowl discussions; some of these ideas are shared above, and his chapter is worth exploring because it offers specific examples.

One approach not yet mentioned, is Brennan’s Observer Trios, in which students alternate the role of observer who “can provide feedback on the accuracy of the pair’s understanding or explanation of ideas, feedback on the effectiveness of the pair’s interaction, or scoring or rating of the pair’s practicing specific skills.” Brennan’s offers very clear explanations on how to conduct a Jigsaw using Zoom Breakouts.

Creating Breakout Rooms. You have several options: Automatically or manually divide students into an equal number of rooms; Pre-Assigned Using the Web Portal; Pre-Assigned Using the CSV File; or allow students to self-select.

PowerPoint Slide Deck
While teaching in Zoom, it makes sense to create a slide deck that you will likely use with regularity. This slide deck offers screen shots relevant to Zoom use and multiple templates that you are welcome to use. These are created by Lisa Stallbaumer and Mary Nicholson. In clicking this link, you access the PowerPoint as an Office 365 document distributed through TALE’s Sharepoint group. If you are using a BU email, you should not need to ask for permission to access. For quick access, scan this QR Code:

Recommended Reading
In addition to Herman and Nilson’s Creating Engaging Discussions (2018), which places a heavy emphasis on F2F, faculty may want to check out the following recent publications listed in order of what I would recommend.

Each chapter begins with a brief explanation of account settings and meeting controls (which might become quickly outdated) followed by a variety of topics and examples on how they have been used two to three courses of various disciplines. Each chapter dedicated to a Zoom tool briefly explains “troubleshooting and problem prevention.” Topics include: Polls, Chats, Breakout Rooms, Main Session Room, Minimizing Zoom Fatigue, Whiteboards for Sharing, Virtual Backgrounds and Profile Photos, and Integrating Apps. Out of the handful of Zoom teaching books, Brennan’s is the most useful and comprehensive.

Dan Levy, Teaching Effectively with Zoom: A Practical Guide to Engage your Students and Help them Learn (2020)
Levy’s book came out in a timely manner last summer and was an early effort to help faculty unfamiliar to online teaching adapt to Zoom. Very useful explanations and visuals. Zoom settings will become outdated fairly quickly, but the examples of teaching practice to engage students are useful and easy to visualize, just a bet less comprehensive than Brennan’s work.

Aaron Johnson, Online Teaching with Zoom: A Guide for Teaching and Learning with Videoconference Platforms (2020)
This is Johnson’s second book about online teaching. I found many of his ideas useful, but presented in a less approachable way compared to Brennan. For example, one chapter lists “30 Active Learning Methods” for the start, middle, and concluding parts of class. The methods are relatively predictable if you have read the Jossey-Bass College Handbook series, but their implementation is more clearly explained in the following chapter, Facilitating Active Learning – it was a disjointed experience, less than half the book offers practical ideas.

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22 Brennan, 32.
23 Brennan, 37-40.
Sources: