



The Asynchronous Cookbook

The Asynchronous Cookbook

recipes for engaged & active online learning

DLINQ



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The Office of Digital Learning & Inquiry
Middlebury College

How to Navigate This Book

To navigate through this book online, you can:

- click the “Contents” drop-down to the left to find a specific chapter
- use the arrows at the bottom right and left of your screen to scroll through page by page
- use the links in the Table of Contents below to jump right to a specific section or recipe
- use the “Search in book” field in the upper right of the page to search by keyword

You can also [download a PDF of the book](#), if preferred, if you’d like to be able to reference it offline.

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Contributors

The activities in this cookbook draw on research and good practice in online course design to provide recipes – concise and specific instructions and examples – for adding asynchronous activities to a course. We will be adding recipes, so please check back often. DLINQ staff contributors to the cookbook include:

Dr. Sonja Burrows – Instructional Designer

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I. Introduction

What Is Asynchronous Learning?

Asynchronous interactions allow students to join and participate in class activities on their own schedule (though usually by a deadline). An example of asynchronous learning is a pre-recorded lecture that students watch followed by discussion board interactions. Some asynchronous learning is self-paced or self-study – meaning, no peer or instructor interaction – which you may have experienced if you’ve ever had to complete a workplace training module. However, we want to stress that asynchronous learning can also be active and completed in a learning community of peers and instructors. In this cookbook, we offer recipes for the latter: asynchronous online learning that is designed for peer and instructor interaction, but which takes place over time, instead of at the same time. For all of the recipes presented in this cookbook, interaction is a key ingredient.

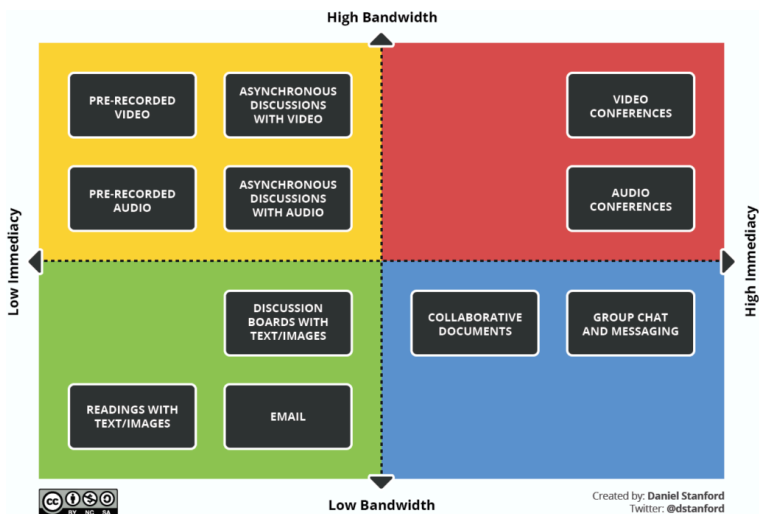
Why Should I Use Asynchronous Activities in My Course?

Whether you are designing a hybrid course (with some in-person and some online activities), or a fully online course, having regular, meaningful asynchronous activities in place in which everyone can participate, means fewer interruptions to learning should you need to pivot based on changes in the learning context (illness, shutdowns, etc.). If students are already using social annotation tools to discuss the weekly readings, that’s one less adjustment you need to make.

And we know that synchronous learning may not be the best for all students, all of the time. (And asynchronous learning is the preferred mode for some students all of the time, for example, for students who have full time jobs.) There are a number of barriers to full and equitable participation in synchronous learning, including time zone, Internet access, accessibility, and Zoom fatigue.

Blending synchronous and asynchronous activities provides the opportunity for all students to fully participate in your course. We'd like to think about synchronous and asynchronous as working together, rather than at opposite and opposing ends of a spectrum. Research indicates that blending synchronous and asynchronous interactions in remote/online courses can promote social presence and combat students' feelings of disconnectedness while supporting student learning.

Daniel Stanford of DePaul University created the Bandwidth/Immediacy Matrix as a way of visualizing activities that span the range from synchronous (high immediacy) to asynchronous (low immediacy) as well as high bandwidth and low bandwidth. You might consider plotting your class activities in the matrix, aiming for a spread of activities across the 4 quadrants.



Why Did We Make This Cookbook?

In [Camp Design Online](#), we offer some big-picture theory and practice for creating engaging online courses, based on research and good practice. The activities in this cookbook draw on many of the principles we share in Camp Design, packaged into recipes that provide concise and specific instructions for adding asynchronous activities to a course.

Discipline-specific Concerns

Most of the activities in this cookbook can be used in any discipline; however, online learning provides unique challenges for teaching foreign languages, for performance based disciplines such as interpreting, the performing arts, and teacher education, and for lab disciplines. You may wish to refer to the resources linked below for

a general overview of the types of asynchronous activities that work well for these disciplines, and then return to the cookbook to find out how to put the activities into practice.

[Language Learning Online](#)

[Teaching Performance-based Skills Online](#)

[Teaching Lab Courses Online](#)

2. Some Key Concepts

Preparing Students to Engage in Asynchronous Learning

It can be helpful to prepare students for what to expect from your course and from the asynchronous activities, to address any misconceptions up front, and help students understand what it means to be successful in their learning. Below, we've shared a few examples from instructors' syllabi for how they've framed things for their students.

From INTD 1227 Inclusive Design and Design Justice, a fully asynchronous online course taught by Sarah Lohnes Watulak and Amy Collier:

“This is a facilitated asynchronous class, meaning that we'll be interacting a lot with each other online, with deadlines for assignments and activities spread throughout the week. There are no required, scheduled live meetings. We will have weekly optional live sessions, with days/times that vary week-to-week. Check the Week Overview page for each week for the time and date. We will not introduce new material in these sessions; they'll be for Q&A, chatting through what you're learning, etc.

You might be wondering, where will the professors be, in this asynchronous class? Will I ever see or interact with them, or will I be doing this on my own? You'll see us in short videos introducing elements of the course, and course concepts; you'll hear from us in the feedback we give on assignments; you'll interact with us during optional Zoom sessions, required 1:1 conversations about your project work, in the margins of texts that we're annotating in [Hypothes.is](https://www.hypothes.is), and in conversations on Teams. Same goes for your peers; you'll see your classmates in optional Zoom sessions, in small group conversations about your project work, in the margins of

texts that we're annotating with [Hypothes.is](#), and in Teams. The asynchronicity of this course is part of our inclusive design for this course, as we try to ensure that everyone in the class can participate fully.”

Framing Learner Engagement with the Community of Inquiry Model

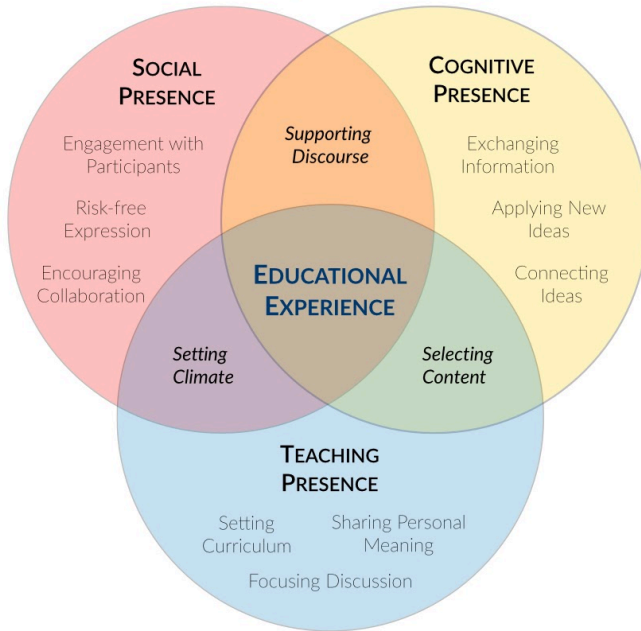
The Community of Inquiry framework describes the elements – teaching presence, cognitive presence, and social presence – that are ideally present in the learning environment, activities, and assessments, in order to create an effective and engaging online learning experience.

Teaching presence is defined as “the design, facilitation, and direction of the social and cognitive processes for the purpose of realizing the relevant learning outcomes” (Anderson, Rourke, Garrison, & Archer, 2001).

Cognitive presence is defined as “the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse” (Garrison, Anderson, & Archer, 2001, 2004).

Social presence is defined as “a level of connectedness among instructors and students that determines how motivated participants are to take an active role in their own and their peers’ meaning-making processes” (Whitside, Dikkers, & Lewis, 2014).

The Community of Inquiry Model



Adapted from Garrison, D.R., Anderson, T., Archer, W. (1999) Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education* 2(2), 87-105

We use the CoI framework for online courses because it helps us to plan for, and intentionally design for, the kinds of interactions we think will help foster meaningful learning and connection in an online course. Each of the elements – social presence, cognitive presence, and teaching presence – can be implemented in course design in many different ways, and the recipes in this cookbook provide options for each element.

Creating Accessible Materials

Accessibility is a key component of designing inclusive and equitable learning environments. We recommend creating accessible content from the start, rather than in reaction to a specific need at a specific

time. Including accessibility in your design process means not only that you save time and effort by not having to retrofit your materials, but your materials are usable by a wide variety of learners with a variety of needs and preferences.

For example, in the built environment, we might think about how a curb cut in the sidewalk was originally designed for wheelchairs, but is also very useful for people pushing strollers, skateboarders, and people on crutches. In the digital environment, video captions were designed to facilitate access to video content for people who are deaf and hard of hearing, they are also useful for students who are learning English, and to understand fast speech.

The good news is that many of our common tools now have easy-to-use accessibility options built right into them. Check out the [blog post Creating Accessible Digital Materials](#) for resources and instructions on how to create accessible PDF files, accessibility in Canvas, live subtitling in Google Slides, using [SensusAccess](#) to automatically convert documents into a range of alternate and accessible formats, and more.

But There Are So Many Tools! How Do I Choose?

While there are approximately 10 bazillion* ed tech tools out there, in most cases, these recipes highlight tools that are available and supported at Middlebury. We offer these specific tools to help combat decision fatigue, and because these tools have, by and large, been vetted by Middlebury for privacy, security, and accessibility.

*a completely made up number

3. Group and Team Work in Asynchronous Settings

Collaborative group work is a common component of many classes across the curriculum. All of the information that is shared in this section is representative of processes that should take place with any group project assignment, however it is specifically adjusted to focus on the necessity of asynchronous work when students are working together at a distance. As a first step a faculty member should be able to answer each of these questions before assigning a group project to their class:

1. What learning goal is the collaborative work addressing?
Ensure this learning goal is represented in your assessment criteria.
2. How will you assess the group's work?
3. How are you going to teach, support and mentor students through group work?

If you are not sure how to answer question #3 – good news! That's what we'll cover in this section. If you are stumped on questions 1 & 2 this might be a sign that you should re-think the assignment and determine whether it truly needs to be a group project, or if you could address the same learning goals by transitioning the project to an independent one.

Laying the Groundwork – Assigning Self-Assessments

Before students can work together effectively, they need to

understand the way that they work and the implications that process will have on a group project. This can be done relatively easily by assigning a self-assessment to students. [Here is an example.](#)

This work can be used as a foundation for developing agreements within the group. In an asynchronous format student could share their self-assessments in a shared drive or document so that they can all learn a little bit about each other before they begin working together. You could also ask students to share a video or audio narrative of their assessment with their group as a way of helping them to get to know each other as more than text on a screen.

Building Connections – Establishing Communication Channels and Protocols

Being able to provide a default communication channel option to groups of students is a great first step in helping them to develop as a team. Keep in mind that some tools – like Google Docs, are not easily accessible in all countries. Be sure that you recommend students test out different solutions with the full group before settling on any.

As a way of testing out their communication tools, it's a great practice to require groups to come up with a [team agreement](#) where they can establish norms for how their group will communicate what info and how quickly members should expect a response. It will be important for them to consider what information is communicated best via text vs. in person in a video or phone call. Consider how easy it is to misinterpret tone in an email and how that can foster miscommunication. How will the team work to mitigate this?

When working remotely it is very easy to feel alone. It's important for students to know this and find ways to proactively address it within the group from the start. One way to combat this as a team

is for team members to actively reach out to each other throughout the week to check in, ask questions and share progress. When in doubt – over communicate! It’s easy to feel like “no one needs or wants to know this” but ask yourself how often you have been annoyed by someone sharing information with you about a project that you are working on? Work against the assumption that you are “bothering” someone and towards the idea that you are “connecting” with someone.

Collaborative documentation can take the place of synchronous meetings, however it is important to mirror many of the processes that would occur in a meeting, within the documentation. Comments in the margins can mimic the in meeting chatter to clarify ideas, ask questions, etc. Be sure to leave space for questions and challenges to assumptions and welcome them into the conversation. Questions and challenges are potential for growth!

An “Action Items” section at the end of notes can be used to summarize what was decided and action steps that need to be taken along with who will take them.

Guide students through considering how you will organize your asynchronous work to ensure that everyone stays on the same page and everyone can find information quickly. Documentation can also be a good way to clear up confusions, as not all team members may remember an outcome the same way you do. Having it written down makes that confusion concrete and gives teams the opportunity to address it.

Failure to Plan is a Plan for Failure

Set your students up for success by requiring them to create collaboration plans. The communication plan discussed in the previous sub-section should play a big part in this process. It’s really important for remote teams to set expectations and consistent guidelines for how they will work. You can consider this the

blueprint for your students' work moving forward. Without it – it's very easy to get off track as there is no foundation to return to if the work is not going well. Make it clear that as a group it's everyone's responsibility to make sure that all voices are heard. Group members should actively work to ensure that all members of the group have time to share their ideas and questions. Specifically point out that this means that students who like to participate actively should be sure to take on the responsibility to be sure to draw others into the conversation. Conversely, group members who tend to like to listen more and document work, will now need to ensure that they share their thoughts frequently.

Encourage the group to check in frequently with each other to be sure that technology is working well for all members of a group. If someone is experiencing difficulty, work together as a group to come up with solutions for what you might do to ensure the experience is better for all group members. If you are not sure how to solve a problem – check in with DLINQ, we'd be happy to offer some suggestions!

Assume Positive Intent

At any point in time different team members can be impacted by a variety of events, challenges, etc. in their life. It's important to address this with students before they run into this issue so they know how to be on the lookout for issues, and what to do to address them. Being mindful, observant and kind are all valuable skills regardless of the location of any team that we work on. Life events can significantly impact our ability to show up as fully engaged team members. Remind students to be careful about making assumptions about a team member's behavior, as you never know what is going on in their life at any point in time. Over time groups will develop trust that will enable them to be more upfront about impacts on their work. Clarify to students that this doesn't mean everyone

needs to share details about their personal life, but it can mean that you feel comfortable telling your group members when something else is on your mind and you are not quite up to the task today. It's important for all team members to be aware of when they are making assumptions about others' behavior, and consider that they might not know the whole story. This is a good time to point out that you are a support that is available to students. If students feel something is off with a team member and they don't feel comfortable reaching out to them, checking in with you may be a good first step.

The last piece of advice that we have here can be a tough one, but it's critical. Remind your students of the importance of assuming positive intent, and model this in your interactions with students. Working remotely is challenging and it is so easy to misinterpret cues, behavior and language. Trying to reframe your conversations by starting at a place of positive intent can truly improve the connection and trust between team members. It's not easy work, but when done well it can be a transformative experience and certainly one that students will use again and again in their future.

Additional Resources

- [Some Tips for How to Work Collaboratively Online](#) – blog post about the project that initially inspired these resources by DLINQ instructional designer Heather Stafford
- [8 Ways to Improve Group Work Online](#) by Cathy N. Davidson and Christina Katopodis
- [Group work: Using cooperative learning groups effectively](#) – from Vanderbilt University
- [Assessing Group Work](#) – from UNSW Sydney
- [Reflective Listening](#) – from UNSW Sydney
- [Five Steps to Improving Online Group Work Assignments](#) – from Faculty Focus

- [Tips for When Group Projects Aren't Working](#) – from the Eberly Center Carnegie Mellon
- [Assessing Group Work](#) – from the Eberly Center at Carnegie Mellon
- [Project Based Learning for Online Spaces](#) – from the Instructional Design team at WPI
- [Self & Peer Evaluation of Group Work Contributions for Research Papers and Oral Presentations](#) – from California State University, Northridge

4. Discussion Activities

Recipes in this chapter

- [Text-based Annotation](#)
- [Video-based Annotation](#)
- [Student-led Threaded Discussions](#)
- [Hatful of Quotes Discussions](#)

Chapter Intro

Discussion activities provide an excellent starting point for faculty who are new to asynchronous activities, or aren't sure where to start, but are looking for a way to add regular, asynchronous activities to their course. Discussion activities can be used to add instructor-student and student-student interaction to your course; in Community of Inquiry-speak, use these activities to add instructor presence, social presence, (and cognitive presence, depending on the goal of the activity) to your course (see Chapter 2 for more on the Community of Inquiry framework). You can use these recipes as a lead-in to your synchronous class time, by asking students to read, discuss, share feedback prior to your scheduled synchronous meeting. That way, you can spend your synchronous class in a more meaningful way, whether that's digging deeper into the material, or creating community (or both).

Please see [Chapter 3](#) for recommendations for creating successful group/team interactions.



Text-based Annotation

Social annotation is collaboratively “marking up” digital texts & media, using tools that allow students to annotate a reading together, interstitch and connect comments, and respond to/add to each other’s annotations. It is also a social learning activity – it’s a way for students to learn from one another asynchronously.

Prep Ahead

Select your readings and make sure that they are available in a digital format (a PDF, a web page)

Ingredients

- Digital readings
- Learning goal(s)
- Prompts/expectations for students
- A social annotation tool
- Assessment and/or feedback strategy

Step by Step Instructions

1. **Identify your learning goal.** Do you want students to engage with the readings in order to:
 - Close reading: Students annotate course readings
 - Breadth/critical reading: Students annotate readings on the web
 - Deepening understanding: Students add context, multimedia to readings
 - Interaction: As a replacement for/addition to discussions
 - Drawing connections in research: Students annotate sources to connect to other contexts and sources
 - Translation: Providing translations for difficult/colloquial language texts
 - Critique: Layering critique on media, reporting

2. **Create a prompt/instructions for the activity.** Sample prompt:

Digital annotation and discussion of key texts should connect to key ideas in the texts, show your engagement with those ideas, as well as connections to your personal experience. Digital annotations can and should also include engagement with peers' annotations and questions that you have about the text – this is a chance for you to learn from one another. You might:

- Define words that you don't know.
- Ask questions.
- Answer questions.
- Link to similar articles, or things that passages remind you of from other courses or your personal experiences.
- Provide analysis.

3. **Choose a social annotation tool.** Middlebury licenses 2 social annotation tools: Hypothes.is, and Perusall. They both provide features for the core function of annotating a reading, and they are both available to use from within Canvas. Some differences:

- Hypothes.is:
 - Allows annotations on websites, and readings in Canvas
 - Annotations can be private, shared to a group, or public.
 - Integration with SpeedGrader
 - Currently doing a pilot at Midd

You can find out more about Hypothes.is on the

[DLINQ Toolkit Hypothesis page](#), including instructions for how to use it.

- Perusall:
 - Annotation tool for uploaded documents or purchased textbooks (this option is attractive for courses that depend on a textbook, such as in the sciences)
 - Also supports video annotation
 - Integrated with Canvas

You can find out more about Perusall on the [DLINQ Toolkit Perusall page](#), including instructions for how to use it.

4. Give feedback/assess

- Given that this will likely be a new activity for students, after your first annotation activity, we suggest that you provide brief, formative feedback to your students (either individually, or as a whole class) as to how the annotations and discussions met your expectations, and what you might like to see done differently the next time.
- We also strongly encourage you to model the types of annotations and interactions you would like to see by participating in the activity yourself. That does not mean responding to every student's annotation, but adding a handful of annotations and comments will show your students what you're looking for – and, your participation is a great opportunity to integrate instructor presence into course (they can see that you are there and engaging with them and their ideas).
- Any graded assessment of the activity should tie closely back to your learning goals and specific

instructions. If your learning goals are for students to critique the text, and for students to interact with one another, then your assessment should align with those criteria.

EXAMPLE

Working with Primary Texts, Surfacing Learning Gaps
History 103, The Making of Europe, Dr. Louisa Burnham

“How annotation meets course learning goals:
An example – Students read and annotated the text of Magna Carta off a British Library website. It led to a lot of great observations – and perhaps even more importantly for me, led to me understanding what students DIDN'T understand. Because my class was only partly synchronous (sections only), this meant that I spent less time in class talking about MC, but still felt like they were getting important things out of it (and that I knew where they were going astray and could help guide them). This was our 5th Perusall assignment (out of 7).”

Additional Resources

- [Slides from Social Annotation for Learning workshop](#)
- [Slides from Hypothes.is workshop](#)
- [Slides from Perusall workshop](#)





Video-based Annotation

There are a number of tools available that allow students to annotate a video, inserting comments, observations, and feedback right at the moment in a video where it applies. As with text-based annotation, video annotation can serve as an excellent asynchronous social learning activity.

The source of the video used for annotation can vary from a publicly available external video on YouTube, to a recording created by the instructor, to recordings that students themselves create. The topic focus of the video content can be whatever fits your learning objectives and course content – a documentary, student presentations, student skill practice (e.g., music, language learning, dance, theater, speech, interpretation), student creative work (e.g., animation, film production, website design), a “lecture” video, and other endless possibilities.

Prep Ahead

Determine what type of video content students will be working with and/or creating, and what platform you plan to use for sharing and annotation.

Ingredients

- Learning goal(s)
- Videos
- Prompts/expectations for students
- A video annotation tool
- Assessment and/or feedback strategy

Step by Step Instructions

1. **Identify your learning goal.** Do you want students to engage with the video(s) in order to:
 - Close analysis: Students annotate course videos
 - Breadth/critical analysis: Students annotate videos of their choice related to the learning topic
 - Deepening understanding: Students add context, multimedia to videos
 - Interaction: As a means of fostering discussion among students
 - Drawing connections in research: Students annotate videos to connect to other contexts and sources
 - Translation: Providing translations for difficult/colloquial language videos
 - Critique: Layering critique on media, reporting

- Peer Feedback: Providing feedback to peers on presentations and/or skill practice

2. **Create a prompt/instructions for the activity.** Sample prompt:

Digital annotation and discussion of key ideas in the video should connect to key ideas in the course or module, show your engagement with those ideas, as well as connections to your personal experience. Digital annotations can and should also include engagement with peers' annotations and questions that you have about the video – this is a chance for you to learn from one another. You might:

- Define words that you don't know.
- Ask questions.
- Answer questions.
- Link to similar articles or media, or things that passages remind you of from other courses or your personal experiences.
- Provide analysis.
- Provide feedback on skills practiced in the video.

3. **Choose a video annotation tool.**

- Middlebury licenses [GoReact](#), which is available both as a standalone web tool, and as an external app integrated with Canvas. GoReact allows instructors and students to record or upload their own videos, either individually or in small groups of up to nine people.
- Video assignments can be individual in nature, where only the instructor will be able to add or view annotations, or social in nature, where the instructor

can open annotation and viewing to select class members or to the entire class. Annotations can be multi-modal, and users can create and share annotation marker sets as well.

- [Perusall](#) (described in the [Text-based Annotation](#) recipe) also offers video annotation, although it is not as robust or flexible (or easy to use) as GoReact. Another free option for video annotation is [VideoAnt](#), which is managed by the University of Minnesota.

4. Give feedback/assess.

- Given that this will likely be a new activity for students, after your first annotation activity, we suggest that you provide brief, formative feedback to your students (either individually, or as a whole class) as to how the annotations and discussions met your expectations, and what you might like to see done differently the next time.
- We also strongly encourage you to model the types of annotations and interactions you would like to see by participating in the activity yourself. That does not mean responding to every students' annotation, but adding a handful of annotations and comments will show your students what you're looking for – and, your participation is a great opportunity to integrate instructor presence into the course (they can see that you are there and engaging with them and their ideas).
- Any graded assessment of the activity should tie closely back to your learning goals and specific instructions. If your learning goals are for students to critique the video, and for students to interact with one another, then your assessment should align with those criteria.

EXAMPLE

GoReact Presentation Assignment

This activity combines community building with an informative presentation and annotated discussion.

First, introduce students to [GoReact](#) and video annotation through a short tutorial that showcases the tool and the features students will be asked to engage with there (you could record your own tutorial or share one of the many tutorials created by GoReact staff). Then, ask students to complete a brief, ungraded practice activity using GoReact. Have them record and share a very short (maximum 90 second) video explaining one of their life passions. Then ask them to try out inserting feedback and comments into their own video along with the video of one peer.

Move on from there to an informative or persuasive presentation assignment. Have students, either solo or in a team, record themselves presenting on a topic of their choice that is related to your course content and learning objectives. They could use a [video editing and recording tool](#) of their choice and then upload to GoReact, or simply use GoReact itself to do the recording.

Provide a rubric that details the expectations for the presentation, the maximum length it should be, and what items within the presentation will be assessed. Once students have submitted their assignment, they can peer review one to two of their classmate's video

presentations, using your rubric as a guide for providing feedback.

Allow the students to re-record their video presentation, incorporating feedback from their peers. Once the revised presentation is submitted, you as the instructor can go through and provide annotated feedback on the final video submission.

Additional Resources

- [GoReact Instructor Guide](#)
- [Investigating the Social Interactions of Beginning Teachers Using a Video Annotation Tool](#), by Joshua Ellis, Justin McFadden, Tasneem Anwar, and Gillian Roehrig.



Student-Led Threaded Discussions

Creating space for student-led asynchronous discussions in your course can give you another opportunity to foster peer-to-peer interaction and learning while granting student agency to your learners. Probably the most common way to do this is through the use of a discussion forum or board. Canvas offers the ability to do this; however, it can also be accomplished through messaging apps like Teams or Slack.

Prep Ahead

To prepare for this assignment faculty should consider how they want to structure their student-led discussions. In particular, they should consider:

- What will be the role of the student facilitator?
- How frequently will the student-led discussions occur?
- How can you adequately convey your expectations to ensure that the discussion reflects the goals that you wish to see demonstrated?
- Will you assess the work of the facilitator and the participants? If so, how?

Once you have determined this structure, it is important to write up an initial description of this assignment plan so that students are

aware of all of the expectations and guidelines that they will need to adhere to.

Ingredients

- Guidelines & expectations for students
- Learning goals being addressed
- Assessment and feedback strategy
- Discussion forum tool

Step by Step Instructions

1. **Identify your learning goal.** Do you want students to lead and respond to student lead discussions to:
 - Foster peer to peer learning?
 - More deeply examine and question core course concepts?
 - Analyze and process readings in a collaborative setting?
 - Develop reading prompts and facilitate discussion?
2. **Create instructions and guidelines for the assignment.** You may be able to reuse this content if you assign a weekly student-led discussion forum. Sample prompt: Each week one student in the class has signed up to lead the class discussion on the weekly reading. As the discussion leader, it is your responsibility to formulate 2-3 reading prompt questions that you can share with the class at the beginning of the week. Throughout the week you will also be responsible for facilitating the discussion

by connecting relevant observations and responses and generally “jumping in” whenever it seems like facilitation can help move the conversation along.

3. **Choose a Discussion Tool.** Middlebury licenses two tools that can easily be used for discussion forum purposes: Canvas and Microsoft Teams. If you are already using one of the tools for your course, we would recommend you stick with that tool, to keep your course tech usage as streamlined as possible.
 - Learn more about [Canvas](#) and [Microsoft Teams](#).
4. **Create the structure for the discussion(s) in your tool of choice.** If you will have a pattern of discussions in your course, you may be able to duplicate the structure throughout the course so that your forums are all prepped and ready to go at the start of the semester. Both Canvas and Microsoft Teams allow you to control visibility so that the “prepped” forums are not visible to students until you want them to be.
5. **Give feedback/assess.** Early in the semester, you should provide students with the ways in which you will assess both their facilitation and participation in the student-led forums (see Prep Ahead section above). Whatever your assessment strategy is, it should be aligned with the learning goals outlined in connection with the assignment. It can be very helpful to provide models and exemplars of past discussions to demonstrate to students what you are looking for in their work.

EXAMPLE

Student Podcast Panel Discussion with Canvas Forum for Class Reactions

Professor Daniel Chatham at the Middlebury Institute offers a fun spin on student-led discussions with his student podcast panel discussions. Students participate twice during the semester as panelists. Panelists find an interesting news item from the week, present a concise summary, explain potential implications to a course topic, and specifically address a guiding question for that week's episode (those guiding questions change to compliment course topics). On weeks when they are not panelists, students listen to the weekly episode and post their reaction or additional thoughts in a discussion forum on Canvas. Panelists are then free to respond.

Read more about Professor Chatham's podcast discussions at the [Middlebury Teaching & Learning Knowledge Base](#).

Additional Resources

- [Student-led Facilitation Strategies in Online Discussions](#) (PDF), by Evrim Baran and Ana-Paula Correia
- [Student-led Online Discussions: A Feminist Praxis to Mitigate Digital Gender Inequality](#), by Alice Lai





Hatful of Quotes Discussions

Structured discussion activities, like this Hatful of Quotes activity, can be used to make discussions more equitable – whether they are used in live/synchronous class sessions or in asynchronous discussion forums. Structured discussion activities create more equitable paths for participation by creating structures that support all students' participation in a discussion. Hatful of Quotes was shared by Stephen Brookfield in the book [Discussion as a Way of Teaching](#) as a strategy for getting all students to contribute. In a live class session, a set of quotes is given to groups of students. Each group gets the same set of quotes, and students then draw a quote from the hat. They reflect on their quote (perhaps making notes about what they want to say) and then, when the quote is called up to the full room, students who drew that quote can share their thoughts.

The asynchronous version of the activity places

students into small groups on a discussion board or a google doc, assigning a quote to a group of students. The students then reflect on and comment on the quote and can discuss among themselves or with the broader class. We sometimes use this approach hybridly, where discussants are placed into quote-based groups, they reflect and comment, and then during a live session, we “call up” the quote and assigned students can share their thoughts with the full class.

Prep Ahead

You'll want to decide what technology tool you want to use for this activity (e.g., Canvas discussions, Google Docs) and what quotes you will want students to respond to. You can pick quotes from course readings, if you want students to engage more deeply with the readings, or you can pick quotes from readings that have not been assigned, as a way to expose students to perspectives beyond the course readings. Consider how many students are in your class as you think about how many quotes you'll need. For example, if your class has 50 students and you'd like 5 students to respond to each quote, you'll need 10 quotes.

Ingredients

- Learning goals for the activity
- Quotes from course readings or other readings/resources
- An online discussion space

Step by Step Instructions

1. **Identify your learning goal(s).** Some examples:
 - Foster peer to peer learning
 - Give all students an opportunity to participate in discussion
 - Expose students to more perspectives and readings through the selected quotes
2. **Set up the activity.** Set up the online space where students will be assigned the quotes. Here is an [example of a Google Doc set up for a Hatful of Quotes activity](#). You could also set up small group discussions for each quote in Canvas.
3. **Add the quotes for the activity and assign groups of students to each quote.** Add the quotes to your online space and include a link or reference to the source of each quote, in case a student wants to look for context or more information about the quote. Assign small groups of students to each quote by putting their names next to the quote assigned to them.
4. **Decide how you want to “call up” the quotes.** How do you want students who are responding to quotes to share their perspectives with the full class? If you are teaching a hybrid course and are offering live class sessions, that may be a good place to “call up” the quotes and for groups to synthesize their perspectives on their quotes. If the course is fully asynchronous, you might consider having a full class discussion forum where students can synthesize their responses.
5. **Give students clear instructions on how to participate.**

This is an unusual approach to discussion, so provide clear instructions to students on how they should participate. Express your learning goals to them and the importance of every student in the class sharing their perspective.

Additional Resources

- [Discussion as a Way of Teaching by Stephen Brookfield](#)

5. Mapping Activities

Recipes in this chapter

- [Geographical Mapping](#)
- [Concept Mapping](#)

Chapter Intro

Mapping, in its broadest terms, involves the visual or spatial organization of information. There are many different types of maps that can be created as learning activities, ranging from geographical maps, to concept maps, to hierarchical or process maps. Mapping incorporates a wide range of skill sets, including:

- Critical thinking (e.g., how do I identify and choose data sets for my map, what might the data on this map tell me about this place or about the people who live there, what does the data on this map show me over time, how might the data on this map be biased)
- Interdisciplinarity (e.g., by layering data sets from multiple disciplines or time periods on a map, by showing relationships between people and places)
- Spatial thinking / awareness (spatial thinking plays a role in activities ranging from understanding language and art, to geography and geoscience, to scientific modeling, geometry, astronomy, etc.)

- Data visualization
- Digital storytelling
- Bias awareness (maps are not neutral / ahistorical / apolitical)
- Mapping also offers opportunities to:
 - Connect global or big-picture issues and ideas to local communities
 - Personalize and humanize learning
 - Visualize learning
 - Communicate learning

Questions that are helpful to consider as you prepare your mapping activity include:

- What will be the theme and topic for the map, and on what location will students focus? Will you determine the theme, topic, and location, or will students be given the opportunity to choose their own?
- What are the key learning objectives?
- What type of mapping will the activity include? Some possibilities are:
 - Simple geographical map with one data layer (e.g., place markers identifying key locations)
 - Complex geographical map with multiple data layers (e.g., place markers identifying key locations plus population data)
 - Concept map
 - Timeline
 - Process map
 - Site map (e.g., such as for a website or a blueprint for a building)
- Will students work solo or in teams and why?
- What modality and tool do you plan to use and why?
- From what source do you plan for students to gather data for their maps?
- How will students submit and showcase their work? Will their

work be viewable only by other members of the class, or will it be shared in a more public forum?

What constitutes data? Where do I find reliable data?

- Data can be related to real-world events, a fictional world, or you can collect (or geocode/georeference) your own data
- Data can be in the form of text, shapefiles, raster files (images), or other data linked to place
- ArcGIS Online has data available for anyone to access, but you need to check the source as any user can share data in the ArcGIS platform
- City, state, federal government, and NGO websites often share place-based data that is accessible to the public
- Organizations like USGS, NIH, and the Census Bureau (TIGER) are also good sources of data

Middlebury resources for data and questions about data include:

- [Middlebury Library Maps & GIS Research Guide](#)
- [David Rumsey Historical Map Collection](#)
- [MiddData](#)
- [META Lab](#) (data analytics and research lab at the Middlebury Institute)

Middlebury also has a Data Services Librarian, [Ryan Clement](#), who is a great resource for all things data!





Geographical Mapping

Geographical mapping projects can be used across disciplines as a way for students to form connections between people or issues and places. As noted in the introduction to this chapter, mapping allows learners to connect global or big-picture issues and ideas to their local communities; personalize and humanize their learning; visualize their learning; and communicate their learning to others.

Prep Ahead

Select a topic/theme of focus. This could be any place-based topic that can be visually presented using geographical maps and the layering of data on those maps.

Sample ideas for broad topics/themes include:

- Environmental Studies/Indigenous History
- Politics/Voting
- Environmental Studies/Land Use
- Public Health/COVID
- Human Geography/Migration

Ingredients

- Learning goal(s)
- Prompts/expectations for students
- A geographical mapping tool
- Assessment and/or feedback strategy

Step by Step Instructions

1. **Identify your learning goal.** Some examples:
 - Identify and visualize relationships between people and places
 - Identify and visualize changes in a place over time
 - Identify reliable data sources and explain how to assess data
 - Raise bias awareness
 - Identify and collect your own data to help analyze a complex issue
 - Communicate meaning through data visualization
2. **Create a prompt/instructions for the activity.** Sample prompt:

Choose a topic, guiding question, and specific

location (geographic place), and design and create a map or story map that incorporates multiple data and media to explain your topic. The map should include some layering of data related to the topic chosen that help illustrate relationships between the data and the place chosen. Additional guidelines include:

- Identify your chosen topic, guiding question, and location.
 - Highlight key places on the map related to your chosen topic.
 - Visualize one or more data sets related to your chosen topic by either creating your own map and adding the data sets to them, or choosing existing maps with data sets already incorporated. Don't forget to identify the source of your data and/or maps.
 - Incorporate select media, such as photos, illustrations, or videos, that allow your map viewers to interact with, and gain deeper understanding of, your chosen topic.
 - Provide a short written analysis of the data that is displayed.
3. **Choose a mapping tool.** Mapping tools can be as simple as a pencil and piece of paper, or as sophisticated as an online application like ArcGIS. At Middlebury, faculty and students have free access to a variety of digital tools that can be used for mapping, including:
- [ArcGIS Online](#): This is a sophisticated online mapping tool that can be used to create and analyze complex maps with multiple data layers. While creating maps using ArcGIS Online has a bit of a learning curve, there are many [online tutorials](#) created by ESRI (the tool developer) that facilitate technical learning.

ArcGIS Online also offers a wide array of already-created maps with data layers for students to explore and analyze, as well as incorporate into their own mapping projects.

- [ArcGIS StoryMaps](#): This is an easy-to-use online tool students can use to create and share basic interactive maps as well as digital stories incorporating maps and other media (images, audio, video, text). ESRI (the tool developer) offers many [online tutorials](#) that facilitate technical learning, as well as highlight examples of StoryMaps created by others.
- [ArcGIS Survey123](#): This is an easy-to-use survey creation tool (form tool) that integrates well with ArcGIS mapping tools if you're interested in collecting your own data to use on maps.
- [Google Maps](#): Allows you to create and share basic interactive maps. Must be logged into your Middlebury Google account to be able to create and share your own map creations. Not nearly as sophisticated as the ArcGIS tools, and will not be accessible for students living in locations that block access to Google apps (e.g., China).

4. **Give feedback/assess.** Depending on your learning goals, there are different approaches you can take to assessing mapping projects. Rubrics are helpful to illustrate expectations about what all should be included in the mapping project, as well as what items of the map will be assessed. You may want to also incorporate peer feedback as part of the learning process, if the project timeline allows enough time for students to be able to incorporate any peer feedback into their final submission. Items that both you and any peer reviewers might assess / provide feedback on include:

- Map construction (are key locations highlighted? Are data layers clear, readable, and understandable? If symbols are used, are they clearly defined in a legend or elsewhere?)
- General design (well organized, easy to read, interactive elements work as expected, facilitates understanding of the topic)
- Data (Is the data source identified? Is the data source reliable? Are the data clearly presented? Does the presentation of the data introduce any bias through the way it is visually represented?)
- Text explanation, if required, is present and meets expectations outlined in the project guidelines
- Added visuals or media, if required, are present, sources are identified, and visual/media are clearly connected to the topic at hand and facilitate understanding of that topic

EXAMPLE

History/American Studies

Vermont Life's Vermont: A Collaborative Web Project

Prof. Kathryn Morse

Course Description: Students in this course work collaboratively to build an online history project aimed at a wide audience. The goal is to construct a website that examines the evolution of historical images and the meaning of the state over time, paying particular attention to consumerism, the environment, tourism,

urban-rural contrasts, local food movements, and ways that race, class, and gender influence all of these.

StoryMap Assignment: Tell a story about change over time in the Burlington Lakeside neighborhood. It should have 5 or 6 entries, each one of which makes a particular observation that moves forward your narrative of change in the Lakeside neighborhood. As an alternative, you could focus on one map and highlight what that map reveals about the neighborhood at a particular moment in time. Students are given several maps ranging from 1890-1942 and some census forms from the early twentieth century. They are not expected to cover the entire 52-year period of the maps. Students are free to find and use other documents.

Additional Resources

- Recording of a DLINQ presentation on Mapping Across Disciplines: [view in Panopto](#).
- Additional resources, including overviews of a few sample lessons shared by Middlebury faculty, are included in the DLINQ presentation [slide deck](#), along with links to the various mapping tools highlighted in the presentation.





Concept Mapping

Concept maps are visualizations of knowledge that illustrate relationships between topics. They typically begin with a main idea, and then branch out to show how that main idea can be broken down into specific topics. Concept maps can help students develop abstract thinking skills, organize knowledge, make connections between topics, and communicate their understanding of a topic. Concept mapping can be done as an individual, small-group, or whole-class activity.

“At its core, [a concept map] is made of concepts that are connected together by lines (or arrows) that are labelled with the relationship between the concepts. The concepts are usually found in circles or boxes. Concept maps are a cross disciplinary active learning technique that help students manage concepts into sub-concepts, synthesize information, see a larger picture and develop higher-order thinking skills and strategies

(Lee et al, 2013). Concept maps can summarize a part of a book, connect historical events, describe how a business is run, develop a personal care plan or patient treatment, describe how the body works, or the interconnectedness of a wetland's ecology.” Tomaswick, L. and Marcinkiewicz, J. (2018). [Active Learning – Concept Maps](#). Kent State University Center for Teaching and Learning.

Prep Ahead

Select a concept or theme with which to start. This could be any concept that can be visually presented by illustrating relationships between the concept of focus and associated topics.

Ingredients

- Learning goal(s)
- Prompts/expectations for students
- A concept mapping tool
- Assessment and/or feedback strategy

Step by Step Instructions

1. **Identify your learning goal(s).** Some examples:

- Identify and visualize relationships between concepts
 - Explore the meaning and reach of a given concept
 - Communicate meaning through data visualization
 - Synthesize and integrate information and ideas
2. **Create a prompt/instructions for the activity.** Select a concept or theme with which to start. This could be any concept that can be visually presented by illustrating relationships between the concept of focus and associated topics. Sample prompt: Create a map that visualizes the concept of “ecology.” Your map should help illustrate relationships between the main concept and its associated topics. It’s ok to include short phrases in your concept map. Provide a brief written analysis (no more than one paragraph) to accompany your concept map that explains your thought process as you created the map, and that highlights key relationships illustrated by the map. What did you learn by creating this map? “Be sure students understand the expectations (purpose, variables, how to use linking phrases to show relationships between variables, direction of arrows, number of connections). Share an example of what the map might look like (something they are familiar with) and discuss what else might be added to them.” ([source](#))
3. **Choose a concept mapping tool.** Concept mapping tools can be as simple as a pencil and piece of paper (which students can then photograph to share online), or there are many online tools available. Here are three no-cost online options:
- [Canva](#)
 - [Free Mind](#)
 - [Mindomo](#) (free account is limited to 3 concept maps)

4. **Give feedback/assess.** Depending on your learning goals, there are different approaches you can take to assessing concept mapping projects. We recommend using concept maps as low- or no-stakes options for facilitating critical thinking and understanding around key course concepts. Rubrics are helpful to illustrate expectations about what all students should include in their maps, as well as what aspects of the map will be assessed. You may want to also incorporate peer feedback as part of the learning process, particularly if the project timeline allows enough time for students to be able to incorporate any peer feedback into their final submission. Items that both you and any peer reviewers might assess / provide feedback on include:

- General design (well organized, easy to follow, facilitates understanding of the concept, illustrates relationships between topics)
- Text summary, if required, is present and meets expectations outlined in the project guidelines
- Added visuals or media, if required, are present, sources are identified, and visual/media are clearly connected to the topic at hand and facilitate understanding of that topic

EXAMPLE

As illustrated by the example below, instructors can have students revisit a concept map several times over the course of a semester, and ask them to make revisions to the map based on new understandings or connections they may have formed.

[Formative Assessment Using Concept Mapping: A Geoscience Application](#)

At the beginning of an Introductory Meteorology unit on Moisture in the Atmosphere, the instructor passes out copies of a [concept map](#) (Acrobat PDF 450kB May 2 05) to students. The major concepts are identified, but detail is missing. As the unit progresses the instructor asks students to add to the original concept map. For example, the students could add:

- the types of reservoirs that occur on land
- different types of precipitation
- additional mechanisms such as transpiration

As the unit progresses, students continue to see the major concepts repeatedly, and the instructor can track student understandings of the relationships of parts to the whole (or misconceptions) as they arise by collecting and reviewing the concept maps.

Additional Resources

- [Concept Mapping in the Classroom](#), by Kathy Schrock (includes an extensive list of concept mapping tools, as well as samples of different types of concept maps)
- Tomaswick, L. and Marcinkiewicz, J. (2018). [Active Learning – Concept Maps](#). Kent State University Center for Teaching and Learning.
- [Tools for Formative Assessment: Concept Mapping](#) (University of North Texas Health Sciences Center)
- Chan C. (2009). [Concept Map Assessment](#). University of Hong Kong.

- [The Ultimate Guide to Concept Maps: From Its Origin to Concept Map Best Practices](#), from Amanda Athuraliya on Creately

6. Games

Recipes in this chapter

- [Trivia Games](#)
- [Digital Escape Rooms](#)

Chapter Intro

We think of games as being fun and playful, and using games (or gamified elements) in the classroom has been shown to be linked to increased engagement and motivation to learn. Students can use games to learn or review knowledge and skills, and immersive games can provide a context for applying skills and knowledge (see for example, [Virtual escape room helps nursing students learn clinical skills](#)).





Trivia Games

Trivia games provide a way to [gamify](#) course content, providing a fun, low-stakes way for students to learn together while reviewing key skills or knowledge.

Don't forget that you can have students create the game as well! Students will have to review facts in order to create a game, and the game can be shared with other students or the whole class for further review. You could have students create and swap trivia games.

Prep Ahead

Decide on the style of trivia game you want to play, as this will shape the resources that you'll need to pull it off. For example, if you plan to create a Jeopardy-style game for students to use for individual

review, you'll need to create, or find and modify, a Jeopardy-style game board.

Ingredients

- Learning goal(s)
- Prompts/expectations for students
- A trivia game template or tool
- Assessment and/or feedback strategy

Step by Step Instructions

1. **Identify your learning goals.** Some examples:
 - Students will use game to review course topics with the goal of achieving 100% correct responses.
 - Students will create a review game for their classmates on a course topic, with accurate questions and responses.
2. **Create a prompt/instructions.** Your instructions will depend a bit on the exact game that you are playing, and how game play is configured (the size of groups, the number of rounds, any specific rules for turn taking, etc.). Make sure to let students know ahead of time any details of game play, as well as whether and how the game will be assessed.
3. **Identify a tool.** There are lots of options for creating trivia games. Here are a few:
 - Jeopardy game using Google Slides template – can be

used for individual review; students can create Jeopardy boards for other students to use. To get started, copy and modify this [Jeopardy Google Slides template](#).

- [Kahoot](#) – a website that allows you to create a limited number of free trivia games. (There are lots of sites like this one; we do caution you to consider student data privacy when using free websites. Find out, what info does it require you to share in order to use the site?).
 - H5P – a tool that allows you to create interactive content including review games and quizzes, that you can embed in Canvas or a website. Learn more about the [types of interactive content](#) you can create, and use [Middlebury’s free H5P sandbox](#) to create your own content.
4. **Give feedback/assess.** We recommend using trivia games as low- or no-stakes options for reviewing course content. Many games will provide immediate feedback regarding correct responses either through the game interface, or in the course of game play.

EXAMPLE

In this activity, we created a [Jeopardy!-style game about Middlebury](#) by modifying a [free Google Slides template](#). You can use the template to create a Jeopardy!-style game using your course content – or, have students create the game. Asking students to create the game provides two opportunities for review; students will have to review facts in order to create a

game, and the game can then be played by groups of students or the whole class.

There are lots of ways to play. To play asynchronously, you would likely want to use a Microsoft or Google Form (or another survey or form tool) or a Canvas quiz, rather than Google Slides. You could have students work through answering questions either solo or in teams. If they are working in teams, you could have each team member be responsible for submitting responses for one category (e.g., on the Middlebury game, General Facts, Famous Alums, In the News, etc.) or for one dollar or point level (e.g., \$100 questions, \$200 questions, etc.). Students or teams could compete against each other to see who could garner the highest number of correct answers.

Additional Resources

- [Using a Jeopardy!-style Review Game for Content Review](#) (from the Middlebury Teaching & Learning Knowledge Base)





Digital Escape Rooms

A digital escape room is a type of immersive online game that is typically played by a team of students, working together to solve a series of puzzles in a fixed amount of time in order to escape from a situation or unlock the answer to a larger mystery. You can have multiple teams of students competing against each other, or just have each of the teams compete against the clock. The topic of an escape room and its associated puzzles can be focused on any discipline, or group of disciplines. There are [different approaches](#) you can use to design your escape room, including: linear, nonlinear, mixed linear and nonlinear, red herring, and scavenger hunt.

Some of the skills that students engage in when working with escape rooms include:

- Practicing skills and reinforcing foundational

knowledge

- Problem solving / critical thinking
- Team building
- Working within time constraints

You can also ask students to design their own escape room as a learning exercise!

Prep Ahead

Decide on the learning objectives, topic, and storyline for the escape room. Then plan out a series of three to five puzzles that students will need to solve to move through the escape room. These puzzles should engage students in skill practice related to the learning objectives and topic.

You will also need to determine the amount of time that students will have to solve each puzzle and complete the overall escape. The time allotment could be as short or long as you feel is realistic for the tasks and puzzles involved. Synchronous escape rooms will likely work better using shorter time spans, with a max of about an hour total, while asynchronous escape rooms could be stretched over longer time spans, even days or weeks.

Ingredients

- Learning goal(s)
- A creative storyline with three to five problems to solve along the way

- Prompts/expectations for students
- An online platform or tools
- Assessment and/or feedback strategy

Step by Step Instructions

1. **Identify your learning goals.** Some examples:
 - Students will use the escape room to review course topics with the goal of achieving 100% correct responses.
 - Students will create an escape room for their classmates on a course topic, with accurate questions and responses.
2. **Create a storyline.** Be creative and have fun with the storyline. Tie it to a real-world setting and add in a dash of urgency. Let students know why it's important they solve the clues and escape the situation within the timeline you devise.
3. **Create three to five (or more) individual problems to solve along the way.** These problems need to be able to be assessed in an automated way, so that when students input the correct response, the next clue is revealed to them (and eventually, so they escape the situation!). Therefore, the answers or responses to the clues you provide will need to be standardized. For example, a number, exact text, matching, an image hotspot, a formula, GPS coordinates, ordering items in a list, etc.
4. **Determine the amount of time that students will have to solve each clue.** Total these together to determine how

much time they'll have overall to escape.

5. **Identify an online platform or tool to build the escape room.** There are many options for creating digital escape rooms. Two platforms that work well for digital escape rooms that are available for free to Middlebury faculty, students, and staff are:
 - Canvas
 - Google Forms
6. **Build the escape room using your tool or platform of choice.**
7. **Give feedback/assess.** Make sure to let students know ahead of time any details of game play, as well as whether and how the game will be assessed. We recommend using escape rooms as low- or no-stakes options for reviewing or practicing course content. Escape rooms will provide immediate automated feedback regarding correct responses either through the game interface, or in the course of game play.

EXAMPLES

[Island Escape Room Using Canvas](#)

You wake up and discover you are trapped on a remote tropical island with a handful of colleagues. You don't know where you are or how you got there.

The tide is coming in fast. Your colleague from the oceanography department calculates that the island will

be completely submerged underwater once peak high tide is reached.

You find a message in a bottle under a tree. It says there is a secret treehouse with a stash of food hidden on the island. The message contains a series of clues as to where you can find them.

You must work together to quickly locate the treehouse, so that you and your colleagues can climb to safety.

[Poetry Breakout Room Using Google Forms](#)

You are Langston Hughes in Harlem in May 1936. You receive an urgent telegram telling you Esquire Magazine has made a mistake. They are going to publish Let America Be America Again as an anonymous poem rather than crediting you! You need to call the publisher to get this fixed. Esquire's phone number is in your friend's journal, which is in his lock box...which has four locks! You better break open the box soon because Esquire's July edition goes to print in 45 minutes! If not, you will lose credit for a classic poem!

Additional Resources

- [How to Build a Digital Escape Room Using Google Forms](#)
- [Mapping Your Digital Escape Room](#)
- [FSCJ Library resource on creating digital escape rooms](#)
- [Creating and planning a digital escape room and breakout for your class](#)
- [Resources for Creating Digital Breakouts: Ideas for making](#)

[your own activities](#)

7. Simulations & Labs

Recipes in this chapter

- [Choose Your Own Pathway Simulation](#)
- [List of Virtual Lab and Simulation Resources](#)

Chapter Intro

Simulations and labs can present a special challenge in online spaces. There are many technologies that can aid in the delivery of this type of content, however, ranging from 360-degree cameras, to software that allows students to “choose their own pathway,” to hands-on, at-home lab kits. Below are a few considerations to keep in mind when designing simulations and labs for online spaces, along with resources for different types of virtual lab and simulation activities.

- **Identify which of your lab activities can be delivered online.** For example, orientation/pre-lectures and demonstrations of techniques can be recorded in Panopto and delivered in Canvas. Students can be asked to familiarize themselves with procedures. Peer learning can be done asynchronously with Canvas discussion forums or using GoReact, or synchronously via Zoom or GoReact.
- **Provide students with raw data to analyze.** If your course

involves data collection and analysis, consider walking students through/demonstrating the data collection yourself. You can then provide students with data to analyze; ask them to collect their own data; or have them use external data available online. Middlebury resources for data and for questions about data include:

- [MiddData](#)
 - [META Lab](#) (data analytics and research lab at the Middlebury Institute)
 - [Middlebury Library Maps & GIS Research Guide](#)
 - Middlebury also has a Data Services Librarian, [Ryan Clement](#), who is a great resource for all things data!
-
- **Identify needs for access to software.** Identify which software your students might currently only have access to on campus-based computers (as opposed to their personal computers), and provide this info to ITS by filling out [this short form](#). ITS can work with you on software licensing or possible alternatives.

 - **Capture and edit custom media for simulations.**
 - For help with capturing and editing media, you can reach out to [Middlebury's Media Services team](#).
 - The [Office of Digital Learning & Inquiry](#) (DLINQ) may be able to help with some media questions as well, and with training faculty, staff, and students to work with editing software on their own.
 - You may be able to find stock media that suits your needs. [This DLINQ-generated list](#) provides some options of places to find cost-free media.

 - **Investigate virtual lab and simulation options.** You may be able to accomplish some lab activities via online simulation or using lab kits designed for at-home use. You can create simulations using a variety of Middlebury tools and platforms,

including Canvas, Panopto, PowerPoint, H5P, and Microsoft Forms. See the [resource list](#) in this chapter for suggestions on external sources for virtual lab and simulation options.



Choose Your Own Pathway Simulation

A simulation activity that guides students through a real-world scenario in which they are the decision maker and are presented with different outcomes based on the decisions they choose. Simulation can provide context-rich experiential learning in a controlled environment. The scenario can be designed using text-only, video, audio-only, imagery (360-degree imagery can help immerse students in the setting), interactive maps, or a combination of multiple media.

Ingredients

- Learning goal(s)
- A real-world scenario with branched decision-points that lead to different outcomes
- Video, audio, images, and/or other media that help convey how the situation would appear in real life
- Prompts/expectations for students
- An online platform to deliver the simulation
- Assessment and/or feedback strategy

Step by Step Instructions

1. **Identify your learning goals.** Some examples:
 - Students will use the simulation to review course topics with the goal of understanding consequences to different decision paths within the context of a real-world scenario.
 - Students will engage in skill-building and decision-making in a real-world context.
2. **Design a real-world scenario.** Let students know whether there is a time limit or time considerations to keep in mind (for example, it's a medical situation and there is limited time to save someone's life).
3. **Determine decision-making points throughout the scenario that will lead students to different outcomes based on the decision they choose.** These decision-points should be (1) realistic decisions they might encounter in real life, and (2) able to be addressed in an automated way, so that when students input a response, the immediate

outcome of their decision is revealed to them and presents them with feedback and/or outcomes. Answers or responses to the decision-points you provide will need to be standardized. For example, a multiple choice response, a number, exact text, matching, an image hotspot to click, a formula, GPS coordinates, ordering items in a list, etc.

4. **Determine if you want or need to set a time limit** for the simulation activity.

5. **Identify an online platform or tool.** There are many options for creating virtual simulations, which often involve multiple tools for initial setup. Several platforms and tools to consider that are available for free to Middlebury faculty, students, and staff are:
 - Canvas
 - Microsoft Forms
 - Panopto
 - PowerPoint
 - H5P

6. **Build the virtual simulation using your tool(s) and platform of choice.**

7. **Give feedback/assess.** Make sure to let students know ahead of time details of how the platform, tools, and simulation work, as well as whether and how the simulation will be assessed. We recommend using simulations as low- or no-stakes options for reviewing or practicing course content. Simulations can provide an immersive real-world experience and immediate automated feedback.

EXAMPLE

See the [EM Sim Cases](#) and [Simtech](#) websites for collections of donated medical text scenarios available for free use or to modify. Both sites also include scenario templates and other simulation resources.

The Simtech site includes medical media resources that are free to use along with templates, debriefing tools, and media release forms. Below is one example of a scenario shared on Simtech.

Trauma Simulation Scenario Synopsis ([view full scenario details](#))

Case Title: Propeller head – Hit by motorboat

Case Summary: A 27 year old male is swimming to Wolf Island and is struck by a boat

Target Learners: EM group

The patient is otherwise healthy but he has suffered a LARGE laceration to the back of his head and right leg. He has also swallowed water and will be hypoxic.

Learning Objectives

Knowledge

- Reinforce/introduce a systematic (ABC) approach to the trauma patient.
- Review the adjuncts to the trauma survey and their timing.

Skills

- Rapid primary survey with re-evaluation of

ABCs at regular intervals. Focused secondary survey and appropriate use of adjuncts.

Behavior:

- Effective trauma team leadership in a critically injured patient.

Additional Resources

The [EM Sim Cases](#) and [Simtech](#) websites share collections of medical text scenarios available for free use or to modify. Both sites also include scenario templates, media assets, and other simulation resources. While these materials are geared at medical scenarios, other disciplines may find them helpful in planning out their virtual scenarios as well.



Virtual Lab and Simulation Resources

[Virtual Labs and Simulations Open Educational Resources](#)

A collection of labs and simulations that faculty can use in the remote learning context. This list is curated by the Arthur Lakes Library at the Colorado School of Mines.

[Journal of Visualized Experiments](#)

A collection of science lab demo videos for various levels and disciplines including biology, neuro, and psych.

[MERLOT Simulation Collection](#) (California State University)

The MERLOT collection of Open Educational Resources includes thousands of free simulations on a broad range of topics. The database is searchable by keyword, and each item in the collection provides details including material type, authorship, brief description, peer review rating, and user rating.

[#OnlineLabSci](#)

Curated list of online lab lessons and resources

[ChemCollective](#) (joint project from NSF, Carnegie Mellon, and NSDL)

Free, online chem lab simulations for topics including Stoichiometry, Thermochemistry, Equilibrium, Acid-Base Chemistry, Solubility, Oxidation/Reduction and Electrochemistry, Analytical Chemistry/Lab Techniques

[MIT Open Courseware Digital Lab Techniques Manual Videos](#)

Free videos from [MIT's Digital Lab Techniques Manual](#) Description for the web site: "The "Digital Lab Techniques Manual" is a series of videos designed to help you prepare for your chemistry laboratory class. Each video provides a detailed demonstration of a common laboratory technique, as well as helpful tips and information. These videos are meant to supplement, and not replace, your lab manual and assigned reading. In fact, you will most benefit from watching the videos if you have already read the appropriate background information. To be a great experimentalist, you must understand both theory and technique!"

[PhET Interactive Simulations](#) (University of Colorado – Boulder)

Free online simulations and teaching activities for Physics, Chemistry, Math, Earth Science, and Biology (site has simulations for all grade levels; link takes you to simulations designed for university students)

[LabXchange](#)

Brings together high-quality content from a variety of sources in the form of online learning assets, including videos, assessments, and simulations. Uses a re-engineered Open edX platform giving users the flexibility to search, select, and insert these assets into their own customized learning pathways.

[eScienceLabs](#)

Fee-based service that will work with faculty to create custom online and hands-on lab kits for your course

[Hands-On Labs](#)

Fee-based service that will work with faculty to create custom online and hands-on lab kits for your course

[Crowd-sourced Lab/Simulation Resources](#)

Extensive, collectively sourced spreadsheet of resources, organized by discipline

8. Writing

Recipes in this chapter

- [Reflective Journals](#)

Chapter Intro

Writing activities provide a way for students to work through ideas, reflect on their learning, share what they've learned, and interact with their instructor and their peers. The recipes in this chapter provide ideas for low stakes writing activities that can be used regularly throughout the semester. If you'd like to dive deeper into ideas for teaching writing online, please [check out this blog post](#) from DLINQ.



Reflective Journals

A reflective journal is a digital writing space in the form of a document where students can reflect in writing on their own learning. Reflective journals can be used in courses in an ongoing way by providing a continuous space where students can jot down observations, ideas, and analyses about their own learning process as the course progresses. Reflective journals can provide useful documentation of growth for students, and can also help inspire ideas for larger projects or assignments. Reflective journal assignments can be integrated in Canvas using Google docs with a feature called “Collaborations” and can be shared with the teacher and/or with other students depending on the desired audience. Teachers can assign students to add reflections – or entries – to their journal on a regular basis throughout the term.

Prep Ahead

Create and share a clear prompt with students for each entry in the reflective journal, and make sure they understand the purpose of the reflective writing assignments in your course.

Ingredients

- Explanation of the purpose of the reflective journal
- Learning goal(s)
- Prompts/expectations for students for each entry
- Assessment and/or feedback strategy

Step by Step Instructions

1. **Identify your learning goal(s).** Do you want students to reflect in writing in order to:
 - Better-understand their own learning processes?
 - Map the ways their learning changes and develops over time?
 - Further develop their thinking and ideas for larger projects?
 - Connect and support a learning community by sharing feedback with peers and/or the teacher?
2. **Create a prompt for the journal entry.** Sample prompts:
 - Reflect on your learning process during this past week in our course. What challenged your thinking? What frustrated you? What were some “aha” moments you experienced? How would you like to explore your ideas further next week?
 - What is an idea that struck your imagination this week or that troubled you in some way? How might you dig deeper so as to uncover what captured your attention about it?
 - What worked and did not work for you this week? Why?

3. **Choose a tool.** Choose your tool for creating reflective journals based on how you are conducting your course and how you want students to make use of their journals.
 - Are you teaching with Canvas? Then consider integrating Google docs using the “Collaborations” feature (see link below). You can also create a shared Google Drive folder using Course Hub and add a link to that folder using Canvas.
 - Are you sharing content using Google drive or OneDrive separately from Canvas? You could simply create a shared folder using Course Hub and ask students to add their reflective journal documents there.
 - Are you teaching with a shared website created with a web authoring tool such as WordPress? Consider adding students as authors and asking them to publish posts. Note: this option would require students comfort with sharing their reflections publicly on the open web.

4. **Give feedback/assess.**
 - Given that reflecting in writing can make some students feel vulnerable due to the potentially private nature of their entries (depending on what prompt you choose), be sure to honor student voice by ensuring they understand you approach their work with compassion and care first and foremost. Leave constructive criticism, if any, for the very end.
 - In general, since reflective journals are a space where students are analyzing their own experiences, the instructor has the opportunity to focus more on receiving and responding to ideas and less on providing objective assessment of student work.

- Rather than inserting many comments throughout entries, which can be overwhelming, keep your comments to the very end. Ask questions to help prompt students to share more information and deepen their thinking. Avoid evaluating entries and instead focus on using them to start conversations.
- If your prompt asks students to share anything personal, lead by example and offer a personal example from your own context in your feedback.

EXAMPLE

Middlebury Professor Louisa Stein had students work on reflective journals for her [Remix Culture](#) course, occasionally asking them to share out pieces of their writing with classmates or with her. Louisa developed a WordPress site using Middcreate, which she used as a base for the course, but she allowed students to choose their own platform for their reflective writing, including using pen and paper, if preferred.

Over the course of the semester, you'll be keeping a reflective journal – that is, a place where you record quotes from the reading that you find especially striking, responses, reflections, queries, examples, counterexamples, etc. This can also be a space where you write initial reflections and self assessments on your own work over the course of the semester. Sometimes during our class zoom sections, I may ask you to brainstorm thoughts or jot down responses to videos in your journal.

Your reflective journal could be in the form of an

analogue notebook or a google doc, whatever you prefer. On occasion you might share aspects of your reflective journal with fellow classmates during class discussions, or with me during individual conferences, but this reflective journal is predominantly for you—it's meant to be a personal reflective space. The work you do within can then serve as a resource for the rest of your work in the class.

Additional Resources

- [Examples of Reflective Writing Assignments](#), University of New South Wales
- [Reflective Writing Example: Nursing](#) (PDF)
- [What are Canvas Collaborations?](#)
- [Create a Blog Site Using Middcreate](#)
- [Create a Shared Google or Microsoft SharePoint \(O365\) Folder through Course Hub](#)

9. Presentations

Recipes in this chapter

- [Community-building Presentations](#)
- [Informative or Persuasive Presentations](#)

Chapter Intro

Asynchronous presentations often involve students recording themselves giving a talk of some kind. Students may also choose to display Powerpoint slides, audio/video files, or other multimedia as part of their presentations. Depending on the learning goals, students may submit their presentations to the instructor, to a small group of classmates, or to the entire class. You may also want students to watch each other's presentations and provide feedback.





Community-building Presentations

Community building presentations are often short, informal exercises designed for students to learn more about each other and about you. These presentations can help build trust, humanize the learning environment, and encourage participation.

Prep Ahead

Decide how you would like students to record their presentations and where they should submit their presentations to. Create a prompt that is culturally responsive and sensitive to different experiences and identities. Share the prompt with your students.

Ingredients

- Learning goal(s)
- Prompts/expectations for students
- Preferred presentation tool
- A place for students to upload and view others' presentations
- Assessment and/or feedback strategy

Step by Step Instructions

1. **Identify your learning goals.** Do you want students to give presentations in order to:

- Introduce themselves to you and their classmates
- Build community by sharing information about their hobbies, interests, backgrounds, etc.
- Share why they are interested in the course and their experience with the content or area of study
- Engage in low stakes conversations to promote participation

2. **Create a prompt/instructions for the activity**

- Sample Prompt using FlipGrid: Please introduce yourself to your classmates by sharing a short video that lets us know your name, your academic major, where you're local to (this might not necessarily be where you're from) and a couple of your hobbies or interests. You can record an original video or upload a file from your computer. If you don't feel comfortable sharing a video of yourself, feel free to upload a video that illustrates your hobbies or where you're local to. You can also just record your voice, using the "mic

only” option. You have up to 5 minutes of recording time.

3. **Choose a recording tool** and a location for students to upload and view videos.

- [Flipgrid](#)
 - Integrated into Canvas
 - Good for short videos that don't require editing
 - Popular choice for community building exercises
- [Canvas built-in video recorder](#) – If you're using Canvas already, having students submit through Canvas would maintain consistency and keep materials in one place. You might consider having students post their presentations to a Canvas discussion forum and asking them to comment on each other's work. You could also create a Canvas assignment and ask students to submit their presentations that way.
- For short informal presentations, you may opt to allow students to use applications such as iMovie, Quicktime, or the video recorder on their cell phones. These tools are often pre-installed on computers and phones and your students may already be familiar with them. To share with others, the videos will need to be uploaded to Google Drive or another shared space. [More information on video recording and editing tools.](#)

4. **Give feedback/assess**

- If presentations are a major component of your course, it can be helpful to start with shorter, low stakes presentations (such as a short FlipGrid introduction) before working up to longer presentations that involve sharing slides, making an

argument, or analyzing materials.

- It's important that students know what their presentations will be assessed on. Are you interested in their presentation abilities? Their content? Their analysis? How long do you expect presentations to be and should students spend a certain amount of time on different components of their presentations? A rubric can be helpful both for you and your students so that expectations are clear.
- If you expect students to watch and respond to others' presentations, you might want to model what a successful response looks like. Don't forget to specify how many presentations students should watch or respond to. If you have a larger class, you might consider breaking students into smaller groups to present so they don't spend an inordinate amount of time watching presentations.
- Any graded assessment should connect back to your learning goals and specific instructions.

EXAMPLE

This [Classroom Introductions](#) activity was shared by Middlebury instructor Michele Dubé in the Middlebury Teaching & Learning Knowledge Base.

Assign students to record a brief self-introduction using FlipGrid (or the Canvas media tool) for the first week of class. The instructor should also do the same. The assignment acts as an icebreaker and can help to build a sense of community in the classroom. This idea was used for the online General Chemistry Laboratory

course during Fall 2020. About 30 minutes of prep time is needed to link the FlipGrid app to the Canvas course and create the assignment. Students were given 90 seconds to record their intro videos, which addressed specific talking points.



Informative or Persuasive Presentations

Informative or persuasive presentations are often more formal and require students to synthesize and analyze information. Visual aids such as slides or other multimedia are often helpful in these types of presentations.

Prep Ahead

Decide how you would like students to record their presentations and where they should submit their presentations to. Create and share a prompt with your students.

Ingredients

- Learning goal(s)
- Prompts/expectations for students
- Preferred presentation tool
- A place for students to upload and view others' presentations
- Assessment and/or feedback strategy

Step by Step Instructions

1. **Identify your learning goals.** Do you want students to give presentations in order to:
 - Develop oral communication skills
 - Synthesize and analyze information
 - Improve listening skills
 - Develop multimedia skills
 - Practice giving feedback
2. **Create a prompt/instructions for the activity**
 - Sample Prompt: Prior to submitting your final design product, you will record a presentation in order to solicit feedback from your classmates and fine-tune your product before it is due. In your presentation,

please discuss the problem your product attempts to solve, your target audience, what resources you need to design the product (material, personnel, etc.) and any questions or potential pitfalls you foresee. Presentations should be approximately 10 minutes and should be recorded using Panopto. Visual aids such as slides or other multimedia are strongly encouraged. After recording your presentation, please upload it to the Canvas discussion board labeled “Product Presentations.” Please watch your classmates’ presentations and respond to any questions they pose. You may also offer your own suggestions, particularly if you perceive any gaps or shortcomings in the product design or implementation.

3. **Choose a recording tool** and a location for students to upload and view videos.
 - [Panopto](#)
 - Integrated into Canvas
 - Good for videos that don’t require much editing
 - Popular choice for presenting slides or other materials
 - [Zoom](#)
 - Students are likely to be familiar with the tool already
 - Works for presenting slides or other materials
 - If you need to edit the video, you’ll have to do so using a different tool (i.e., Panopto or Rush).
 - [Adobe Rush](#)
 - Suite of entry-level editing tools

- Available for free on Middlebury-owned computers
- Higher learning curve. Recommended only if presentations will require editing.
- Videos will need to be uploaded to Google Drive, One Drive, or another shared space for viewing.

4. Give feedback/assess

- If presentations are a major component of your course, it can be helpful to start with shorter, low stakes presentations (such as a short FlipGrid introduction) before working up to longer presentations that involve sharing slides, making an argument, or analyzing materials.
- It's important that students know what their presentations will be assessed on. Are you interested in their presentation abilities? Their content? Their analysis? How long do you expect presentations to be and should students spend a certain amount of time on different components of their presentations? A rubric can be helpful both for you and your students so that expectations are clear.
- If you expect students to watch and respond to others' presentations, you might want to model what a successful response looks like. Don't forget to specify how many presentations students should watch or respond to. If you have a larger class, you might consider breaking students into smaller groups to present so they don't spend an inordinate amount of time watching presentations.
- Any graded assessment should connect back to your learning goals and specific instructions.

EXAMPLE

Middlebury Professor Kristina Sargent shared this post on [Progressive Presenting: Building Presentation Skills Over Time](#) in the Middlebury Teaching & Learning Knowledge Base.

One of my main goals in my courses is to prepare students to be better at presenting information to a particular audience.... I find our majors often lack experience in verbal presentations of the sort I do all the time professionally, and my friends out of academia do more than they ever would have imagined. This particular idea is geared toward a senior seminar course ... but I could easily see this modified for different class sizes and levels.

Students make 4 presentations over the course of the semester beginning with relaying basic information, and culminating in sharing and constructively critiquing their own, new research. Starting with low stakes and short presentations and then progressively escalating to higher stakes presentations allows students to get feedback on their presentation skills and then to respond to feedback and hone their abilities. They build community and trust, and learn what it means to be a “good” presenter as well as audience member. [Read Kristina’s step by step instructions on how she structures this activity.](#)

10. Class Climate

Recipes in this chapter

- [Activity Zero](#)
- [CATs \(Classroom Assessment Techniques\)](#)

Chapter Intro

Classroom dynamics often privilege the students for whom educational experiences have typically been designed. Being attentive to class climate and inclusion/exclusion is an important part of providing a learning experience that benefits all of your learners. An inclusive class session is one in which all students feel that their contributions and participation are valued, that they have equitable opportunities to participate in and to benefit from the class session, and that the language and resources used in the class are respectful of all students.





Activity Zero

Activity Zero is a strategy for getting input, reflections, or ideas from students at the start of a new week/new module, or before a live class session takes place. It's a great way to hear from all students and to understand and build on the perspectives they share. Activity Zero can support your teaching presence and students' cognitive presence in the course, and it can help with developing your understanding of how students are doing so that you can address issues or opportunities related to class climate.

Prep Ahead

For each week or module of your course, consider what might make for a good Activity Zero. This should be a brief activity that students complete at the very start of the week or module and the results

of which can shape your teaching during the module. For example, you might ask students to respond to a question like “what is a take-away from last module/last week that you’d like to continue exploring in this module?” or “when looking at the topic for this week, what are you excited about and what are you concerned about?” You can ask students to share ideas for topics to dig deeper into or to connect to the week’s explorations, such as “We’ll be talking about social media this week. What social media might you want us to explore more deeply?”

Write down what each Activity Zero will be and how you will use the results in the subsequent module or week. Write instructions for each activity.

Ingredients

- Ideas for Activity Zeros
- An online tool to collect students’ responses (e.g., Google Forms)

Step by Step Instructions

1. **Identify your learning goal(s).** Some examples:
 - Encourage students to reflect on their learning
 - Foster connections between students’ experiences and their learning
2. **Set up the Activity Zero.**

An online form, such as a Google Form, works well for this, but you could also set up an ungraded activity

in Canvas. Create the form, add the questions, add some instructions, and create a link to the form (if using Google Forms, that link is created by clicking the Send button at the top of the page and clicking the Send via Link button).

Send form ×

Automatically collect respondent's Middlebury email

Send via ✉ 🔗 <> 📘 🐦

Link

<https://forms.gle/KoummT2gaiJcRXxP6>

Shorten URL Press ⌘+C to copy

Cancel Copy

- 3. Share Activity Zeros with students.** If you plan to post weekly/modular announcements with framing or contexts for the week, this would be a good place to include your analysis of the input students shared in Activity Zero. If the activity surfaces new issues or opportunities, you could record an video to address them.

EXAMPLE

We used an Activity Zero in a workshop about [Preparing to Teach Hyflex classes](#). We created a Google Form with three questions and sent the form to faculty who signed up for the workshop. At the start of the workshop, we shared some findings from Activity Zero to provide some context and to help attendees connect with what they and others shared.

Hyflex Pre-Workshop Activity

Please complete this short questionnaire before you attend the Hyflex workshop tomorrow.

Why did you decide to teach Hyflex this fall?

Long answer text

What challenges do you anticipate in teaching your Hyflex course this fall?

Long answer text

What questions do you have about teaching in this modality? Or, if you are not teaching Hyflex, what do you hope to learn during this workshop?

Long answer text

[A live version of this form is available here.](#)

Additional Resources

- Slides from DLINQ's [Preparing to Teach Hyflex Classes](#) workshop



CATs (Classroom Assessment Techniques)

Classroom Assessment Techniques (CATs) are a kind of formative assessment, that is, assessments that are designed to shape and improve student learning by providing them with a chance to reflect and receive feedback on their learning. CATs are typically brief activities that students complete, often at the end of a class session or module, to demonstrate their understanding of class topics and/or to reflect on their learning. CATs are not usually graded but they are submitted to the professor so that the professor can gain insights on what students are learning and where they are struggling to learn.

In online courses, we can incorporate CATs into weekly or modularly wrap-up work. Use CATs to help shape your feedback to students, as CATs might show you where students need support or redirection, what are they doing well, and what topics/conversations might need to be revisited in future modules/weeks. There are many technologies that can support CATs—such as forms, shared documents, collaborative whiteboards (such as Jamboard or Padlet), and more. Select the technology that best suits your goals for that week/module's CAT.

Prep Ahead

Research different kinds of CATs and select a few that you would like to try in your class and think about how you will use the results of CATs to shape your course and your interactions with students. You will also want to think about what technology(ies) will best support the CATs.

Ingredients

- Ideas for CATs you want to use
- Online tools to collect students' responses (e.g., Google Forms, Canvas assignment, Padlet)

Step by Step Instructions

1. **Identify your learning goal(s).** Some examples:
 - Encourage students to reflect on their learning
 - Provide feedback to students on their learning and/or on topics that are still challenging
2. **Identify what CAT you will use.** There are examples below and links in the Notes that direct you to additional examples of CATs.
3. **Identify the technology you'll need and set up your CAT.** Depending on your goals and selected CAT, there are several technologies that might be helpful. Consider whether you'll want to give feedback to students individually or as a group; this may also impact your tool

selection (for example, if you want to give feedback individually, you'll want to choose a tool that will allow you to identify students and what they submitted).

4. **Assign the CAT and provide clear instructions and information about its purpose.** Help students to understand that this is not busy work; it's a formative assessment that will help them and you adjust teaching and learning strategies. Let them know what they can expect from you in terms of feedback.
5. **Provide feedback on the CAT.** You may provide this feedback individually or to the full class, depending on how you've structured the activity. Feedback is an important part of this process as students will need/want your feedback to adjust what they are doing.

EXAMPLES

Minute paper: Create an ungraded assignment in Canvas for students to share their minute papers. Instruct students to set a timer and write for one minute about what they learned that week.

Muddiest point: Create a collaborative whiteboard and add two labels "crystal clear" and "muddiest point." Ask students to add one virtual sticky note under each label, noting what is the most clear thing they've taken away from the module/week and what is still "muddy" (unclear/challenging/confusing) for them.

3-2-1: Create a Google Form that invites each student to share 3 ideas they have taken away from the week/module, 2 uses/applications/examples that speak to what they've learned, and 1 topic that is still muddy or uncertain.

Additional Resources

- [Classroom Assessment Techniques – University of Illinois Champagne-Urbana Center for Innovation in Teaching and Learning](#)
- [Classroom Assessment Techniques – Vanderbilt Center for Teaching](#)