



Center for Teaching and Learning: Teaching Tip



Backward Design: A Powerful Course Design Method with Guidelines

Note: Commonwealth University's Center for Teaching and Learning, the integrated name for the teaching centers on each campus, will be developing a single website during 2023. In the meantime, the Teaching Tips will be located at Bloomsburg's [TALE Website](#) (TALE is the Teaching and Learning Enhancement Center).

What is Backward Design?

Backward design is a process-oriented approach to designing and redesigning courses, topical units, and daily classes. Honestly, it's a sound approach to any project, not just teaching. As the name suggests, instructors begin at the end: what do you want your students to know, do, and/or value upon completing units or the course, and equally important why. Backward design has inspired higher education through two publications: Grant Wiggins and Jay McTighe's *Understanding by Design*, intended for K-12 teachers, and L. Dee Fink's *Creating Significant Learning Experiences*, intended for college-level instructors. Backward design is not simply commendable because of its logical process; it compels many of us to rethink our teaching and learning. In their collective wisdom, Wiggins, McTighe, and Fink challenge all faculty to go beyond content and ask ourselves, "what distinctive educational impact you would like your teaching and your course to have on your students?" (Fink) What will be memorable a year or more after the course is completed, even in general education classes? Our love of content and content mastery and our caring relationships with students are not enough. We must design our courses to create significant learning experiences. The Backward Design model that I advance here synthesizes the approaches taken by Wiggins, McTighe, and Fink:

Hyperlink to Stages 1-3:

Stage 1: Develop Desired Results
& Identify Situational Factors

Stage 2: Determine Formative
& Summative Assessment

Stage 3: Develop Student
Learning & Teaching Activities

Additional Hyperlinks:

Alignment; Syllabus and Course Calendar; Online Learning and Teaching (Stage 4); Hy-Flex or Multi-Modal; Online Synchronous; Online Asynchronous; Technology; Sources

Why Backward Design?

It is a powerful and logical approach to designing courses and making content choices. It is learner-centered, that is we make our choices about assignments and teaching to optimize student learning, not to cover content. After all, to cover something is to conceal (Wiggins and McTighe). We empower students to uncover content. We cannot achieve this goal simply by giving students information or concepts in a solely traditional lecture format; students must do the learning, using their brains. We must decide how our teaching can support student learning. To retain our focus on students, we must begin with our desired results: what impact do we want? How will we know our students got there? How do we get them there? By thinking about our students first, not the content, we avoid the temptation of taking the number of

chapters in a textbook, dividing them by the number of weeks in a semester, plug in a few assignments, quizzes, or exams, and call that the syllabus. Backward Design, a learner-centered strategy, “forces [us] into a conversation with [our] content.” (Christina Francis, English) What do we teach? Why? How do we make it relevant to students?

Underlying Assumptions of Backward Design

- Based on more than two decades of biological and psychological research on how learning occurs, Backward Design argues that learning is optimized under the following conditions:¹
- Leveraging positive emotions, through validation, increases the potential for student engagement.
- Intrinsic motivation is more impactful than extrinsic; if our courses or assignments fulfill student expectancies and their subjective values, their motivation will increase.
- Working memory has its limits, so we need to interleave practice and review content throughout the semester and throughout a program of study. If students don’t use it, they lose it.
- Writing-to-learn, i.e. informal writing assignments, creates opportunities to explore and practice the expression of ideas.
- Frequent, low-stakes quizzes require learners to retrieve information and discover what they do or do not know. You may quiz with this intent, but do your students know this is your motive or do they see it as a nuisance, or worse, punitive?
- Practice is essential to learning; it creates and deepens pathways between synapses. Once you learn to ride a bike you do not forget though you might get rusty.
- Hands-on or minds-on activities create opportunities for students to practice, to think, to uncover.
- Students cannot remember discrete facts without being able to know its larger significance or big idea; they need a road map, and we need to remind them of that in the process of teaching.
- Covering content, through lecture or video, does not ensure students have learned it unless they are required to use, apply, synthesize.
- Mass practice, that is cramming for an exam, may lead to positive results in the short run, but deceives students and faculty that learning has occurred. How many times has this dialogue run through your head: “I know we went over this. ... I remember you did well on this test.”
- Allowing a textbook to dictate course design, as Wiggins and McTighe note, “leaves students with inert phrases and an erroneous view of how arguable and hard-won knowledge has been. Rather, students need to experience what scholars know if they are to understand their work: how key facts and principles are the revealing and powerful fruit of pondering, testing, shaping, and rethinking of experience.”² Textbooks should not drive course content, and when adopted, they need to be integrated into teaching and learning activities, not made optional.
- Lectures, whether live or recorded, and videos have a place in backward-design courses, but they do not dominate or dictate. Lectures create foundations for higher-ordering thinking, provide context, help students when they struggle, create relevance for students, frame a topic or unit. The simple process of making notes does not lead to learning, it is how those notes are used by students to learn that has an impact. Even a lecture-based course can be made interactive with minds-on or hands-on challenges; in mass-enrolled courses, we should embrace the chaos and potential that not all students will be on task.
- Active or engaged learning techniques and strategies must be well-designed to promote learning and to achieve desired results. To learn, students must practice, that is to engage with the content by thinking about a problem, exploring an open-ended question, testing their comprehension, comparing views, debating, dialoguing, performing, practicing, and rehearsing. The best place for these hands-on, minds-on activities is the classroom with the support of faculty and classmates.

¹ If you want an abridged explanation of this research coupled with a discussion of small changes we can make in our teaching, I strongly recommend James Lang, *Small Teaching: Everyday Lesson from the Science of Learning* (2016).

² Grant Wiggins and Jay McTighe, *Understanding by Design* (Alexandria, VA: ASCD, 1998), 100.

- We will encounter student resistance. Our students may still believe that learning amounts to the professor transmitting knowledge. Or they may be reluctant to embrace the struggle that authentic learning entails. Therefore, we need to help them understand how teaching and learning activities and assessments are informed by the science of learning.
- Learning is socially collaborative, and knowledge is constructed through interaction with others. Subsequently, we might incorporate *ad hoc* small group work, and when appropriate team-based learning. “If I teach it or talk it through with others, I am more likely to remember it.”
- Making content relevant to students is essential to backward design and student learning. If we cannot persuasively answer the why, then students are more likely to disengage or be motivated by grades, not the desire to learn.
- Reflection, meta-cognition, and self-regulated learning should be employed to help students take responsibility for their learning.
- Never assume students know how to learn. To create equity in our classes, we need to make our teaching transparent and unpack our disciplinary standards of reading, writing, and research.

The ideas outlined above originate from many publications; BU’s Center for Teaching and Learning (formerly the TALE Center) has many books that you may consult. The most current list of books are located on our webpage. Email TALE@bloomu.edu to make inquiries and arrange to borrow.

Stage 1: Desired Results & Situational Factors

- Create learning goals, objectives, outcomes by developing “big ideas” and essential questions that are relevant and meaningful to students
- Identify and evaluate situational factors including class size, room resources, technology, student preparedness, nature of the subject, characteristics of learners and teacher that impact course design

Wiggins and McTighe recommend that we conceive of course outcomes as “big ideas,” then transform those “big ideas” into essential questions. These essential questions drive all of our decisions and enable us to make our course content relevant and meaningful to students. Judith Boettcher, instructional design consultant, notes, “when we develop and pose a question it opens space in our brain for the answers to that question.”³ For faculty designing courses, they may have many of the answers, yet questions create a touchpoint for ALL of our choices: writing student learning outcomes to making decisions about our daily teaching and learning activities. Boettcher suggests, “Review your courses and see where you can take the answers out and put the challenges [or questions] in.”⁴

Be aware that developing “big ideas” and essential questions might be surprisingly difficult to articulate. Every discipline has its own way of knowing, its unique vocabulary, writing styles, which we are so immersed in that we have forgotten what it’s like to be a novice learner in our field. What we do, how we do it, and most importantly, why may seem obvious to us, but our students need help appreciating the relevancy. (As a historian, I have taken years to develop the language to speak about my discipline of history to “outsiders.”) Whether we are designing a course for general education or for majors, we should engage in a “conversation with our content” by developing “big ideas” and transforming them into essential questions. If you teach a course in which the content is heavily prescribed, organizing that

³ Transcript, interview of Judith Boettcher by Bonni Stachowiak for ACUE, “Teaching Powerful Note-Taking Online,” AL2 Expert Insights, ACUE, EOFTP, accessed 3 January 2022.

⁴ Judith Boettcher, “Designing Online Experiences for Learners,” Episode 189, 25 January 2018, Teaching in Higher Ed Podcast, <https://teachinginhighered.com/podcast/designing-online-experiences-learners/>, accessed 5 May 2022

content around “big ideas” and developing essential questions is equally important; it’s an opportunity to explore the content from the perspective of a novice.

Defining features of “Big Ideas”

- Think of the “big ideas” that uncover disciplinary ways of knowing and have a lasting impact
- Anticipate areas of misunderstandings (break free from the “curse of knowledge”) and formulate “big ideas” to uncover
- Think about “creating significant learning experiences” that incorporates foundational knowledge, application, integration, human dimensions, caring, and learning how to learn (see L. Dee Fink’s work)
- Grant Wiggins and Jay McTighe provide defining features of “big ideas:”
 - “Provides a ‘conceptual lens’ for prioritizing content. ...Big Ideas reflect expert understanding and anchor the discourse, inquiries, discoveries, and arguments in a field of study.
 - “Serves as an organizer for connecting important facts, skills, and actions.... They connect discrete knowledge and skills to a larger intellectual frame and provide a bridge for linking specific facts and skills. ... helps students to see the purpose and relevance of content.
 - “Transfers to other contexts. Discrete facts do not transfer...a focus on the Big Ideas helps to manage information overload.
 - “Manifests itself in various ways within disciplines ... [as] a core concept..., a focusing theme..., an ongoing issue or debate..., a puzzling paradox..., an important process..., an authentic problem or persistent challenge..., an illuminating theory..., an underlying assumption... or differing perspectives [that might be revisited throughout the semester or program].
 - “Requires un-coverage because it is an abstraction.... Its meaning is not always obvious to students, and simply covering it will not ensure student understanding.... The idea must be uncovered – its meaning discovered, constructed or inferred by the learners, with the aid of the [professor] and well-designed learning experiences.”⁵

Here are some ways to think about the defining features of Essential Questions:

- Turn these big ideas into “provocative questions [that] will foster inquiry, understanding, and transferring of knowledge.”
- These essential questions provide a framework to introduce the course, units or modules, and daily topics or activities.
- Grant Wiggins and Jay McTighe offer the following criteria for essential questions:
 - “Have no simple ‘right’ answer; they are meant to be argued
 - Are designed to provoke and sustain student inquiry, while focusing learning and final performances
 - Often address the conceptual or philosophical foundations of a discipline
 - Raise other important questions
 - Naturally and appropriately recur
 - Stimulate vital, ongoing rethinking of big ideas, assumptions, and prior lessons”
- Grant Wiggins and Jay McTighe offer the following question prompts as a way of developing Essential Questions:
 - “Why study ____? So what?
 - What makes the study of ____ universal?
 - If the unit on ____ is a story, what’s the moral of the story?
 - What’s the ‘big idea’ implied in the skill or process of ____?
 - What larger concept, issue, or problem underlies ____?
 - What couldn’t we do if we didn’t understand ____?

⁵ Grant Wiggins and Jay McTighe, *Understanding by Design: Professional Development Workbook* (ASCD: Alexandria, VA, 2004), 69.

- o How is ____ used and applied in the larger world?
- o What is a real-world insight about ____?
- o What is the value of studying ____?"⁶

Share the “big ideas” and essential questions with students regularly. Include them in the syllabus and when you break down the questions into more discrete topics, include them in the course calendar. You can integrate them into your teaching and student learning in a variety of ways. Use essential questions to preview the next unit or daily topic and to demonstrate the relationship between units and the “big ideas” of the course. As a preview, encourage students to briefly consider how the upcoming coursework is going to help them answer essential questions. This can be done through ungraded, informal writing, small group discussion, discussion boards, etc. As a review, build formative or metacognitive assessments around the essential questions. In the first week of class, have students compose responses to the essential questions, then have them revisit their responses periodically during the semester, and in the end. Likewise, have students create and maintain a concept map that shows the relationship between the “big ideas,” essential questions, and daily topics and coursework.

Compose student learning objectives or outcomes

After we determine the big ideas and essential questions, we will translate them into statements with action or performance verbs. These verbs point us to ways to assess students and develop learning activities. For example, let’s consider this student learning objective (SLO) example for a personal health class:

Differentiate between infectious agents to **judge** the reliability of news reports in a pandemic.

There are two performance verbs found in this SLO: to **differentiate** is to analyze and to **judge** is to evaluate. What is more, relevancy is suggested by making sense of the news. In Stage 2 and 3 of Backward Design, we will consider how to assess and determine teaching and learning activities.

These performance verbs are found in Bloom’s Taxonomy or Anderson and Krathwohl’s revision. Alternatively, a more creative and nuanced approach to composing SLOs by L. Dee Fink Taxonomy of Significant Learning, this SLO would be relevant to Caring, Foundational Knowledge, and Application.⁷

To learn more about these taxonomies and writing SLOs consult Commonwealth University’s (CU) Center for Teaching and Learning (CTL) **Teaching Tip: Making Student Learning Outcomes Relevant and Transparent.**

With big ideas, essential questions, and SLOs composed, it becomes easier to clarify content priorities.

Clarify content priorities

If you find it difficult to articulate “big ideas” and essential questions because of the “curse of expert knowledge,” you may find it equally challenging, perhaps more so, to make decisions about content. Several working assumptions shape the content priority recommendations in the graphic below adapted from Wiggins and McTighe:

- not everything that we teach is learned
- there is more content to learn than can ever be taught

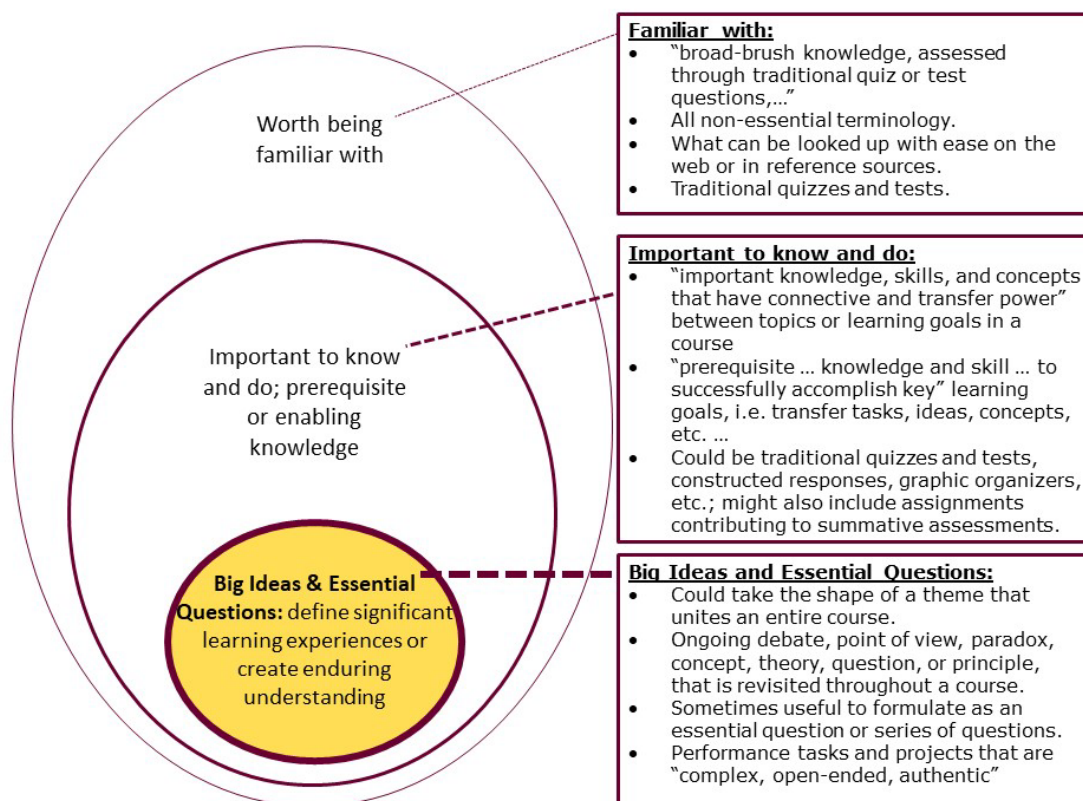
⁶ Wiggins and McTighe, *Professional Development Workbook*, 91, 83.

⁷ L. Dee Fink, *Creating Significant Learning Experiences* (2013), 89.

- to make learning stick, we must make it meaningful
- we cannot teach everything that students will need to know upon graduation
- we need to create life-long learners.

Remember, the appeal of Backward Design “forces us into a conversation with our content.” Stay focused on “big ideas,” essential questions, and SLOs.

In the graphic, note the distinctions made between “important to know and do” and “worth being familiar with.” To design backwards, is to create a foundation for higher-order thinking, it does not negate the importance of memorizing facts. Yet, those facts are more easily forgotten if learners do not see how they contribute to “big ideas” and essential questions and if we do not design a learner-centered teaching practice. Wiggins and McTighe maintain that the ultimate challenge for faculty is to make “the big ideas in the field become **big in the mind of the learner.**”⁸



In some courses and disciplines, considerable pressure is placed on faculty to cover content as a foundation for additional coursework. In these situations, the recommendation to prioritize content may strike you as impossible. All content is a priority or else you would not teach it. Yet, we know that students do not learn everything we teach. There is no simple solution to this challenge.

Here are some suggestions on how all faculty, contemplating course design, might approach the challenge of prioritizing which may mean letting go of some content. This list is far from comprehensive but points you in some directions for completing assessments (Stage 2) and learning and teaching activities (Stage 3).

- Review underlying assumptions of Backward Design above
- Make content relevant through “big ideas” and essential questions
- Preview and review routinely to make connections

⁸ Wiggins and McTighe, *Understanding by Design* (2005), 75.

- Develop learning activities and assignment that compels students to make connections (e.g. concept map)
- Invite upper-class students to speak to students in gateway courses
- Collect testimonials from seniors or alumni (video or written) in which they discuss their discoveries about how foundational courses are relevant to academic and career success
- Make students aware of how the science of learning informs your choices
- Assess prior knowledge to inform your choices and increase student awareness of their under-preparedness or loss of learning (consult Linda Nilson)
- Teach students how to learn (consult Sandra Yancy McGuire's work)
- Introduce more opportunities for practice and retrieval informed by the science of learning (consult James Lang, Daniel Brown, et al)
- Introduce self-regulated and metacognitive exercises that encourage students to reflect upon their learning and areas in need of improvement (consult the work of Linda Nilson and Sandra Yancy McGuire)
- Explore potential reasons for student resistance to learning, which we may interpret as laziness or worse a permanent deficit (consult the work of Anton Tolman)
- Explore the research on fixed and growth mindsets and how it impacts student confidence and how it influences our perceptions of student abilities and intelligence (consult the work of Carol Dweck)

In the long run, you may want to encourage a conversation among colleagues about how the program can deepen students' appreciation and awareness of relationships between courses. Some departments do this through a process called curriculum mapping.

Identify and evaluate situational factors

Situational factors shape the contexts in which we teach, and L. Dee Fink suggests this should be the first step in course design. They are important to consider, and so I suggest that we do so in Stage 1 of Backward Design. There are several categories to situational factors:

- "Specific Context of the Teaching and Learning Situation:" enrollment, course level, length and frequency of class meetings, modality
- "Expectations of External Groups:" accrediting bodies, program goals, societal expectations
- "Nature of the Subject:" convergent, divergent, relatively stable, physical or performative skills
- "Characteristics of the Learners:" prior knowledge, skills, attitudes, motives for taking the course, responsibilities outside of class
- "Characteristics of the Teacher:" expert or marginal familiarity with subject, experience taking a comparable course, first time teaching, confidence and competence in the subject matter⁹
- Modality: in-person (all students meeting together in the classroom or lab), synchronous online (all participants online at the same time), asynchronous online (participants complete work online at varying times), blended (all participants meet in person at times during the semester), and hy-flex or multi-modal (some participants are in person and others online in a simultaneous session led by the instructor)
- Technology: available classroom technology, software, apps, learning management system (LMS)

By identifying these situational factors and evaluating how they impact your course, you can make wise choices about how to design stages 2 and 3. It may also help you ponder your content priorities.

⁹ L. Dee Fink, *Creating Significant Learning Experiences*, p. 69-70 probably first edition.

Ideally, the modality should be determined by the course outcomes. However, it might also be determined by department needs, demands of integration, and anticipated student needs for flexibility. In some cases, in-person is the only option because online will not fulfill the course outcomes; students might need access to equipment or expensive software (e.g. science labs, statistics), collaborate in a physical space with classmates (e.g. art, theatre, dance), or practice skills (e.g. nursing, physical therapy). In those situations, in-person will be necessary, yet some aspects of the course could be taught online (e.g. lectures, videos, readings, discussions).

If your modality involves some online component, please note that technology should not drive your choices, rather your decisions should be based upon working through the three stages of Backward Design. Then, you make decisions about technology, applications, software, etc.

Stage 2: Assessment - Evidence Students Have Achieved Desired Results

Now it's time to determine how you will know that students have achieved desired results of either the course, unit, or daily lesson. There are two types of assessment, formative and summative. The summative (or performance) tasks may be a single project, a capstone, or it might be a series of significant assignments that prove levels of mastery. Formative assessments can be completed on the road to mastery.

Performance Tasks – Summative:

- Summative – graded final products to prove mastery, e.g. exams, projects, essays, portfolios, recitals, exhibitions
- What students do to prove they have achieved the desired results for the topic, unit, or course
- Authentic, real-world, valid, reliable assessments
- Clear criteria shared with students

Other Evidence – Formative:

- Formative – Feedback to students and professor while learning is in progress
- Feedback that creates opportunities for discovering strengths and areas for improvement
- Might include low stakes grades, credit for “good faith” effort, or no grade
- Clear criteria shared with students

The following questions and observations suggest factors to take into consideration when developing summative and formative assessments:

- ☐ What will you have students do to demonstrate that they “got it”?
- ☐ Will your assessments provide **valid, reliable** feedback to be confident that students have achieved the desired results? If you are asking students to defend an argument, then the final product should involve a defense, not a multiple-choice exam. See the Alignment example discussed in Stage3.
- ☐ Is your assessment “forward looking?” L. Dee Fink advocates for summative assessments that are realistic, that require judgment, synthesis, innovation, or simulates doing the subject, or creates real life contexts. When assessments possess these qualities, students are more likely to recognize the value and relevance in the work.
- ☐ Have you included formative assessments to allow students to practice, rehearse, refine, get better at low risk? When students are completing projects, the formative assessments can become scaffolds that build towards the final product.

- ☐ What will be your criteria to measure? To create equity in the classroom, we should share with students what mastery looks like. This can be accomplished by sharing and discussing samples of good work and outlining expectations through rubrics.
- ☐ Have you shared criteria with students? Sharing criteria might take the form of sharing and discussing expectations through rubrics and sample work, providing clearly defined assignment guidelines, and making time to discuss assignment guidelines. For further discussion, see the TILT (Transparency in Teaching and Learning) Framework.
- ☐ What will be graded? How will it be graded? For better or worse students are driven by grades, and it's important for them to know that grades are a letter or mathematical representation of a level of achievement and progress. If you want to move away from grades, you may want to explore the "ungrading" movement that is gaining some traction in higher education or Linda Nilson's work on specifications grading.
- ☐ Have you planned for timely, frequent feedback that is supportive and informed by criteria?
- ☐ Have you been transparent about the assessments, feedback procedures, and grading to uncover disciplinary expectations? Students may believe that grades are arbitrary and subjective (sometimes they are). Yet, we need to help students realize that we use them as a proxy to communicate disciplinary standards.
- ☐ Have you included opportunities for students to reflect upon their learning behaviors (e.g. metacognition and self-regulated learning)? Metacognition and self-regulated practice are sometimes used interchangeably. Metacognition is the process of thinking about one's thinking. Vanderbilt University's Center for Teaching describes, "More precisely, it refers to the processes used to plan, monitor, and assess one's understanding and performance. Metacognition includes a critical awareness of a) one's thinking and learning and b) oneself as a thinker and learner." Self-Regulated learning, as Linda Nilson describes, "is the conscious planning, monitoring, evaluation, and ultimately control of one's learning in order to maximize it. It's an ordered process that experts and seasoned learners like us practice automatically. It means being mindful, intentional, reflective, introspective, self-aware, self-controlled, and self-disciplined about learning, and it leads to becoming self-directed."¹⁰ Multiple techniques can be introduced into a course that encourage metacognitive and self-regulated practices: engagement surveys, cognitive wrappers, reflective writing, etc. They may or may not be graded.

You may already be able to respond affirmatively to the questions above. If so, that's fantastic. If not, you need to review your assessments to determine what needs to be revised and what kinds of assessment would better achieve your students' learning goals.

Stage 3: Determine your Student Learning and Teaching Activities

The goal of Stage 3 is to decide what students will need to do to learn (i.e. Student Learning Activities) and what you will need to do to get them there (Teaching Activities). Here, you will likely be in more familiar territory. Still, you need to review the activities to determine if they are aligned with the student learning outcomes. In addition, ask yourself if they are learner-centered. Make time to revise or refine your teaching practice to fulfill course goals and student learning. Finally, reflect upon situational factors that impact student learning and teaching activities: class size, room resources, technology, student preparedness, nature of the subject, characteristics of learners and teachers, modality, and technology.

¹⁰ Linda Nilson's book on self-regulated learning is a worthwhile read. This definition is from Linda Nilson, "The Secret of Self-Regulated Learning," *Faculty Focus*, 16 June 2014 <https://www.facultyfocus.com/articles/teaching-and-learning/secret-self-regulated-learning/> accessed 9 May 2022

Because the potential number of student learning and teaching activities is extensive, with entire books dedicated to practical teaching techniques, refer to the bibliography below as a starting point. In addition, most disciplinary organizations offer teaching resources. If you plan to revise, refine, or even overhaul your teaching practice, take incremental steps and create a toolbox of techniques that you can deploy.

In the remainder of this section, I outline what to consider. You should notice that I have not discussed teaching online. This is intentional. You should know if the course is being designed for a specific modality or in-person, but beyond those decisions any technology should be delayed until Stages 1-3 are complete. Linda Nilson and Ludwika Goodson, anticipating the critique that online classes lack quality, write, “Placing teaching and learning, rather than the technology at the center of online courses could shift faculty expectations and raise the status and value that faculty accord to online teaching.”¹¹ Most of the activities discussed below are adaptable to online modalities.

Student learning activities

- **What will students do outside of class?** Many possibilities: read, write, work in groups, complete homework, screen videos, study lectures, review lecture notes, practice skills, practice quizzes, conduct experiments, make notes, journaling, reflection, create, prepare for engaged learning to occur in class, etc.
- **What will students do inside of class?** There are a variety of active learning strategies that students may engage in during class: actively listen to lectures, observe demonstrations, or watch a video, debate, discussion, jigsaw activity, small group work, games, simulations, reenactments, role play, conduct experiments, perform, present and critique. Whatever the activities, they should further student learning and course outcomes.

Active or Engaged Learning

Backward Design is dedicated to learner-centered teaching practices, and this leads to a call for active learning. Yet, active learning does not refer to physical activity, rather it is speaking to our student’s engagement with the course content. Elizabeth Barkley, who publishes extensively on teaching practices for higher education, offers this useful explanation:

“Active learning means that *the mind* is actively engaged. It’s defining characteristics are that students are dynamic participants in their learning and that they are reflecting on and monitoring both the processes and the results of their learning. ... Highly skilled listeners who are involved in a lecture by self-questioning, analyzing, and incorporating new information into their existing knowledge are learning more actively than students who are participating in a small group discussion that is off-task, redundant, or superfluous. This definition of active learning, where students make information or a concept their own by connecting it to their existing knowledge and experience, is critical to student engagement.”¹²

Teaching activities

Teaching activities encompass the variety of roles that faculty play during the course of the semester: content expert, sage on the stage, guide on the side, coach, facilitator, collaborator, etc. Match your role to what is appropriate for students to learn. Consider the following as you plan your teaching activities.

- Provide students with a road map on how activities will contribute to the desired results or larger units of study. This can be achieved through preview/review exercises, concept maps, review of syllabus, providing a syllabus graphic, etc.

¹¹ Linda Nilson and Ludwika Goodson, *Online Teaching at Its Best: Merging Instructional Design with Teaching and Learning Research* (San Francisco: Jossey-Bass, 2018), 6.

¹² Elizabeth Barkley, *Student Engagement Techniques: A Handbook for College Faculty* (San Francisco: Jossey-Bass, 2010), 17. A second edition is now available with co-author Claire Howell Major. In addition, Barkley and Major have also published through K. Patricia Cross Academy, *Engaged Teaching: A Handbook for College Teaching* (2022).

- Consider ways to hook your students or make the activities relevant: create a mystery, start with a problem, pose open-ended questions, play devil's advocate. As Judith Boettcher suggests, "Review your courses and see where you can take the answers out and put the challenges [or questions] in."
- Evaluate your teaching activities to determine if they fulfill the "big ideas" and help students uncover answers to the essential questions. Then make decisions about content priorities.
- Be sure to incorporate formative assessments in your teaching activities so that you can evaluate student progress.
- Create and discuss with students the criteria for success in completing formative and summative assessments.
- For the in-person class, be sure to consider what is the best use of time.
 - If it is lecture, create pauses to test student understanding. This recommendation is not solely driven by research on attention spans. We know that working memory, which is what students depend upon while listening to a lecture, can easily be overloaded. Giving students time to ponder lectures in smaller chunks, in combination with subsequent assessments, creates opportunities to process information from working memory to more long-term memory.
 - If it is group work, be sure to create structure and purpose.
 - Make the content engaging in which students retrieve, practice, apply, analyze, evaluate.
- Develop out-of-class learning activities that encourage students to be prepared for in-person class.
- Make a list of resources you will need to teach such as texts, readings, videos, group-work supplies, web resources, equipment, software, computer applications, etc.
- In making decisions about what students should read, study, practice, also consider providing them with guidance on most effective study strategies. We assume that students know how to read a textbook or journal article, but they may not. Study guides and skeletal lecture notes are potential resources to provide students. We assume students know why practice problems are assigned or optional, but they may see it as busy work. (See Sandra McGuire's work.)
- Anticipate potential areas where students will struggle and develop activities or content that will help students work through the challenge. Some potential approaches include giving prior knowledge quizzes or open-ended questions, survey student confidence before and after, allow for retesting, introduce metacognitive practices or self-regulated learning, etc.
- If students are working on projects, break them down into stages (sometimes called scaffolding) that are more manageable, and which allow you to evaluate their progress.
- As a rule, increase difficulty levels as the semester progresses, which allows students to build confidence over time.
- Find ways to integrate disciplinary standards into teaching activities. One of the principles of learner-centered teaching is to create relevancy. Many of our students see their courses as detached, unrelated, which is understandable given how they are chopped into semesters. When the course is general education, we encounter greater levels of resistance because students may not recognize the value or even see the course as an obstacle to earning a degree. So, embrace this opportunity to introduce them to or deepen their understanding of how your discipline advances human knowledge and offers perspective. Help students develop the vocabulary of your discipline. If your assessments simulate doing the subject, decoding the discipline should be explicitly incorporated into teaching and learning activities. It makes learning more transparent and creates greater equity in the classroom by removing the hidden curriculum.
- Include opportunities for students to reflect upon their learning behaviors and study skills.
- Evaluate your teaching effectiveness. To learn more, see CU's CTL **Teaching Tip Getting Better: Checking in with Students to Improve Teaching and Learning**.

Review and evaluate the three stages of Backward Design to ensure alignment. See below.

Alignment

In higher education, alignment at the program level refers to whether or not the courses, course content, student assessments, and sequence of courses will ensure that the intended outcomes are achievable. Programs often evaluate alignment through curriculum mapping. At the course level, alignment is achieved if the assessments (Stage 2) will measure the desired results (Stage 1), and that the teaching and learning activities (Stage 3) will allow the student to achieve the outcomes.

Stage 1: If the Desired Result is for learners to...	Stage 2: Then, you need evidence of the students' ability to...	Stage 3: Then, the teaching and learning activities need to ...
<p>differentiate between infectious agents to judge the reliability of news reports in a pandemic</p>	<p>to classify infectious agents into categories of more or less dangerous, and to conduct a comparative analysis in writing of how three news sources reported on the science of infectious agents as a cause for disease</p>	<p>Student Learning Activities:</p> <ul style="list-style-type: none"> • Students will complete a prior-knowledge survey (formative, ungraded) • Students will read or study a lecture to define infectious agents as a cause for disease • Students will differentiate infectious agents by creating a graphic organizer (formative, plus-check-minus) • Students will identify three news sources, make notes on the scientific information in the stories, and analyze • Students will compose a comparative analysis of the news stories (summative) • Students will reflect upon what they have learned about the reliability of news and infectious agents in short paragraph form (formative, plus-minus) <p>Teaching Activities:</p> <ul style="list-style-type: none"> • Create survey of prior knowledge of infectious agents and perceptions on the reliability of news • Hook students by linking the subject to current events • Lecture or assign reading that defines the infectious agents and which ones tend to be more dangerous • Demonstrate how to read and make comparative notes for graphic organizer of infectious agents • Demonstrate how to compose an effective comparative analysis

As you can see, while details are not fully elaborated in this example, to achieve alignment between the three stages, many teaching and learning activities must be developed to bring about a desired result.

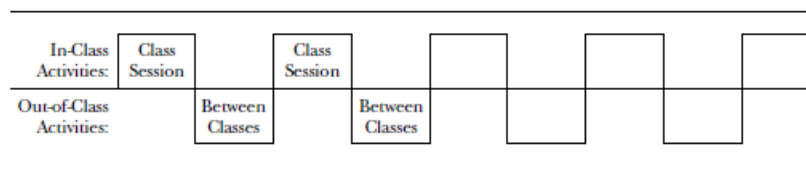
- Develop assignment guidelines to share expectations and criteria

Syllabus and Course Calendar

The syllabus communicates goals, expectations, and policies. Many of us see it as a “contract” and include considerable detail. In the first week of classes, students will receive several different syllabi in a variety of styles and levels of expectations. It is overwhelming, and even if they read our syllabi, they will not retain much of the information. Consider creating a graphic syllabus that serves as a quick reference accompanied by more details such as assignment guidelines, criteria for assessments, required texts, policies, etc. Periodically, perhaps weekly, use your syllabus to preview upcoming activities and assignments.

Develop a course calendar of learning and teaching activities that serves as a checklist (or lesson plan) for you during the semester. L. Dee Fink uses a “castle top” visual to think about in-and-out of class activities.¹³

FIGURE 4.7. THE “CASTLE TOP” DIAGRAM: A GENERAL TEMPLATE FOR CREATING A TEACHING STRATEGY.



My preference for tables in Microsoft Word prompted this adaptation. In the example below, I have taken the content from the alignment example and imagine how it might look like on the day leading up to an in-class activity and the day of a class meeting as a checklist (or lesson plan) for myself. (Full disclosure, I am a historian, not a scientist.)

In preparation for the next class meeting	<p><i>[In leading up to this point, students will have already been studying infectious diseases through lecture, text, and quizzing]</i></p> <p>Create a prior knowledge survey about perceptions of the accuracy of news coverage</p> <p>Post the survey in the LMS (D2L)</p> <p>Students will be asked to read and compare how three popular magazines have portrayed the origins of COVID 19</p> <p>Create directions and guidelines on what are acceptable magazine articles or provide students with a range of choices</p> <p>Provide directions on how to search library database for popular magazine articles</p>
Date of in-person class session	<p>Share and discuss survey results</p> <p>Divide students into small groups and complete a T-Chart that compares the textbook to the popular magazine articles</p> <p>Bring markers and poster paper</p> <p>Bring stickers and post-it notes to hold a gallery walk if time permits</p> <p>Debrief students on what they have discovered</p> <p>Preview next stage in learning</p>

¹³ L. Dee Fink, *Creating Significant Learning Experiences*, 2nd ed., (San Francisco: Jossey-Bass, 2013), 146.

This calendar can easily be adapted to distribute to students. What is more, this text can easily be copied into a content editor page of the LMS (D2L) to create modules.

Between class do the following	<input type="checkbox"/> Complete prior knowledge survey about infectious diseases <input type="checkbox"/> Read and make notes on how three popular magazines reported on the outbreak of COVID 19 in March 2020 to prepare for a class activity
Date of Class meeting	Activity and Discussion: Did the newsmakers help or hinder the public's understanding of infectious diseases? What discoveries have you made about the responsibility of the press to report the news and the citizen's responsibility towards reading the news?

There is one problem with using tables. For visually impaired students, who rely upon screen readers, tables create obstacles. Therefore, consider combining text with iconic graphics that lend themselves to Alt Text descriptions. Consult [Guidelines for Creating Web Content Accessible to All](#) which are also useful for word documents and PDFs.

Online Learning and Teaching (Stage 4)

This Teaching Tip cannot be a comprehensive discussion of how to adapt to online teaching and learning. There are entire books on the subject. Completing Stages 1-3 are essential to creating a learner-centered course design. As you contemplate online adaptations, remember our contract and our ethical responsibility to students that we create equivalency between modalities. A student taking a course, no matter the modality, will achieve the same learning outcomes. Equally important are assessments and learning and teaching activities fulfill the course goals and disciplinary standards.

The most likely modalities are **synchronous online** (all participants online at the same time using video-conferencing tools like Zoom), **asynchronous online** (participants complete work online at varying times through the LMS like D2L/BOLT), **blended** (all participants meet in person at times during the semester), and **hy-flex or multi-modal** (some participants are in person and others online in a simultaneous session led by the instructor).

General guidelines for teaching online modalities:

- Do not adopt a tech tool or app that you do not know how to use.
- Avoid overwhelming students with a variety of tech tools and apps within a course. Remember they are taking three or four other courses. Less is more.
- Create a seamless experience within D2L/BOLT for all students by following CU's CTL **Better Practices for Creating Content in BOLT**.
- Be present for all students. Teaching is relational and students need to know that their instructor cares about their learning. In this Teaching Tip learn more about how to **Be Connected: Maintaining the Humanity in Blended or Asynchronous Teaching and Maintaining Instructor-Presence in an Online or Blended Course**.
- Find meaningful ways to encourage students to complete work and help them appreciate that they must do the learning.
- Create a pace for the course that provides a predictable structure for students. For example, a new module starts every Monday, the first posting to a discussion is always due on a Tuesday, quizzes, exams, and assignment folders open and close at consistent times.
- Decide if you will make all modules and their content available at once or as the semester progresses. Online students may welcome the flexibility, but this can undermine your efforts to increase student-student interactions and community building; it might also pose a challenge to

creating an efficient workflow for you. Availability settings in D2L allow you to control when to make available modules, discussion boards, quizzes, exams, assignment folders, etc. if your goal is for students to make progress together through the course.

- Communicate regularly with students without overwhelming them with emails.
- Provide video tours or introductions to the course, modules, assignment guidelines, to clarify common misconceptions, etc.
- Provide students with estimated times for completion of work.
- Evaluate those time estimates to determine if you are giving students sufficient time between tasks to complete work. Doing so increases awareness of what can be accomplished by you and your students.
- Leverage D2L/BOLT “Intelligent” Agents to remind students of upcoming deadlines. In addition, share with them the potential advantages of the Pulse App offered by D2L for smart phones.
- At least a week before classes begin
 - Make the course available and start reaching out to students with welcome messages, etc.
 - Communicate technology requirements in advance of the start of the course.
 - Survey students about their preparedness or experience for online learning and their expectations. Students often underestimate the work required to thrive in an online course. (Remote teaching during the pandemic may create a false confidence that they know what to expect.)
 - Monitor enrollment and student activity in D2L/BOLT. Why? If you have already sent a welcome email, new enrollees will be left out. What is more, there is a delay between when students enroll and when that is updated in D2L. This can lead to a situation in which a student misses the first day of class because they do not yet have access. Finally, you might want to remind students they are enrolled if on the first day of class, they have not yet accessed the course in D2L.

Hy-Flex or Multi-Modal

Probably the most difficult to plan for is **hy-flex or multi-modal**. Hy-flex courses originated in programs, often graduate-level, that sought to create flexibility for their students, who might live in another time zone, work full-time, or do shift-work. In principle, hy-flex allows the student to select the modality on a weekly basis throughout the semester. The instructor designs for three modalities in one: students attending in-person, students remoting into the live course, and asynchronous. Academic success depends upon students selecting the modality that best meets their learning needs. With integration, some faculty will offer an in-person course on one campus with students enrolled at other campuses remoting in from home computers. At present, there does not appear to be any appetite for allowing students to expect an asynchronous modality, which may be why the term hybrid is being used on our campuses.

The challenge is to create equivalency for students attending in-person and those remoting in (i.e. hy-flex or multi-modal). Two teaching strategies, asynchronous and flipped teaching, may facilitate your design for a hy-flex/multimodal course.

In asynchronous online teaching, to create equivalency to a face-to-face course and support student learning, an instructor builds modules that offer lecture content in the form of created or curated videos and assign readings. They would likely require student-student interactions through discussion boards, other collaborative tools, or group work, and assign quizzes, exams, etc. Ideally, they have this built into D2L/BOLT by the time the course starts even if they impose availability restrictions or conditional

releases. For hy-flex/multi-modal, plan for asynchronous then develop activities for in-person and students remoting in.

Hy-flex/multi-modal will require us to use D2L/BOLT to make course content accessible to all students. We will use D2L to distribute syllabus-related content, handouts, readings, video links, collaborative online tools, etc. through modules that offer a seamless experience for students. The asynchronous planning makes it easier to help students who need to make up work. Pre-pandemic, we might have urged students to get lecture notes from a classmate or submit in writing their interpretation of a missed discussion topic. Now, if you are teaching in a Zoom-enabled room, you could record the class meeting and share it with the absent student(s). They could use it to make their own lecture notes or be required to write a report on what they learned from the discussion they witnessed. Alternatively, if you develop a video library of lectures that you create or curate, these can be made available to absent students. Note: I do not want to make light of the time involved in planning for asynchronous. It is time-consuming, when done well, not perfectly, yet can be accomplished in increments. You need to evaluate the content priorities and strive for a work-life balance.

Flipped teaching and learning is a movement that began at the high school level and has become popular among some university faculty. Here is a brief definition from Robert Talbert, an advocate for flipped teaching. He writes,

“Flipped learning is a pedagogical approach in which first contact with new concepts moves from the **group learning space** [in-class] to the **individual learning space** in the form of structured activity, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.”¹⁴

Flipped teaching depends upon providing guidance and structure when students first encounter the content in their individual learning spaces. The structure and guidance essential to a flipped course compels faculty to adopt a learner-centered approach and to persuade students they are responsible for their learning (admittedly, not an easy task).

Flipped teaching requires instructors

- to create self-regulated exercises and accountability for our students through meaningful, relevant assessments,
- to provide estimated times of completion so students can budget their time,
- to establish the relationship between pre-class work with in-class and student learning outcomes,
- to assess early and often,
- to provide timely feedback, and
- to solicit feedback from students on effective teaching.

The knowledge students begin to build in their individual spaces is then applied to in-class activities that deepen learning, help them organize new knowledge, and correct misconceptions. We might lecture in short bursts as the need becomes apparent. After the in-class meeting, students apply, expand, complete formative and summative assessments to prove they “got it” or uncover continued misperceptions.

Students may resist a flipped lesson or course. They may have had bad experiences with it in the past, or they may conclude that you are not teaching. My advice: avoid using the term and early in the semester help students come to understand that they are responsible for learning and that your strategies are

¹⁴ Robert Talbert, *Flipped Learning: A Guide for Higher Education Faculty* (2017), 20

supported by the science of learning. To learn more about flipped learning and teaching, consult the work of Robert Talbert and Barbara Honeycutt. Two articles that anticipate resistance to active learning and flipped classrooms are by Gary Smith and Robert Kloss. In addition, Saundra McGuire's work on *Teach Students How to Learn* provides useful tips on helping students embrace their role in learning.

Technology at Bloomsburg, Lock Haven, and Mansfield will be evolving in the next year or two and beyond. At present, the technology available in most classrooms will need to catch up with the demands of engaging class meetings in hy-flex/multi-modal situations. Indeed, some courses are not appropriate for this approach.

Give some thought to policies about attendance, camera use, and mics

- Will you require in-person students to attend physically or allow them to remote in, and under what conditions? While you may want to offer flexibility (or in-person students may expect it), if you allow in-person students freedom of choice, the number of students physically attending may become unpredictable; you could set limits to the number of times a student can remote in when they are enrolled as in-person. So, your policy should be based upon what is most conducive to learning, not what is most convenient.
- Will you require students remotng in to use cameras and mics? As you contemplate your policy, consider requiring video when it is essential for participation rather than a means to police attendance. Students may be hesitant to use their cameras because of internet access or privacy, which have to be measured against the impact of learning and building community through virtual presence. In addition, some studies suggest that students are more likely to experience cognitive overload because they are not only paying attention to the content, but the multiple faces in a gallery view. They can reduce the overload by pinning the instructor's video. An alternative to pinning is the Zoom's Focus Mode. This is enabled by the instructor instead of each student, so the instructor has control. By default, students only see the instructor and co-host videos, but the instructor and co-hosts can see everyone's video. Instructors can also spotlight specific student's video as needed to the entire group. More details, requirements, and how this works can be found here: <https://support.zoom.us/hc/en-us/articles/360061113751-Using-focus-mode->

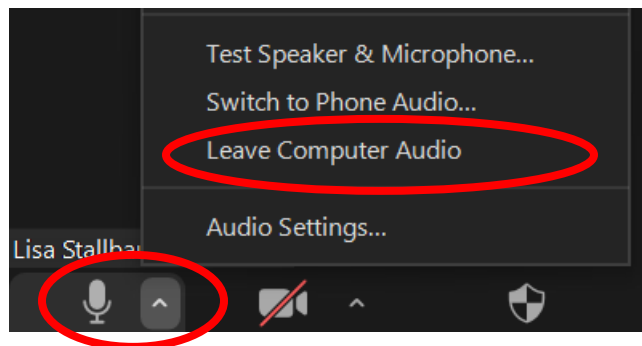
If you are holding a whole-class discussion, and you are in a classroom with multiple mics, at least two cameras, and multiple monitors, the transition should not be too difficult. The goals for discussion create opportunities to exchange viewpoints and interpretations, to clarify misperceptions, to apply content, to deepen understanding, and to practice defending or advocating perspectives. To accomplish these goals in a face-to-face course, you might improvise, but in a hy-flex context, you will need to prepare.

- Consider making use of polling tools, that all students can access if they have a device. Google and OneDrive forms are useful for this purpose. Make them accessible through the creation of QR codes and bit URLs that you can easily share through chat and screen share. All students are given the opportunity to respond. Make sure they know if the results will be anonymous or not. Then generate discussion from the results that give all students a voice.
- If you are discussing a reading, have it available as a PDF that you can screen share to ensure students are focused on passages under consideration. Or type up excerpts that you might want to share to prompt discussion. You can annotate for all students to see using Zoom tools.
- Create a stack of PowerPoints to provide focus for discussions. When I hold synchronous online discussions, I create a PowerPoint deck with questions, quotations, and/or images that I could screen share to prompt discussion. Doing so has kept me more focused on the learning goals for discussion. For example, if I want my students to discuss a scene from a historical film, I will have still images from the scene to prompt recall and provide focus. I now do the same preparation for in-person classes since students might have to remote in.

- If you want students to view and discuss a short video, have the clip ready to share as a URL through Zoom Chat in case students remoting in have a weak internet, but also make sure your screen share is set to optimize sound and video.
- As a review exercise, Kahoots is a quizzing app that anyone with a device can participate in. Students need to have the app on their phone.
- You might struggle to notice when students remoting in are using the chat or raising their hand, but I have found my in-person students kindly bring them to my attention.

If you like to break students into smaller groups for discussion or activities, how do you create an equivalent situation for those remoting in? The answer to this question might depend upon the numbers. If you have a very small number remoting in, how will you make them feel integrated into the course? Improvised small group discussions, such as think-pair-share, or dividing students into groups, again requires more preparation. In addition, to the ideas offered for whole group discussion, consider the following:

- One easy but not inclusive approach is to create small groups within Zoom and small groups in-person.
- If you were to require all students to bring a device, you can be more integrated in your approach. All students bring a device, log into Zoom, and make use of the Breakout Rooms, whiteboard, and chat. Doing so enables students in-person to work with students remoting in.
- If everyone has a device, ideally a laptop, not just simply a smart phone, you can also share collaborative tools (e.g. Office 365 PPT or Word, Google Docs and Slides), and many other apps. Instruct students attending in-person to open the ^ on the microphone icon and select “Leave Computer Audio” (see illustration below). This will eliminate the potential for echo within the classroom. Alternatively, provide or require students to have headsets with mics, (Instructional Technology will be evolving on this. Stay tuned.)



- Survey students remoting in on their ability and willingness to meet on their campus together and bring their devices, then reserve a room for that purpose.
- Perhaps consider making some small group collaborations asynchronous through discussion boards, collaborative apps (e.g. Office 365 PPT or Word, Google Docs and Slides, Padlet, VoiceThread, Slack, etc. Be sure to consult Instructional Technology staff for tips and tricks.
- If you prefer to administer in-person quizzes and exams, is it possible to arrange a proctor on-site for students remoting in? I don't have the answer to this question (at the time of writing), but it's worth exploring with your department chair.

Consider what the best use of in-class meetings should be. The theory and science of learning behind flipped teaching suggests that getting students to engage with the content is the best use of in-class time (group learning space), where students have the support of their instructors and classmates. Therefore, if class time should be dedicated to lectures, these should be interactive or limited to small bursts to create

context or clarify misconceptions as students engage with course content. If lectures are essential (for example I lecture in lieu of a textbook), consider having students study the lectures in their individual space. To suggest we move lectures outside of class, except micro lectures when we notice students struggling over a concept, is a controversial proposition for a variety of reasons. First, we may enjoy lecturing or feel more in control because we covered the content. Second, we feel more assured that students are listening as they nod knowingly. Third, and certainly important, we can “read the room” through facial cues and be more spontaneous. Finally, our college experience may have left us with the impression that lecturing was an effective learning strategy for us. However, the reality was the learning occurred when we made notes from our lecture notes, summarized, reviewed, self-quizzed, in short when we engaged with the content after leaving the lecture hall. Kevin Gannon, in his critique of the heavy reliance on lectures as the dominant teaching activity, reminds us, “Numerous studies on learning loss have shown that unless learners have regular opportunities to revisit and apply specific course content, they will forget most of that content (some studies put the proportion at nearly 75 percent!) within three years of having taken a course.”¹⁵ At the least, to be effective, lectures should be interactive, engaging students in the content. What is more, we should provide guidance to students on how to learn from lecture notes (see Sandra McGuire’s work).

Online synchronous

Teaching an online synchronous course requires students to attend class meetings through videoconferencing, most likely Zoom. With the exception of labs, performance, and practicing skills, Zoom can be an excellent tool for promoting discussions, getting students to engage with course content, clarifying assignment goals, and be used for micro-lectures. A successful online synchronous learning experience begins with designing a course following the first three stages of Backward Design and learner-centered teaching practices. You will need to outline clear policies about technology requirements and expectations for class participation. What is more, help students develop a self-regulative learning behaviors.

Here are a number of ideas on how to conduct lively Zoom sessions:

- Make use of a doc camera or tablet to complete calculations, share sketches, etc. (Use these same tools to create recorded demonstrations.)
- Survey students on prior knowledge, working assumptions, etc. making use of Zoom’s polling tool or Google and OneDrive Forms, Polleverywhere, etc.; decide if the results should be anonymous, if not, then you can use to count as participation or attendance.
- Poll students in less formal ways by having them use Zoom’s reactions or emojis. Alternatively, the Zoom annotation tools create opportunities to mark a white board or PPT Slide as a form of voting.
- Discuss the results of a pre-class quiz or writing assignment as a segue into a micro-lecture to clarify misunderstanding or to build on the goals for the session.
- Practice using the Breakout Rooms as an ice-breaker early in the semester to develop experience and promote a sense of community.
- Use Breakout Rooms to encourage students to explore an issue, develop the solution to a problem, work on a case study, etc. Give them updates on the time left and check in on them. In short, give students structure as you would in a F2F class.
 - Create worksheets out of OneDrive-Office 365 tools or Google Docs/Slides/Sheets, these will provide structure for discussions or Breakout Rooms.
 - * Example of a [OneDrive-Doc](#) (to record interpretations of all participants)
 - * Example of a [OneDrive-PowerPoint](#) (to be used for Breakout Rooms or asynchronous discussion)

¹⁵ Kevin M. Gannon, *Radical Hope: A Teaching Manifesto* (Morgantown: West Virginia University Press, 2020), 45.

- * Example of a [OneDrive-Form](#) (to survey students at the end of class about their level of preparedness)
- o In the above examples, set the link for everyone to edit, then watch as students begin to complete the worksheets in collaboration with others. If you want to associate a student's name with their contribution, pre-assign space to each student so they know where to type their response.
- Let students take the mic and share screen to make short presentations, to summarize a reading, to solve a problem, elaborate upon the meaning of a quotation, etc.
- Provide students with a question prompt, show a short video clip then generate responses to their prompt. Record student responses using the White Board tools, etc to help them recognize the importance of listening. (When you share the screen, be sure to select optimize for audio and video. Caution: some students will experience connectivity problems and have a subpar viewing experience.)
- An alternative to sharing a video through your screen: share the video as a URL (e.g. YouTube or Mediasite) in the text chat, provide a goal, set a time limit, then instruct the students to watch the video and return to discuss in a specified time frame.
- Share a website URL and provide instructions on what students should look for, then have them return ready to discuss after a set time.
- In the participants' panel, students can change their names. Have them create a pseudonym before responding to a question if you want to create some anonymity. (If they have profile pics, they can temporarily change those.)
- Use chat strategically to increase responses by having everyone type a response, but not hit enter until you give them permission. This allows more voices to be heard, and then you can call randomly on individuals.
- Provide an image or text upon which students will make annotations using Zoom tools.
- Save time for the end of a Zoom session to ask about "the muddiest point" or pose a question that asks students to summarize an essential idea from the Zoom session. You can collect these through Google or OneDrive Forms or have them use the white board and save the results.
- By the way, a lively Zoom session helps you identify students who may have logged in and walked away. Be sure they understand that this behavior is equal to an absence.

For more ideas on how to build student confidence in using zoom and a variety of techniques for encouraging participation, consult: [Zoom: Lively and Engaging Sessions \(17 April 2020 60 minutes\)](#) by Mary Nicholson and [How to Host an Engaging Zoom Session](#) (29 June 2020, 60 minutes) by Chaya Merrell (the videos may require SSO). In addition, check out CU's CTL Teaching Tip **Zoom and Increasing Student Engagement**.

Online Asynchronous

A successful asynchronous course begins with high quality course design that is learner-centered. Successful asynchronous teaching requires more work for the students and faculty. Students must be self-disciplined, have well-developed self-regulated learning skills to determine the best study methods and to recognize when they need help from classmates or the instructor. Asynchronous teaching and learning is not simply a modern twist on the correspondence course. Faculty need to be highly organized to create learner-centered modules in D2L/BOLT that clearly define the course goals and how they will be achieved. They have to be able to predict, without the aid of body language or facial clues, where students might struggle and develop guided practice that will help them thrive. They must be fair and respectful,

communicate clearly and regularly, but not excessively, provide timely feedback that is meaningful, and create an online presence that tells students they care.

Instructors share all content using D2L/BOLT, our learning management system. Content modules should be organized by week, lesson topics, or by day. Within each content module, students must be provided with a seamless workflow. My advice is to utilize the “Create a File” option. Each module should explain the learning goals and how they are relevant to the course goals, then contextualize recorded lectures, readings, etc. Insert quizzes or other tasks that get students to engage with the lecture or reading content. Consult CU’s CTL Teaching Tip **Better Practices for Creating Content in D2L (or D2L/BOLT)** and [Working with Content in BOLT](#). (The videos may require SSO; if you have trouble accessing, email tale@bloomu.edu.)

Assuming that lecture content will either be made available through recordings or readings, here are some additional adaptations that might reduce the sense of isolation students and faculty may experience:

- Record welcome messages with audio and/or video.
- Create FAQ videos and/or discussion boards.
- Create short videos using screen capture software or podcasts that bring your humanity into teaching and learning to
 - Provide a tour of the learning management system
 - Introduce new topics and provide instructions
 - Explain difficult assignments
 - Offer virtual tours of other kinds of assignments
 - Share examples of anonymous student work
- Create a venue for students to introduce themselves (e.g. D2L Discussion Board or widely available apps such as Voice Thread).
- Create opportunities for student-student and student-professor asynchronous interaction, e.g. discussion board forum dedicated to Q&A for each unit or more generally for the course. Or create Discussion Boards that ask students to reflect and exchange ideas on topics within course units or modules. Do not remain aloof nor dominate when students are contributing to a Discussion Board, and make yourself available through video-conferencing. Non-BU supported alternatives include Padlet, FlipGrid, VoiceThread, and GroupMe. Consult the CU’s CTL Teaching Tip: **Discussion Boards: Better Practices and Tips**.
- Use OneDrive-Office 365 tools or GoogleDocs/Slides/Sheets to generate asynchronous group interactions and collaboration. (Levy, pp. 102-104)
- Crowd-source the note-making: divide students into smaller groups or pairs. Have them compose their lecture notes using OneDrive-Docs, then review and improve notes made by different team members, in preparation for exams, essays, projects. (Frankly this could be useful in any modality.) If this content will later be used to complete exams or compose essays, be sure to think ahead about your guidelines for appropriate use of sources. For example, if students have worked collaboratively to compose notes, then they use the same or similar language in their individual responses, they will have appeared to plagiarize.
- Ask students to submit notes in advance through BOLT’s assignment folder, then allow them to use them for open-quizzes or tests.
- Make use of asynchronous social media tools, whose interface is more user-friendly and familiar to students, where they can pose questions or continue the conversation explored initially in recorded lectures, examples include Slack, GroupMe, Discord, Instagram, Twitter.
- Assess early and often with low stakes quizzes. It will help students measure their learning, and it might reduce cheating that occurs with high-stake, infrequent exams.

Technology

As noted above, technology decisions should not drive content. It makes sense to first use technology supported by the university that is easily integrated with our learning management system. Hence building our courses into D2L/BOLT is most sensible. What is more, avoid being tempted by every new tech tool and app. Below are some considerations specific to recording lectures.

Available recorded lectures and videos:

- If you have curated or access to recorded lectures that will provide students with the essential content and context, be sure to integrate them into D2L/BOLT content modules following best practices.
- In selecting videos, create coherency between the way in which you speak about the content, and the language used in the videos.
- Think about attention span and offering guided practice; students do not inherently know what to make note of nor how the content is essential to their learning.

Creating your own recorded lectures:

- Many faculty prefer to record their own lectures to provide coherency between how they speak about the subjects and related assignments. This can reduce confusion for students. What is more, it creates a more personalized approach.
- If you opt to record a lecture because you find it boring to deliver, then find another way to help students learn or abandon the topic. They will not watch the boring video lecture.

Guiding Principles to record lectures:

- Keep them short; 5-10 minute chunks are ideal because of student attention spans and putting a burden on working memory. In addition, shorter videos reduce file size and put less burden on streaming speeds.
- Consider starting each lecture with a question that you want students to answer upon completing the recording.
- Help students learn how to take notes and encourage them to do so even as you speak through your lecture.
- If you do need students to evaluate text heavy content, then ask them to pause, read, and make notes.
- If you want them to ponder something, in your recording, ask them to pause the lecture, and write down their thoughts or answers to your prompt. See Karl Kapp's [Adding Interactivity into an Asynchronous Lecture](#).
- Want to know what students are thinking when you ask them to pause the lecture? Make use of web-based Office 365 or Google Drive collaborative tools. For example, if I want my students to submit individual non-anonymous responses, I would create a Google Form or OneDrive-Office365Form and provide them with a QR code and Bit URL that takes them to the form. They pause the lecture, respond, and you can check in on their response at your convenience and provide feedback. If it's appropriate that students see how their classmates have responded, then you can create a collaborative Doc or Excel sheet. For a demonstration [Creating and Sharing Google Forms in a Zoom](#); for a demonstration on [Creating and Sharing Office 365-Doc for a Zoom Session](#).
- If you are providing voice narration, keep the text to a minimum and use visuals.

- Make your recordings evergreen, i.e., do not make references to specific assignments, seasons, dates, so they can be used again.
- Record lectures in one of these four ways (see [Mediasite](#) page for more details):
 1. Podcast if visuals are not essential, for more detail consult CU's CTL Teaching Tip: **Podcasting: A Significant Addition to your Teaching Toolbox**.
 2. Narrated PowerPoint (needs to be 2007 or later – look for .pptx). After you narrate your PPT, “save as” an MP4, and upload to Mediasite to get a URL or to another service like YouTube. Why not just provide students with the narrated PPT or upload the MP4 file? Both are very large files that take a long time to upload and download. Whereas Mediasite or YouTube converts the MP4 into a URL that is easy to share. Starting in PPT is my preferred approach because I am in my comfort zone, I can easily edit individual slides, and just upload a new version to Mediasite. Mediasite recordings can be edited as well.
 3. Record using Zoom which is essentially a screen capture recording; it creates an audio transcript for the hearing impaired, but the only editing that you can do within Zoom is to trim the beginning and end. (FYI: if you upload your Zoom to Mediasite, then you can edit in Mediasite.)
 4. Record using Media Desktop Recorded (MDR) which can be closed captioned; Mediasite offers a number of features including a quiz tool, ability to add chapters, and editing functions.

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These books are available in the TALE Center at BU, some are available as eBooks through Andrus Library, and you can contact me for access to individual chapters. CU's CTL Teaching Tips and Videos are found at the [TALE Website](#). As integration develops during 2023, we expect a common D2L/Brightspace organization, website, and email. We will do our best to update links and contact information.