BLENDED LEARNING IN HIGHER EDUCATION
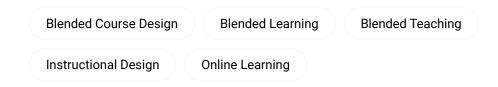
Royce Kimmons, PhD

Blended Learning in Higher Education

A Guide for Instructors and Course Designers

Kimmons, R.

This book provides an introduction to blended learning design and implementation in higher education. Its purpose is to help course designers and instructors in their efforts to make courses that are high-quality.

Blended Course Design   Blended Learning   Blended Teaching

Instructional Design   Online Learning

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2025

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Blended-Bichronous Lesson Plan

About

This book is used as a course guide for a graduate-level blended learning course at Brigham Young University. Many chapters are remixed from the following source material:

Graham, C. R., Slaugh, B., McMurry, A., Sorensen, S. D., Arnesen, K. T., & Ventura, B. (2024). *Blended Teaching in Higher Education: A Guide for Instructors and Course Designers.* https://edtechbooks.org/he_blended

Introduction

Graham, C. R. , Slaugh, B. , McMurry, A. , Sorensen, S. D. , Arnesen, K. T. , Ventura, B. , & Kimmons, R.

backward design   Blended Learning   Design Principles

Formative Evaluation   Pedagogy

This chapter provides an overview of the textbook's framework, structure, and design principles for designing a blended course in higher education. It introduces the concept of backward design, which involves planning learning outcomes first, then corresponding assessments, and finally appropriate learning activities. The chapter also explains the importance of formative evaluation throughout the design process. The reader will understand how to create their own blended course by completing blueprint or facilitation challenges in each chapter.

Welcome! This resource walks you through a blueprint for the successful construction of a blended course in a higher education setting. The chapters and their corresponding activities will help you design, develop, implement, facilitate, and evaluate your blended course. Whether you are a university instructor or an instructional designer, this resource will help you carefully think through important elements of your blended course.

Textbook Learning Outcomes

As you complete the readings and activities in this textbook, you will be able to:

- Describe blended models in terms of media, modality, and method.
- Design digital assessments and learning activities that align with course outcomes.
- Apply sound strategies to facilitate synchronous and asynchronous online interactions.
- Evaluate the pedagogy and design of blended courses.

1.0 Introduction

This chapter provides an overview of the textbook's framework, structure, and design principles. As you complete the blueprint or facilitation challenges in each chapter, you will progress toward a complete plan for the design and facilitation of your blended course.

> # Learning Outcome
>
> **I can understand how to create my blended course.**
>
> Sub-section outcomes:
>
> - I can explain blended learning design, development, and implementation. (Section 1.1)
> - I can understand the framework I will follow in this book. (Section 1.2)
> - I can conduct formative evaluation of my work at each stage of development and facilitation. (Section 1.3)
> - I can evaluate my strengths and weaknesses as I begin this project. (Section 1.4)
> - I can understand how I will use this resource to help design and facilitate my blended course. (Section 1.5)

1.1 Blended Learning Design, Development, and Implementation

Learning Outcome: I can explain blended learning design, development, and implementation.
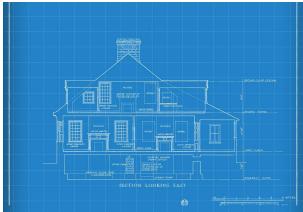
Designing a course is distinct from **developing** or **implementing** a course. Design comes first and allows you to envision your course and some of its elements before the building process even begins.

Design

Before a home is built, a builder designs the house and specifies the elements of the design in a blueprint. The blueprint specifies the different layers and elements of the house and how they work together (for example, the framing, plumbing, and electricity). Instructors also design (or plan) important elements of their course. A course blueprint shows how the elements of the course work together (for example, lesson content and activities, assessment, and student interactions with classmates). Figure 1-1 compares house blueprints and course blueprints.

Figure 1-1

Design

House Blueprint figure by
[Michael_Hiraeth](#)
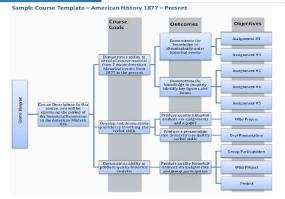
Development

Using the blueprint as a guide, a construction crew uses physical materials to create what was previously designed on paper. They frame the rooms and install pipes, wiring, and appliances. Similarly, materials and resources are also developed as part of a course, such as worksheets, videos, group projects, and quizzes. Figure 1-2 compares house construction and course development using a learning management system (LMS).

Figure 1-2
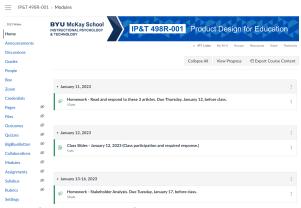
Development

Construction photo by [Avel Chuklanov](#) (Unsplash License). LMS screenshot by Alison McMurry CC BY.

Implementation

Later a family moves into the house and actually uses its features. If the house is well-designed and well-built, the family will comfortably benefit from the many features. Similarly, after a course is designed and developed, teachers and students then implement the course as they participate in learning activities and assessments aligned with its proposed outcomes. If the course is well-designed and well-built, the class will benefit academically from the features of the course. Figure 1-3 compares the home and the class.

Figure 1-3

Implementation

Family picture by [NCI](#) (Unsplash License). Four students by [Mimi Thian](#) (Unsplash License).

1.2 Our Framework

Learning Outcome *: I can understand the framework I will follow in this book.*
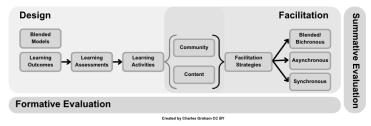
This resource will walk you through a **backward design** framework to create a blended learning course. Backward design is a common educational approach in which the designer plans the learning outcomes first, then corresponding assessments, and then appropriate learning activities. This section of Chapter 1 gives a brief overview of our framework and Figure 1-4 illustrates our framework.

The essence of this approach to design, development, and facilitation will be addressed in the textbook chapters as follows:

1. You purposefully choose a blended design model ([Chapter 2](#))
2. You determine the learning outcomes you hope students will achieve in your course ([Chapter 3](#)).
3. You design your learning assessments to align with those outcomes ([Chapter 4](#)).
4. You design learning activities that will help students achieve the desired outcomes ([Chapters 5 and 6](#)).
5. You consider how well all learners can fully and meaningfully learn in your course ([Chapter 7](#)).
6. You choose resources that you can ethically and legally use to achieve your objectives ([Chapter 8](#)).
7. You consider facilitation methods applicable to your activities ([Chapters 9](#), [10](#), and [11](#)).
8. You conduct a summative evaluation of your blended course ([Chapter 12](#)).

Figure 1-4

Backward Design Framework

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This book focuses on the skills related to blended course design and facilitation, and therefore, does not address the skills required for course development and implementation. Each chapter focuses on specific blended course competencies that are articulated in "I can" statements. You will practice these competencies in each chapter by completing blueprint or facilitation challenges which together create the plan for your blended course. Table 1-1 outlines the "I can" statements and the challenges included in each chapter.

Table 1-1

Resource Outline

Chapter	Topic	*I Can* Statement
1	Introduction	I can understand how to create my blended course.
2	Blended Models	I can select a blended learning model for my blended course.
3	Learning Outcomes	I can create learning outcomes that define expectations for learner achievement in my blended course.
4	Assessment Plans	I can develop an assessment plan that aligns with my learning outcomes.
5	Learner-Community Activities	I can plan community-based activities for my blended course.
6	Learner-Content Activities	I can plan content-based activities for my blended course.
7	Universal Accessibility	I can design coursework that empowers all learners to fully participate and learn.
8	Copyright	I can use copyrighted material while adhering to applicable laws.
9	Online Facilitation Frameworks	I can explain how instructor facilitation influences student learning and use terminology from various

		frameworks to describe my online facilitation strategies.
10	Video Facilitation	I can effectively create and use video to provide feedback and facilitate learning in my course.
11	Blended/Bichronous Facilitation	I can plan and practice a blended or bichronous learning activity.
12	Summative Evaluation	I can evaluate my blended course.

Adapted by Royce Kimmons. Original created by Alison McMurry CC BY.

1.3 Evaluation v. Assessment

Learning Outcome: *I can conduct formative evaluation of my work at each stage of development and facilitation.*

Evaluation is the process of identifying and explaining the value of a product, program, or personal performance. It is similar to **assessment**, which is discussed in chapter 4, but there are some key differences. Table 1-2 compares evaluation and assessment.

Table 1-2

Definitions of Evaluation and Assessment

Evaluation	Assessment
Aim	
Identifying and qualifying the degree of value	Identifying and quantifying the level
Target	
of a product, program, or person	of proficiency, performance, or competency
Purpose	
to show fulfillment of requirements, or degree of eligibility, or satisfaction of relevant conditions.	to show growth over time.
Output	
A description of the degree of value.	A score, grade, or rating.

Sometimes assessment scores are used to inform an evaluation. For example, a student's GPA is an assessment. Meeting all the requirements for graduation is an evaluation. One of the requirements is a GPA above a minimum required level. The assessment informs the evaluation, but it is only one piece of information that is considered.

Both evaluation and assessment can be **formative** or **summative** . Formative evaluation and assessment are focused on the process of learning or doing and are intended to give feedback to improve performance or quality. Summative evaluation and assessment are focused on the result of learning or doing and are intended to label the outcome of a program or performance. Table 1-3 shows examples.

Table 1-3

Examples of formative and summative evaluation and assessment

Evaluation	Assessment
Formative	
Mid-course self-evaluation. A student identifies the degree to which a project fulfills or does not fulfill requirements. The project is given a value that describes its quality, which can help the student understand what to improve in the future.	Competency self-assessment. A student identifies the level their performance compared with the ideal. This level is expressed as a quantifiable score. The student understands what to improve in the future.
Summative	
Graduating from a university and earning a degree. The person has fulfilled requirements and satisfied conditions for graduation. The person's academic value is described as Associate, Bachelor, Master, or Doctor.	Taking unit tests in a class. Each test shows a level of competency. Progress or growth can be tracked over time. Grades can be assigned to each test and a total grade can be calculated at the end of the course.

Chapter 4 will address the role of assessment in more detail, including how to use formative and summative assessments in your blended course design.

Chapter 12 will address the role of summative evaluation in more detail, including how to perform summative evaluation of your course design and lesson facilitation.

But for now, focus on formative evaluation. There are various ways to conduct formative evaluation, and in this resource we rely on reflective self-evaluation. As you work through the activities in this book, you will be asked to evaluate your progress and performance. We hope this helps you identify your strengths and weaknesses as you improve your blended course design and facilitation. Mentors and colleagues can also provide additional formative feedback throughout your planning process, so we encourage you to supplement your self-evaluation with helpful collaboration. The course checklist (below) will help you review your

own understanding and skills, and reflect on where you might need improvement, at the end of each chapter.

1.4 Get started!

Learning Outcome: *I can evaluate my strengths and weaknesses as I begin this project.*

Let's get started!

One type of assessment is called **value-added assessment** . It measures student growth from the beginning of the course until the end, usually by completing pre-tests and post-tests. We have two self-assessments, one in design and the other in facilitation, which will establish a benchmark you can use to measure your progress at the end of the design and facilitation units.

Click on the link below to take the [Design Competency Self-Assessment](). You will receive a score out of 20 points, which will indicate your current level of competency. Since this is a pre-test, you might score between 0 and 10 on this design competency self-evaluation. This is to be expected. Even if you score higher in some areas, the textbook chapters will supplement your skills with additional strategies for your consideration and provide opportunities for growth in areas where you lack experience.

☑ Design Competency Self-Assessment

Points	Competency Level
1-5	Novice Level
6-10	Intermediate Level
11-15	Advanced Level
16-19	Superior Level
20	Expert Level

Congratulations! You completed Chapter 1, and you are ready to begin building your blended course!

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2

Blended Models

Graham, C. R. , Slaugh, B. , McMurry, A. , Sorensen, S. D. , Arnesen, K. T. , Ventura, B. , & Kimmons, R.

Access and Flexibility   Blended Learning   Increased Efficiency

Media   Modality   Problem of Practice   Student Learning

Teaching Methods

This chapter introduces the concept of blended learning, emphasizing modality and the physical time and place dimensions of a learning environment. It highlights the importance of choosing a blended model that aligns with teaching methods and media. The chapter also explores common reasons for creating blended courses, including improved student learning, increased access and flexibility, and increased efficiency. Instructors are encouraged to identify their purposes for blending and focus on solving specific problems or challenges in their course.

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The first step in our framework is to select a blended model. Different models will be discussed and you will select what you think will be best for your blended course. As always, formative evaluation will be conducted to help you thoroughly think through your design decisions.

Learning Outcome

I can choose a model for my blended course.

Sub-section outcomes:

- I can identify my reasons for creating a blended course. (Section 2.1)
- I can identify the affordances of my digital learning environment. (Section 2.2)

- I can select a blended model appropriate for my learners' learning needs. (Section 2.3)
- I can clearly describe the model and rhythm of my blend to learners. (Section 2.4)

✏️ Blueprint Challenge

You will use the skills presented in this chapter to outline a model for your blended course.
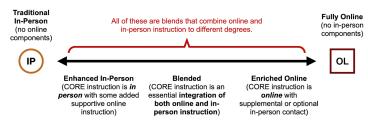
Open the Blended Model Template and save a copy.

Each section in this chapter will guide you through the process of choosing and outlining the model you will use for your blended course.

2.0 Introduction

The definition of blended learning emphasizes **modality**, or the physical time and place dimensions of a learning environment. Blended learning occurs when learning in the **online** and **in-person** modalities are strategically combined. In our digital age, this blending of modalities is becoming the norm, though it is not always designed strategically. Figure 2-1 below shows a range of blends that fill the gap between fully online and fully in-person learning.

Figure 2-1

Range of Instructional Blends

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- On the left of the spectrum, we have blends in which instruction primarily happens **in-person with online elements** added as support.

- On the right of the spectrum, we have blends that look mostly like **online courses with supplemental or optional in-person** support.
- In the middle, we have blends where the **integration of online and in-person** modalities is essential to the core instruction.

Each institution of higher education might define blended learning in a slightly different way. Often an institution will specify a rough percentage of instructional time that is online or in-person in order to institutionally categorize courses as online, on-campus, or blended. However, not all blends are created equal! This is because the **modality** does not have the greatest impact on learning. Student learning is most influenced by the teaching **methods** that are used.

Video 2-1 below shows a brief explanation of how **modality**, **method**, and **media** interact in a learning experience.

Video 2-1

The 3 Ms: Media, Method, and Modality (5:31)

3 M's - Media Method Modality and Their Roles in Educational

3 Ms	Description	Examples	
Modality	The physical time and place dimensions of a learning environment.	**Place**: online vs. in-person. **Time**: synchronous vs. asynchronous.	**Blended**: combining online and in-person modalities. **Bichronous**: combining synchronous and asynchronous modalities.
Media	Tools or technology used to deliver or mediate learning.	**Digital:** computer, LMS, cell phone.	**Non-Digital:** textbooks, paper and pencil, lab equipment.
Method	Teaching strategies.	**General:** lecture, group work, discussion, debates, demonstrations, case studies.	**Content Specific:** STEM labs, writing circles, design critiques, primary source research.

As you begin to choose a blended model for your course, which means choosing the modality, base your decision on methods and media appropriate for your course.

2.1 Identifying Your Purposes for Blending
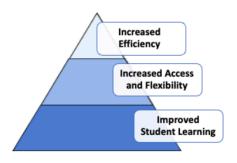
There are many reasons why instructors and institutions choose to combine both online and in-person instruction in their courses. The most common reasons are (1) to improve student learning, (2) to increase access and flexibility, and (3) to improve efficiency and/or reduce costs.

> ***Learning Outcome***: *I can identify my reasons for creating a blended course.*
> ***Assessment***: *Chapter 2 Mastery Challenge Blended Model Part 1.*

Figure 2-2 places these purposes in a hierarchy pyramid with student learning at the base. This is because improved student learning should be foundational to any course blend that instructors design.

Figure 2-2

Hierarchy of Purposes for Blending a Course

Blended courses often allow for increased access, flexibility, and efficiency without compromising student learning. We do not want to provide high levels of access to low-quality learning experiences. We want to provide increased access to learning experiences that are as good or better than what is available without technology.

It is important for instructors to design and plan with a purpose in mind. Table 2-2 includes some common reasons that instructors have chosen to create blended learning experiences.

Table 2-2

Example Reasons for Choosing a Blend

Increased Efficiency	An instructor: • moves some science labs online, creating less need for expensive equipment in the classroom. • uses online books to lower costs (and to have more than a classroom set for learners). • uses the online space to publish assignments, instructor and learner examples, writings, explanations, and questions, reducing the need for copies. • creates videos to expand instructor presence in the class, thus multiplying her effectiveness and productivity.
Increased Access and Flexibility	An instructor: • uses the online space to incorporate into the classroom materials and information, targeted instruction, and activities that are not otherwise available. • uses technology to give learners choices in learning activities. • consults with learners to set learning goals.
Improved Student Learning	An instructor: • uses the blend to give learners small group instruction or one-on-one time with learners to address specific learning needs. • uses data obtained from online tracking systems to constantly monitor learning and to make adjustments to instruction.

- uses self-made videos to give instructions that learners can slow down, speed up, pause, or repeat to understand the material or an assignment.
- offers choice in assignments to increase learner engagement and ownership in their learning.

From Graham, et al., 2019. CC BY-SA.

Each instructor needs to decide their reasons for blending. This is important because determining one's purpose for blending provides a vision for how to select appropriate blended models and strategies to achieve those purposes.

One of the best ways to get started is to identify and focus on a problem or challenge in your course that you believe blended teaching could help you solve. These are sometimes called Problems of Practice. The following Problems of Practice pathways could help you identify some of your reasons for creating a blended course.

1. The 6 C's of Deep Learning: character, citizenship, collaboration, communication, creativity, and critical thinking.
2. The 7 P's of Quality Blended Teaching: participation, pacing, personalization, place, personal interaction, preparation, and practice with feedback.
3. Subject-Specific Teaching Strategies.
4. Problems with Learner Access.

Table 2-3 places these Problems of Practice pathways into the framework of the Hierarchy of Purposes for Blending a Course. As you examine the table, consider why you are creating a blended course.

Table 2-3

Problems of Practice and the Hierarchy of Purposes

	Increased Efficiency	**Increased Access and Flexibility**	**Improved Student Learning**
The 6 C's of Deep Learning	I want to increase my learners' ability to communicate effectively about their learning. I want to help my learners practice appropriate digital citizenship.	I want to allow my learners to demonstrate their learning in creative ways.	I want to help my learners develop better collaboration skills. I want learners to think critically about current world events. I want my learners to develop good character as they

			prepare to enter the real world.
The 7 P's of Quality Blended Teaching	I want to increase learners' out-of-class preparation before classroom activities. I want my learners to receive timely, effective feedback on their practice.	I want to enable 100% participation in class discussions. I want my learners to pace themselves to learn as quickly as they are able or as slowly as they need to. I want my learners to personalize their learning by selecting learning activities that will help them the most. I want to open up learning experiences that take place outside of my classroom.	I want to create additional opportunities for learners to personally interact with me and with one another.
Subject-Specific Teaching Strategies	Science Class: I want to create opportunities for my learners to use technology to analyze and interpret data and then create a scientific argument from this evidence.	Math Class: I want to increase the quality of mathematical discourse in my classroom.	Writing Class: I want to find more effective ways to engage my learners in collaborative writing.
Problems with Learner Access	I want to make it easy for learners who miss class due to illness or extracurricular activities to stay caught up.	I want to make it possible for learners who are single parents with significant childcare responsibilities to be able to participate flexibly in the class.	I want learners to have low-cost access to the educational materials used as part of our learning in class.

From Graham, et al., 2019. CC BY-SA.

Reflect on the Hierarchy of Purposes for Blending a Course as you identify your reasons for creating your blended course.

✎ Blueprint Challenge

Open your Blended Model document. Read the directions for **Part 1: Reasons for Creating My Blended Course**. Review the example. Then fill in the table with your ideas.

2.2 Understanding your Digital Learning Environment

The affordances of a learning environment are the features that enable or inhibit different kinds of interactions. For example, a chemistry lab has affordances such as bunsen burners, beakers and flasks, test tubes, that allow scientific activities that wouldn't be possible without them. Just like your physical classroom environment has affordances that enable certain learning interactions, your digital environment will enable and limit the kinds of learning interactions possible.

> **Learning Outcome:** *I can identify the affordances of my digital learning environment.* **Assessment**: *Chapter 2 Mastery Challenge Blended Model Part 2.*

Learning Management Systems (LMSs) are software tools specifically designed to support teaching. These tools have many affordances that can make teaching easier as well as constrain some of the activities you might envision. Some common features of a learning management system are related to:

- Assessment and grading
- Peer interaction and discussion
- Instructor interaction and communication
- Content interaction

Table 2-4 provides a few broad examples of common affordances in many learning management systems.

Table 2-4

Examples of affordances in many learning management systems (LMSs) or online learning environments

Category	Affordances

Assessment and Grading	• Question Types—the variety of types of questions that are possible to include in an assessment (e.g., multiple choice, essay, fill-in-the-blank, etc). • Feedback Mechanisms—the different ways that feedback can be provided both automatically and manually. • Gradebooks—the features tracking learner submission of assignments and communicating scores and grades (this could also include mastery-based gradebooks that show learners reaching mastery thresholds).
Peer Interaction and Discussion	• Asynchronous Discussion Boards—the ability to enable different types of discussion. • Synchronous Video Communication—the ability to enable real-time video communication between peers. • Collaborative Team Spaces—spaces that allow for learner teams or groups to communicate around shared documents and resources. • Peer Feedback—mechanisms for enabling peers to provide feedback to each other on their work.
Instructor Interaction and Communication	• Announcements—the ability to provide text and video-based announcements. • Learning Analytics—access to analytics related to learner interaction in the LMS and the ability to take supportive actions based on the data. • Communication Features—the ability to quickly message learners and answer questions in multiple modalities.
Content Interaction	• Static Content—the ability to provide content for learners to access and download (e.g., text-based and video content). • Dynamic Content—the ability to create and integrate dynamic content such as simulations, educational apps, and adaptive learning software.

From Graham, et al., 2019. CC BY-SA.

It is important for you to know what LMS and other digital tools you have available to you in your learning environment because the tools will enable and limit the kinds of interactions that you can build into your blended course. For example, if your digital learning environment only allows for multiple choice assessment questions or doesn't allow synchronous video-based communication, your blended design options will be constrained by the limited affordances.

✏️ Blueprint Challenge

Open your Blended Model document. Read the directions for **Part 2: Affordances of My Digital Environment**. Review the example. Then fill out the table with your ideas.

2.3 Choosing a Blended Model

There is a wide range of blended models. For every blended model there are two important design layers to consider: the physical layer and the pedagogical layer.

- The physical layer has to do with the **media** and **modalities** chosen for the blend. This directly impacts access and cost, which influences the methods that are possible for the instructor to use.
- The pedagogical layer has to do with the teaching **methods** that you will use within the blend. This directly impacts student learning.

Most of the blended models specify details about the physical dimension of the blend. However, many do not provide specifications for the pedagogical layer involved in the blend, which is what will have the greatest influence on student learning. You must keep the pedagogical layer, that is the teaching methods, in mind as you evaluate and choose a blended model.

> *Learning Outcome:* I can select a blended model appropriate for my learners' learning needs. ***Assessment***: Chapter 2 Mastery Challenge Blended Model Part 3
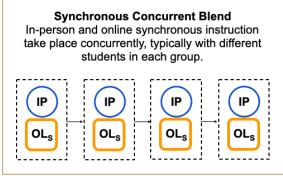
There are many blended learning models. They have similar strengths, but each one has a specific rhythm. For each model in Table 2-5 below, we summarize the main ideas, compare the rhythms of the models, and consider how the model can be applied in a course.

Table 2-5

Comparison Matrix

Model	Information
Synchronous Concurrent Blend	Synchronous online and in-person instruction are taking place at the **same** time. Example: An instructor is interacting with learners in the in-person classroom as well as learners participating via video at the same time. Theoretically, learners are experiencing the same teaching

methods and the same media while some are present in-person and others are present online.

Created by Charles Graham, CC BY 3.0

However, it is difficult to teach to two audiences because the instructor's attention is divided. Often the online participants are overlooked during discussions. When the instructor remembers to check the online chat, those learners can participate fully, but most of the time it is easy to forget they are present. This can be mitigated by assigning the TA or one learner to stay on the chat and present the online participants' comments and questions in their behalf.

Synchronous Consecutive Blend	Synchronous online and in-person instruction are taking place at **different** times. Example: Learners attend Monday's class in the physical classroom and Wednesday's class online using video conferencing. Created by Charles Graham, CC BY 3.0 This is a very commonly used blended model. **Often the online days are for lecture or instruction, while the in-person days are for labs (suchs as TA labs, writing labs, science labs, etc.).**
Replacement Blends	Replacement models are the most common in higher education. They replace some scheduled in-person class sessions with online learning. For example instead of meeting M-W-F in-person each week, the class might meet in person only on M-W with Friday activities being done online.
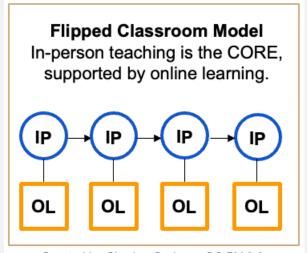
Created by Charles Graham, CC BY 3.0

The pattern looks the same as the synchronous consecutive blend model, but the difference is that the online instruction in a replacement blend can be asynchronous. **Often the in-person days are for lecture or instruction, while the online days are for synchronous or asynchronous discussions, peer reviews, or group projects.**

Flipped Classroom Model	The flipped classroom model is one of the most common blended models used in higher education. The flipped model moves direct instruction outside of the classroom to online learning, and reserves in-person hours for interactive group guided practice activities. Created by Charles Graham, CC BY 3.0 It is common for direct instruction online to include instructional videos recorded by the instructor as well as reading from a textbook and a reading quiz. The learners are expected to know the material before attending class. This can be very beneficial for courses with complex material, such as statistics or chemistry. The learners can work through the direct instruction alone or they can contact the instructor or TA for help. Then the learners come together in person to work through story problems or exercises. They can learn from each other as they work together, and the instructor/TA can identify what topics need to be reviewed.
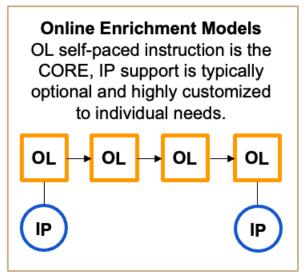
Online Enrichment Models	There are many models where the core instruction is online but there is in-person support for learners who need it. Sometimes there are also a limited number of required in-person class sessions or instructor-learner check-ins at various points during the semester.

Online Enrichment Models
OL self-paced instruction is the CORE, IP support is typically optional and highly customized to individual needs.

OL → OL → OL → OL
IP   IP
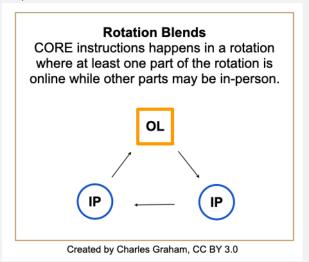
Created by Charles Graham, CC BY 3.0

This could be used for a course where the learners can work through material independently, and then there is an in-person review before the unit test or midterm or final exam. This is very similar to a completely asynchronous course.

Rotation Blends	Rotation blends are the most common blended model in K-12 environments but are less common in higher education. Rotation blends usually occur within a brick and mortar setting and involve rotation between in-person activities and online activities.

Rotation Blends
CORE instructions happens in a rotation where at least one part of the rotation is online while other parts may be in-person.

OL
IP   IP

Created by Charles Graham, CC BY 3.0

- **Station Rotation**—learners rotate through stations on a fixed schedule with at least one of the stations involving online learning.

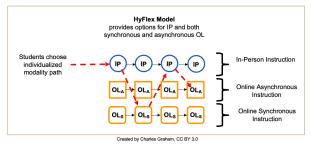|	
	- **Individual Rotation**—learners rotate to a number of stations on individualized schedules with at least one of the stations involving online learning. - **Lab Rotation**—learners rotate between classrooms on a fixed schedule with one of the classrooms being a computer lab where online learning occurs. Rotation blends are less common in the higher education context because there is no supervisory requirement for adult learners.
HyFlex Model	The instructor creates equivalent opportunities for learning with synchronous in-person activities, synchronous online activities, and asynchronous activities. Learners choose each week if they are going to attend class in person, participate via video at a distance, or watch the class recording asynchronously and participate in other asynchronous events. **HyFlex Model** provides options for IP and both synchronous and asynchronous OL Students choose individualized modality path — IP → IP → IP → IP — In-Person Instruction OL_A → OL_A → OL_A → OL_A — Online Asynchronous Instruction OL_S → OL_S → OL_S → OL_S — Online Synchronous Instruction Created by Charles Graham, CC BY 3.0 This is a very complex model. It can be very difficult to create equivalent options in the various modalities. It is also challenging that learners can opt in or out of modalities each week. This model needs the super-tracking power of a robust LMS.

Sometimes you can combine models to create the type of blend that works best for your course. Table 2-6 shows an example of how to create your blended model.

Table 2-6

Example of a weekly schedule including modality, medium, and method

	Monday	Tuesday	Wednesday	Thursday	Friday
Modality	Asynchronous online	In-person classroom	Asynchronous online	Asynchronous OR Synchronous online	In-person computer lab
Medium	Textbook, video	Powerpoint, video, worksheets, Jamboard	Google Docs, Turnitin	LMS discussion boards, Google Docs	Powerpoint, Google Docs, Turnitin

				for collaboration and peer review, Zoom.	
Method	Direct instruction	Mini lecture and guided practice- writing workshops.	Independent practice- drafting.	Group discussions, peer review, group meetings.	Mini lecture and writing conferences.

> ✎ **Blueprint Challenge**
>
> Open your Blended Model document. Read the directions for **Part 3: Choosing a Blended Model**. Review the example. Then complete the assignment with your ideas.

2.4 Communicating the Class Rhythm to Learners

Now that you have figured out what blended model works for your class, you need to communicate this clearly and simply to your learners. You need to include this information in your course syllabus.

> **Learning Outcome:** *I can clearly describe the model and rhythm of my blend to learners.* **Assessment**: *Chapter 2 Mastery Challenge Blended Model Part 4*

A syllabus is a document that explains the objectives and content of your course and what learners need to accomplish to meet the objectives. The syllabus is an opportunity to communicate your course blended model to your learners. It outlines assignments, calendar, grading scheme, and university policies. It is like a contract between instructor and learners. It says what the instructor will provide to facilitate student learning and success. It says what the learners need to provide to earn a good grade.

If you don't already have a syllabus, now is a good time to start one. If you already have a syllabus, now is the time to update it.

A syllabus may include the following:

- the university abbreviation for the course

- the name of the course
- the instructor's name and contact information
- TA's name(s) and contact information
- the instructor's office hours
- the TA(s) lab hours
- your class schedule—This refers to your rhythm of in-person, synchronous online, and asynchronous online days. You can include the information from your Blueprint Challenge Part 3. You should also include a rationale outlining the benefits of a blended course.

✎ **Blueprint Challenge**

Open your Blended Model document. Read the directions for **Part 4: Communicating My Blended Plan**. Review the example. Then complete the assignment with your ideas.

Conclusion

This chapter has helped you understand what blended learning is, why it is beneficial, the strengths of a LMS, and different blended models. It has also helped you choose a blended model for your course and communicate that model to your learners in your syllabus.

This content was previously published as follows:

Graham, C. R., Slaugh, B., McMurry, A., Sorensen, S. D., Arnesen, K. T., & Ventura, B. (2023). Blended

Models. Blended Teaching in Higher Education: A Guide for Instructors and Course Designers. https://edtechbooks.org/he_blended/chapter_2_blended_models

3

Learning Outcomes
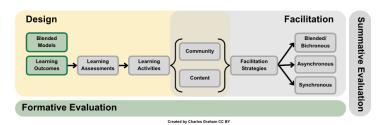
Graham, C. R. , Slaugh, B. , McMurry, A. , Sorensen, S. D. , Arnesen, K. T. , Ventura, B. , & Kimmons, R.

Blended Course Design   Course Level Outcomes

learning outcomes   Sequencing Outcomes   Supporting Outcomes

This chapter introduces the concept of learning outcomes as the foundation of blended course design. Learning outcomes define expectations for learner achievement in a course, guiding course content selection, instructional strategies, and assessment planning. The chapter guides learners to create learning outcomes at three levels: course level, supporting level (units and lessons), and activity level. Course-level outcomes refer to broad and overarching learning goals that define what learners should achieve at the end of a course or program. Supporting outcomes are smaller, achievable goals that chunk down course-level outcomes into manageable pieces. The chapter

provides examples and templates for completing the Learning Outcomes Map, including learner analysis, broad learning goals, and writing clear learning outcomes.

Created by Charles Graham CC BY

The next step in our framework is to write learning outcomes. Course level outcomes, supporting outcomes, and sequencing outcomes will be discussed. As always, formative evaluation will be conducted to help you thoroughly think through your design decisions.

Learning Outcome

I can create learning outcomes that define expectations for learner achievement in my blended course.

Sub-section outcomes:

- I can articulate one or two broad goals for learner achievement in my blended course. These are course-level outcomes. (Section 3.1)
- I can write unit, chapter, and/or lesson-level outcomes for my blended course. (Section 3.2)
- I can sequence the outcomes in a logical order to support student learning. (Section 3.3)

✎ Blueprint Challenge

You will use the skills presented in this chapter to develop a learning outcomes map for your blended course.

Open the Blueprint Challenge [Learning Outcomes Map Template](#) and save a copy.

Each section of this chapter guides you to complete a part of your learning outcomes map. You will finish your outcomes map at the end of the chapter.

3.0 Introduction

This chapter will introduce you to learning outcomes as the foundation of blended course design. By incorporating learning outcomes into course design, educators can create a purposeful and coherent learning experience that supports learner success. Ideally, the learning outcomes should significantly influence course design as they:

- define the objectives of the course, outlining the specific knowledge, skills, or competencies that learners are expected to acquire.
- guide the selection and sequencing of course content, ensuring that what is taught directly contributes to the intended learning goals.
- inform the choice of instructional strategies and methods, helping educators determine the most effective approaches to facilitate student learning and engagement.
- provide a framework for comprehensive evaluation of learner achievement, playing a crucial role in designing assessments that align with the desired outcomes (see Chapter 4).

Pay attention to the creation and organization of different outcome levels as you build a course structure that both meets your learning goals and guides your assessment plan. You will consider outcomes at three levels: the course level, the supporting level (units and lessons), and the activity level.

3.1 Course-Level Outcomes

Course-level outcomes refer to the broad and overarching learning goals that define what learners should achieve at the end of a course or program. These are the macro-level goals, the big picture, the overarching themes. To create those outcomes, consider the learners' prior knowledge and abilities as well as the core knowledge, skills, or competencies that learners are expected to acquire as a result of completing the course.

> *Learning Outcome*: I can identify one or two broad goals for learner achievement in my blended course, and write them as clear, concise course-level outcomes.
> *Assessment:* Learning Outcome Map Part 1.

3.1.1 Learner Analysis

Any design process should begin with an understanding of the learners' and their needs. In this section, you will learn about conducting a learner analysis, which will help you identify the broad goals to address in your course. Video 3-1 will introduce the topic of this section.

Video 3-1

Learner Analysis (4:41)

Introductory Learner Analysis Presentation

Review the example. Then fill out the highlighted columns with your learner analysis.

3.1.2 Course Goals

Using the learner analysis as a foundation, begin identifying and defining the broad learning goals of the course that provide a high-level overview of what learners are expected to achieve. Ask yourself: "How do I get the learners from where they are at the beginning of the course to where they need to be at the end?"

The number of course-level goals can vary depending on factors such as the scope and complexity of the course and institutional or program requirements. Since they provide a high-level view of the desired learning outcomes, they are stated in broad terms and the number chosen should be both comprehensive and manageable. A general recommendation is 4-7 course outcomes. See the guidelines provided by the University of Kansas and Northeastern University as examples. Some broad course goals for a Psychology Research Methods course might include the following:

- learn principles and goals of research.
- carry out a study.
- write an APA report.

Notice that these goals are very general; they describe big-picture aims for the course. Each of these broad goals will eventually be chunked into smaller, achievable supporting outcomes, but for now, it is best to start with broad themes or categories that outline the main ideas of your course.

✎ Blueprint Challenge

Open your Learning Outcomes Map document. Read the directions for **Part 1B: Broad Learning Goals**.

Review the example. Then fill in the highlighted column with one to three broad learning goals for your blended course.

3.1.3 Using Bloom's Taxonomy to Articulate Learning Outcomes

Now that some course goals have been identified, they can be restated as formal learning outcomes. It is important that learning outcomes are well written because they serve as the primary reference point for designing the curriculum, assessments, and instructional strategies for the course. They need to be easy to understand and each should only describe a single outcome.

Each written outcome should have four parts:

1. A **verb** that describes the action learners will perform. Many educators use verbs relating to the levels in Bloom's Taxonomy to identify the cognitive complexity of the tasks. Doing so helps align the outcomes, activities, and assessments in the course.
2. The **subject** or topic the learners will learn about.
3. Any necessary **explanatory information** that clarifies what the learners need to do, but without overcomplicating the focus on the outcome.
4. A label that identifies which **cognitive domain** is being addressed. The label is for intentional course development and is not usually included in your syllabus.

For example:
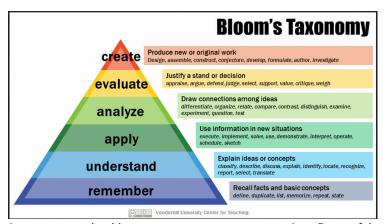
Learners will be able to + [**verb**][1] + [**subject**][2] + [**explanatory information**][3] + [*cognitive domain*][4].

Learners will be able to [**analyze**][1] [**data**][2] [**using statistical software**.][3] [*Bloom's Level—Analyze.]*[4]

Figure 3-1 below shows a version of Bloom's Taxonomy and some commonly used verbs for each cognitive level.

Figure 3-1

Bloom's Taxonomy

Note: Learning outcomes should measure one competency at a time. Be careful not to stack a learning outcome with multiple goals. For example: "Collect and analyze data to write a report about its implications" is NOT a good learning outcome because it addresses three competencies. However, these three learning outcomes are appropriate:

- Collect data with a qualitative method, such as surveys or interviews.
- Analyze data using statistical software.
- Report on the predictive implications of collected data.

A singular focus will help ensure that the outcomes are clear, concise, and measurable. Some course-level outcomes for a Psychology Research Methods course might include the following:

- Understand the fundamental principles and goals of scientific research in psychology. *Bloom's Level—Understand.*
- Design a psychological research study. *Bloom's Level—Create.*
- Communicate research findings effectively in written reports following APA style guidelines. *Bloom's Level—Create.*

Adapted from Jhangiani, et al., 2013, CC BY-NC-SA.

Notice how the course level outcomes above compare to the broad goals. Each general idea has been written as a formal course-level outcome. These communicate the standards for learner achievement more precisely. In Chapter 2, we began the process of writing your syllabus. Course-level outcomes should be included in your syllabus. For example:

Course Outcomes — By the end of this course, learners will be able to:

- Understand the fundamental principles and goals of scientific research in psychology.
- Design a psychological research study.
- Communicate research findings effectively in written reports following APA style guidelines.

✎ **Blueprint Challenge**

Open your Learning Outcomes Map document. Read the directions for **Part 1C: Writing Clear Learning Outcomes**.

Review the example. Then write your course-level learning outcomes.

3.2 Supporting Outcomes

Each of the course-level outcomes is very broad. Remember they are macro-level concerns. A learner beginning your course might feel like the outcomes are unattainable. It is like asking them to eat a whole meal in one bite. Instead, each outcome needs to be chunked into manageable pieces that can be processed before taking on more. Video 3-2 explains

and provides examples of how chunking works. Outcomes that are chunked into manageable pieces are called supporting outcomes.

Supporting outcomes are specific learning outcomes that contribute to the achievement of the course outcomes. They break down the course-level outcomes into smaller, more focused components, often at the unit and lesson levels. Supporting outcomes provide more detailed expectations for what learners should achieve within a particular topic, theme, or skill area. They help guide the selection and organization of content, as well as the design of assessments and instructional activities within the course. Supporting outcomes provide a focused roadmap that helps educators and learners understand the specific milestones or learning objectives to be accomplished along the way.

> **Learning Outcome**: I can write unit, chapter, and/or lesson-level outcomes for my blended course. **Assessment:** Learning Outcome Map Part 2

Video 3-2

Chunking (3:32)

Chunking: Learning Technique for Better Memory

Course-Level Outcome	Understand the fundamental principles and goals of scientific research in psychology. *Bloom's Level—Understand.*
Unit-Level Outcomes	- Understand the scientific method and its relationship to developing research questions, hypotheses, and study designs. *Bloom's Level—Understand.* - Demonstrate knowledge of research designs, including experimental, non-experimental, quasi-experimental, single-subject, and correlational designs. *Bloom's Level—Apply.* - Demonstrate knowledge of ethical considerations. *Bloom's Level—Apply.* - Explain the reliability and validity of psychological measurement techniques. *Bloom's Level—Understand.* - Understand appropriate statistical methods for analysis and interpreting research data. *Bloom's Level—Understand.*
Course-Level Outcome	Design a psychological research study. *Bloom's Level—Create.*
Unit-Level Outcomes	- Apply the scientific method to develop research questions, hypotheses, and study designs. *Bloom's Level—Apply.* - Apply ethical guidelines in psychological research. *Bloom's Level—Apply.* - Apply appropriate statistical methods for the analysis and interpretation of research data. *Bloom's Level—Apply.*
Course-Level Outcome	Communicate research findings effectively in written reports following APA style guidelines. *Bloom's Level—Create.*
Unit-Level Outcomes	- Write the Methods section. *Bloom's Level—Create.* - Write the Results section. *Bloom's Level—Create.* - Create and include tables, charts, and/or graphs. *Bloom's Level—Create.*

Adapted from Jhangiani, et al., 2013, CC BY-NC-SA.

Notice that these unit-level outcomes are still too big to be easily processed without additional skills and practice. We need even smaller supporting chunks that will be lesson-level outcomes.

3.2.2 Lesson Outcomes

The unit-level outcomes need to be chunked into individual lessons. A lesson represents one instance of instruction in your course. These are micro-level steps that are within the

learners' capacity. Table 3-2 shows some examples of lesson-level outcomes for the psychology research course.

Table 3-2

Lesson-Level Outcomes for a Psychology Research Course

Course-Level Outcome	Understand the fundamental principles and goals of scientific research in psychology. *Bloom's Level—Understand.*
Unit-Level Outcomes	Understand the scientific method and its relationship to developing research questions, hypotheses, and study designs. *Bloom's Level—Understand.*
Lesson-Level Outcomes	- Define the scientific method. *Bloom's Level—Remember.* - Define what makes a good research question. *Bloom's Level—Remember.* - Explain why hypotheses are important in a study. *Bloom's Level—Understand.* - Define what a psychological research study is. *Bloom's Level—Remember.* - Explain each of the following five research designs: experimental, non-experimental, quasi-experimental, single-subject, and correlational designs. *Bloom's Level—Understand.*
Unit-Level Outcome	Demonstrate knowledge of research designs, including experimental, non-experimental, quasi-experimental, single-subject, and correlational designs. *Bloom's Level—Apply.*
Lesson-Level Outcomes	- Compare and contrast the five research designs, highlighting the strengths and uses of each. *Bloom's Level—Analyze.* - Read case studies to identify which design was used. *Bloom's Level—Analyze.* - Analyze open-ended case studies to determine which design should be used. *Bloom's Level—Analyze.*
Unit-Level Outcome	Demonstrate knowledge of ethical considerations. *Bloom's Level—Apply.*
Lesson-Level Outcomes	- List the topics of the ten ethical standards discussed in the APA Code of Ethics. *Bloom's Level—Remember.* - Summarize the main idea of each of the ten ethical standards. *Bloom's Level—Understand.* - Read case studies and identify which of the ethical standards is being challenged/addressed. *Bloom's Level—Apply.*

- Discuss scenarios and determine how to uphold the ethical standard in question. *Bloom's Level—Analyze.*

Adapted from Jhangiani, et al., 2013, CC BY-NC-SA.

These lesson-level outcomes are more manageable. They will guide planning for instruction, selecting teaching materials, and developing assessments. For example, to help learners accomplish the outcome *Define the scientific method,* an instructor might choose to show a video about the scientific method, then lead an activity where learners practice the steps of the scientific method, and then administer a quiz asking learners to define the scientific method in their own words.

However, some lesson objectives may need to be chunked into even smaller segments of instruction; for example, *Explain each of the following five research designs: experimental, non-experimental, quasi-experimental, single-subject, and correlational designs*. If learners are capable of processing all these approaches as one chunk, the five research designs could be covered in one lesson. However, if learners have no prior knowledge about research designs, it might be better to teach each design separately and cover this material in five lessons. Instructors should be attuned to the learners' needs, abilities, and cognitive capacity.

Keep in mind that proper alignment of learning objectives at all course levels is imperative. Awareness of desired outcomes will ensure that the instructors' and learners' time and effort are dedicated to the intended purposes of the course. Lesson objectives should support unit objectives, and unit objectives should support course-level objectives. Individual learning activities and assessments will have their specific learning objectives, but those outcomes should align seamlessly with other supporting-level and course outcomes.

✏️ Blueprint Challenge

Open your Learning Outcomes Map document.

Read the directions for **Part 2: Supporting Outcomes**. Review the example. Then fill in the table with your ideas.

3.3 Sequencing Outcomes

Course-level and supporting outcomes should be organized in a coherent, hierarchical manner that reflects the progression of learning within the course. Two learning theory

frameworks are particularly helpful for this process: Bloom's Taxonomy and Vygotsky's zone of proximal development (ZPD).
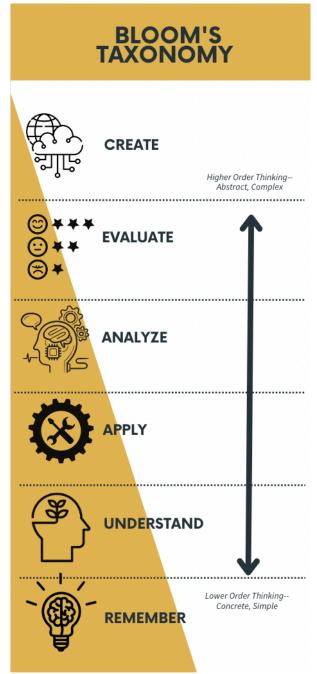
> ***Learning Outcome***: *I can sequence the outcomes in a logical order to support student learning.* ***Assessment:*** *Learning Outcome Map Part 3*

3.3.1 Bloom's Taxonomy: Higher-Order and Lower-Order Thinking

Bloom's Taxonomy is a great way to sequence the course-level, supporting-level, and activity-level outcomes. Starting at the bottom, the taxonomy levels are arranged from lower-order to higher-order thinking skills, as depicted in Figure 3-2.

Figure 3-2

Lower to Higher Order Thinking

Created by Alison McMurry CC BY 2023

Higher-order thinking skills are considered more complex, even sometimes abstract, and they require deeper cognitive processing, including critical thinking, creativity, and problem-solving. In contrast, lower-order thinking skills are more concrete and simple, and they involve more straightforward cognitive processes, such as rote memorization and basic understanding. Lower-order recall and understanding provide a solid foundation for learning. We could never expect learners to excel at creating balanced algebra equations if they have never memorized their multiplication tables. However, wherever possible and appropriate, we should strive to move learners beyond lower-order thinking to higher-order thinking for maximum learning potential.

The course-level planning should build from lower to higher thinking. Consider the course-level outcomes above. It makes sense to sequence those outcomes in the order of Bloom's Taxonomy, as follows:

1. Understand the fundamental principles and goals of scientific research in psychology. *Bloom's Level—Understand.*
2. Design a psychological research study. *Bloom's Level—Create.*
3. Communicate research findings effectively in written reports following APA style guidelines. *Bloom's Level—Create.*

Adapted from Jhangiani, et al., 2013, CC BY-NC-SA.

The supporting-level planning for the course units of instruction should also build from lower to higher thinking. Remember Table 3-1 with the unit-level outcomes. It makes sense to sequence those outcomes in the order of Bloom's Taxonomy, as shown in Table 3-3 below.

Table 3-3

Sequencing the Unit-Level Outcomes for a Psychology Research Course

Course-Level Outcome	Understand the fundamental principles and goals of scientific research in psychology. *Bloom's Level-Understand.*
Unit-Level Outcomes	1. Understand the scientific method and its relationship to developing research questions, hypotheses, and study designs. *Bloom's Level-Understand.* 2. Demonstrate knowledge of ethical considerations. *Bloom's Level-Apply.* 3. Demonstrate knowledge of research designs, including experimental, non-experimental, quasi-experimental, single-subject, and correlational designs. *Bloom's Level-Apply.*

Adapted from Jhangiani, et al., 2013, CC BY-NC-SA.

Lesson-level and activity-level planning needs to be sequenced in the same way, so consider sequencing your learning objectives in a logical progression as you continue your course design. (Activity-level design will be discussed in Chapters 5 and 6.) Let's consider how the zone of proximal development applies to learning potential.
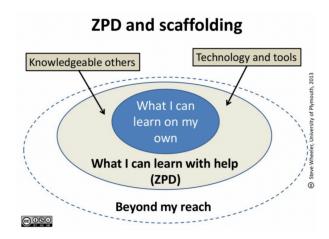
3.3.2 Vygotsky and the Zone of Proximal Development

Vygotsky's theory of the zone of proximal development (ZPD) refers to the range of tasks that a learner cannot yet perform independently, but can perform with help. Learners can get help from technology and tools, but the most important source of help is what Vygotsky called a "more knowledgeable other" (see Figure 3-3 below). This mentor plays a crucial role

in the learning process by providing **scaffolding**, which involves tailoring support to the learners' individual needs.

Figure 3-3

Zone of Proximal Development

Scaffolding is the support structure built on construction sites that allows the workers to access and work on taller projects. Scaffolding can be multiple stories tall for work on skyscrapers but still provides safety and support at every level. Notice in Figure 3-4 below that the scaffolding allows construction workers access to each level of the building.

Figure 3-4

Scaffolding

Photo by [Darya Sannikova](#) on [Pexels](#), 2023.

Similarly, scaffolding in education allows learners to access and work on higher-level concepts, sometimes involving multiple steps to address highly complex issues. Scaffolding provides learners with safety and support. Safety in education might be a new concept for some, but it is imperative that learners feel safe enough to take risks, ask questions, and tolerate failure. The learning process asks learners to navigate many unknowns, but a well-designed course and attentive instructor can help learners progress in ways that feel supported.

Scaffolding includes breaking down complex tasks into manageable chunks, which was discussed in section 3.2, and arranging those chunks into a logical sequence of progression. The logical progression needs to guide the learners through the zone of proximal development, like stepping stones across a lake. Each small step feels manageable, and each step is progress toward the end goal

Figure 3-5

Stepping Stones

Photo by [Robert Linder](#) on [Unsplash](#), 2021.

Through scaffolding, learners can expand their cognitive abilities, learn new skills, and achieve higher levels of understanding and problem-solving. As they receive guidance and gradually internalize the knowledge and skills provided by the mentor, they move from dependency to independent mastery, fostering their overall development.

The activity-level planning for the lesson-level outcomes should build from lower to higher thinking in Bloom's Taxonomy and guide learners step-by-step through the ZPD. Remember the lesson-level outcomes. One way to sequence those outcomes is shown in Table 3-4.

Table 3-4

Sequencing and Scaffolding the Lesson-Level Outcomes for a Psychology Research Course

Course-Level Outcome	Understand the fundamental principles and goals of scientific research in psychology. *Bloom's Level—Understand.*
Unit-Level Outcome	Understand the scientific method and its relationship to developing research questions, hypotheses, and study designs. *Bloom's Level— Understand.*

Lesson-Level Outcomes	1. Define the scientific method. *Bloom's Level—Remember.* 2. Define what a psychological research study is. *Bloom's Level—Remember.* 3. Define what makes a good research question. *Bloom's Level—Remember.* 4. Explain why hypotheses are important in a study. *Bloom's Level—Understand.* 5. Explain each of the following five research designs: experimental, non-experimental, quasi-experimental, single-subject, and correlational designs. *Bloom's Level—Understand.*
Unit-Level Outcome	Demonstrate knowledge of ethical considerations. *Bloom's Level—Apply.*
Lesson-Level Outcomes	1. List the topics of the ten ethical standards discussed in the APA Code of Ethics. *Bloom's Level—Remember.* 2. Summarize the main idea of each of the ten ethical standards. *Bloom's Level—Understand.* 3. Read case studies and identify which of the ethical standards is being challenged/addressed. *Bloom's Level—Apply.* 4. Discuss scenarios and determine how to uphold the ethical standard in question. *Bloom's Level—Analyze.*
Unit-Level Outcome	Demonstrate knowledge of research designs, including experimental, non-experimental, quasi-experimental, single-subject, and correlational designs. *Bloom's Level—Apply.*
Lesson-Level Outcomes	1. Compare and contrast the five research designs, highlighting the strengths and uses of each. *Bloom's Level—Analyze.* 2. Read case studies to identify which design was used. *Bloom's Level—Analyze.* 3. Analyze open-ended case studies to determine which design should be used. *Bloom's Level—Analyze.*

Adapted from Jhangiani, et al., 2013, CC BY-NC-SA.

Consider the natural progression of learning and complexity within your course. Arrange supporting outcomes in a logical order that reflects the sequence in which they will be addressed. Remember, organizing course-level and supporting outcomes is a dynamic process that may require revisions and adjustments based on feedback, curriculum changes, or the evolving needs of learners. Regular review and refinement of the outcomes can help maintain their relevance and effectiveness within the course.

> ✎ **Blueprint Challenge**
>
> Open your Learning Outcomes Map document.
>
> Read the directions for **Part 3: Sequencing Outcomes**. Review the example. Then fill in the table with your ideas.

Conclusion

This chapter has prepared you to create your learning outcomes map. The learning outcomes map takes all of these ideas —course-level outcomes, supporting outcomes, and the logical teaching sequence to guide learners from lower-level thinking at the beginning of the ZPD to higher-level thinking at the end of the ZPD— and creates a first draft of a road map for the course. You will brainstorm and list simple ideas in your outcomes map that you will fully develop later in this course. For now, just open your mind to ideas.

> ✎ **Blueprint Challenge**
>
> Open your Learning Outcomes Map document.
>
> Read the directions for **Part 4: Learning Outcomes Map**.
>
> Review the example. Then fill in the table with your ideas.

This content was previously published as follows:

Graham, C. R., Slaugh, B., McMurry, A., Sorensen, S. D., Arnesen, K. T., & Ventura, B. (2023). Learning Outcomes. Blended Teaching in Higher Education: A Guide for Instructors and Course Designers. https://edtechbooks.org/he_blended/chapter_3_learning_outcomes

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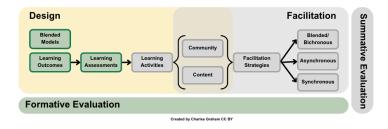
Assessment

Graham, C. R. , Slaugh, B. , McMurry, A. , Sorensen, S. D. , Arnesen, K. T. , Ventura, B. , & Kimmons, R.

Assessment Plan   Authentic Assessments   Blended Course

Digital Learning   Formative Evaluation   learning outcomes

Renewable Assessments   Summative Assessment

This chapter discusses the third part of the course design framework: Learning Assessments. It introduces the concept of alignment between assessments and learning outcomes, and provides examples of different types of assessments, including formative and summative assessments, authentic and renewable assessments, and a variety of assessment formats. The chapter also highlights the importance of considering the strengths and limitations of digital assessments in course design.

The next step in our framework is to plan your learning assessments. In this chapter, we will discuss the alignment of assessments with course outcomes, different types of assessments, and strengths and weaknesses of assessments. As always, a formative evaluation will be conducted to help you thoroughly think through your design decisions.

Created by Charles Graham CC BY

Learning Outcome

I can develop an assessment plan that aligns with my learning outcomes.

Sub-section outcomes:

- I can plan assessments that align with my course learning outcomes. ([Section 4.1](#))

- I can identify a variety of assessments for use in my course. ([Section 4.2](#))
- I can evaluate the strengths and limitations of my digital assessments. ([Section 4.3](#))
- I can develop an assessment strategy that addresses academic integrity. ([Section 4.4](#))

✎ Blueprint Challenge

You will use the skills presented in this chapter to develop a digital assessment plan for your blended course.

Open the [Digital Assessment Plan Template](#) and save a copy.

Each section in this chapter guides you through elements of your digital assessment plan and progress toward a completed plan for your course.

4.0 Introduction

This chapter discusses the third part of the course design framework: Learning Assessments. We will introduce you to some of the big ideas around digital learning assessment and help you get started designing a digital assessment plan for your blended course. Use the resources listed at the end of each lesson to dive deeper into any of the assessment topics you are interested in.

4.1 Aligning Assessments with Outcomes

In this section, you will begin to address alignment. The best assessments are those that align directly with the learning outcomes that you are trying to achieve. The need for alignment between outcomes and assessments may seem obvious, but it is not uncommon in courses for the assessments and outcomes to get out of alignment—especially over multiple iterations of a course. Video 4-1 below serves as an introduction to this topic.

> **Learning Outcome**: *I can plan assessments that are aligned with my course learning outcomes.* **Assessment:** *Blueprint Challenge Part 2 Alignment Table.*

Video 4-1

Alignment and Backward Design (2:53)

What to look for: *Why alignment is important and one way to ensure alignment.*

As you align assessments with your learning outcomes, consider Bloom's Taxonomy to help guide your choices. Keep in mind that higher-order outcomes require assessments that measure higher-order skills. Figure 4-1 shows some examples of coordinating Bloom's higher-order outcomes and different assessments. However, this does not show all possibilities, so use your own creativity and judgment as you build your assessment plan.

Figure 4-1

Assessment and Bloom's Taxonomy

ASSESSMENT AND BLOOM'S TAXONOMY

Use Bloom's Taxonomy to align assessments with learning outcomes. Although the assessments are listed in only one cognitive level, they are somewhat flexible across levels.

CREATE

Projects, Portfolios, Presentations, Performances

EVALUATE

Research Papers, Reflective Journals, Self-Assessment, Peer Review, Debate

ANALYZE

Simulations, Reports, Labs, Graphic Organizers

APPLY

Simulations, Case Studies, Projects, Problem Solving, Concept Maps

UNDERSTAND

Essay Tests, Demonstrations, Discussions

REMEMBER

Multiple Choice, Fill-in-the-Blank, Matching, True/False

Higher Order Thinking

Lower Order Thinking

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You can use an alignment table to articulate the relationship between your desired learning outcomes and the assessments you are choosing. Table 4-1 displays learning outcomes from various disciplines and examples of assessments aligned or misaligned with those outcomes.

Table 4-1

Example of alignment table for possible assessments for various learning outcomes

Learning Outcome *Include Bloom's Taxonomy*	Aligned Assessments	Misaligned Assessments
Art Learning Objective: Students will be able to create a pencil drawing of a still life using shading techniques. *Bloom's Taxonomy— Create.*	• In class, students will make a still life pencil drawing based on a subject presented in the classroom, focusing on using shading techniques to capture the essence of the still life. • Students will independently choose their own still life subject and create a pencil drawing of the still life using appropriate shading techniques.	• Students will analyze the technique and effectiveness of a classic still life pencil drawing. • Students will plan a lesson on how to shade with a pencil. *(Neither of these assessments evaluate the students' ability to create and shade their own still life drawing.)*
History Learning Objective: Students will be able to analyze and compare the causes leading to the American Revolutionary War with causes leading to civil unrest in our day, with an emphasis on outcomes. *Bloom's Taxonomy— Analyze.*	• Students will write a paper on the similarities and differences of the various causes and their effects on the events of the American Revolutionary War and current civil unrest. • In class, students will debate the similarities and differences in outcomes between the causes of the American Revolutionary War and modern civil unrest.	• Students will create two tables, one with American Revolutionary War causes and their outcomes and one with current causes of civil unrest and their outcomes. • Students will take a quiz, matching causes with their outcomes. *(These assessments do not require the student to analyze or compare the causes.)*
Physical Health Learning Objective:	• Students will create a personalized fitness	• Students will prepare a presentation

Students will be able to plan a balanced exercise plan based on their unique needs. *Bloom's Taxonomy—Evaluate, Create.*	plan for several areas in which they could improve their physical health. • Students will define a goal they want to work on for a month and will create a fitness plan to help them achieve their goal.	demonstrating how to do one physical fitness activity. • Students will run for 15 minutes/day and keep track of how far they went each day. *(Knowing how to do a specific activity and being assigned to do it are not the same as creating a personalized plan to improve physical health.)*
Chemistry Learning Objective: Students will be able to balance chemical equations. *Bloom's Taxonomy—Apply.*	• Students will complete a worksheet with 10 chemical equations to balance. • Students will create their own multiple-choice test on balancing chemical equations and include an answer key.	• Students will teach a friend the steps to balance a chemical equation. • Students will complete a crossword puzzle on chemistry terminology and element names. *(Knowing the steps in a process and knowing chemistry terminology are not the same as being able to balance chemical equations.)*

✏️ **Blueprint Challenge**

Open your assessment plan document.

Read the directions for **Part 2: Alignment Table**. Review the example. Then fill in the table with your ideas.

4.2 Learning Assessments

In this section, you will learn about a variety of learning assessments you may use in your blended course. You will first review the distinctions between formative and summative assessments. Then you will see examples of authentic and renewable assessments, which are particularly relevant in a digital context. Finally, you will have a chance to explore what variety of assessments makes sense for your blended course.

> *Learning Outcome*: I can identify a variety of assessments for use in my course.
> *Assessment:* Design Challenge Part 1 Assessment Brainstorming Table—First Column.

4.2.1 Formative and Summative Assessment

Learning Assessments allow you to measure what a learner has learned from instruction and learning activities. Learning assessments can be formative or summative.

- **Summative** assessments typically take place *after* the learning process and have the primary goal of providing an evaluative summary of student learning outcomes.
- On the other hand, **formative** assessments typically take place *during* a learning process and have the primary goal of providing actionable feedback to both learners and instructors.

As you consider potential assessments for your blended course, you may want to consider both formative and summative assessment options as described in Table 4-3.

Table 4-3

Comparing Summative and Formative Assessments

	Summative Assessment OF Learning	**Formative *Assessment FOR Learning***
Purpose	To evaluate learner's overall knowledge and performance.	To monitor learners' progress and identify areas for improvement.
Focus	A finished product or completed unit of study, showing evidence of competency (at least 80% proficiency).	The learning process, showing evidence of thinking and understanding.
Uses	Gives a grade, score, or ranking that represents learner's competency. Sometimes used to determine if an instructor needs to reteach a unit to the entire class, or if a learner needs additional tutoring in one content area.	Can guide the instructor's methods, processes, and pacing. Can inform learners' management of self-regulated learning.

Timing	At the end of a unit or course.	Should happen throughout the learning process.
Feedback	Feedback is often limited as the primary purpose in a summary evaluation of learner performance.	Provides timely and specific feedback to learners that helps them make improvements to their learning.
Examples	Unit tests, final exams, standardized tests. Projects, performances, and portfolios.	Class discussions, quizzes, homework assignments, parts of a larger project.

Note: Assessments can occasionally overlap, such as if a unit test shows a summative assessment of the unit AND a formative assessment of the course.

4.2.2 Examples of Assessments

Many different digital learning assessments can be used in a blended course. Table 4-4 lists some examples that you might consider beyond traditional quizzes, exams, essays, and research papers. Using a variety of assessments can enhance the engagement and motivation of your learners. Additionally, providing a variety of ways to demonstrate learning can cater to and strengthen learners with different learning preferences, abilities, and cultural perspectives.

Table 4-4

Examples of Various Types of Assessments

Type of Assessment	Description
Quizzes and Exams	- Learners show understanding by responding to question prompts and selecting or writing answers. - Quizzes are usually shorter in length than Exams.
Essays and Essay Tests	- Learners show critical thinking and written communication skills by writing longer-form essays on specific topics. - Essays are usually written over time, with multiple drafts, and show more depth of thought on a topic. - Essay tests are usually done in person, with a time limit, only one draft, and show the ability to think and respond quickly to a topic.

Short Answer Questions	• This is a combination of a quiz and an essay test. Learners provide concise written responses to short questions. There is no expectation of essay formatting (such as paragraphs). The entire quiz might include several short answer questions.
Research Papers	• Learners research a particular topic and write an academic paper presenting their findings.
Presentations	• Learners demonstrate oral communication skills in individual or group presentations, either in person or through video recordings.
Demonstrations	• Learners perform hands-on demonstrations of a particular skill or concept to showcase their understanding and application.
Projects	• Learners work on individual or collaborative projects to complete a task or solve a problem. Projects could be turned in as stand-alone assignments, or could be combined with a presentation, portfolio, or choice board.
Discussions	• Learners participate by contributing to online discussion forums or platforms.
Simulations	• Learners apply knowledge and skills in realistic, interactive scenarios.
Labs	• Learners apply theoretical knowledge to practical, realistic situations in a laboratory setting where they can make decisions and observe results.
Case Studies	• Learners analyze real or hypothetical scenarios, apply concepts, and propose solutions or recommendations.

Portfolios	• Learners compile a portfolio of their work, including assignments, projects, and reflections. Portfolios can showcase their learning progress over time, highlight their best work, or offer representative samples from specific categories or outcomes. These are often used to assess process-based learning, such as writing or art.
Surveys or Self-Assessments	• Learners use online surveys to share feedback about their preferences, learning experiences, dispositions, etc.
Peer Reviews	• Learners provide constructive feedback on each other's work, such as assignments or projects.
Performance Tasks	• Learners demonstrate skills in a real or simulated context.
Concept Maps/Graphic Organizers	• Learners visually represent relationships between concepts using diagrams or charts.
Reflective Journals	• Learners maintain reflective journals or blogs where they can document their learning experiences, insights, and personal reflections.
Playlists or Choice Boards	• Learners select assessment options from a playlist or choice board "menu" to meet required learning objectives. The choice board might include a variety of the activities listed in this table.

4.2.3 Incorporating Rubrics

Grading traditional assessments is quite straightforward. Fill-in-the blank, multiple-choice, and matching questions typically found in quizzes and exams can be graded automatically and objectively. To implement any of the *alternate assessments* listed above, the use of rubrics makes them assessable. Rubrics are tools we use to measure learner performance on an assessment. A **rubric** identifies and outlines specific criteria that are important. This allows the instructor (or TA, learner, or peer) to give specific, helpful feedback on projects, essays, presentations, and other types of assessment that are not automatically graded. See Video 4-2 below for a brief description of the benefits of using good rubrics. Many LMSs and other digital assessment tools often have ways to easily create rubrics.

Video 4-2

Rubrics (3:04)

Rubrics for Assessment

university. For a draft of the opinion article, you could use an analytic rubric, which gives feedback the learners can use to revise their writing. For the finished opinion article, you could use a holistic rubric. Table 4-6 shows an example of an analytic rubric, and Table 4-7

shows an example of a holistic rubric. Notice how they address the same characteristics, but in different ways.

Table 4-6

An example of an analytic rubric for a first draft of an opinion article

	Meets or exceeds requirements. Good work. (1 point each)	Below requirements. Needs some revision. I suggest you talk with me. (0.5 point each)	Far below requirements. Needs substantial revision. You must talk with me. (0 point each)
Topic	The topic is appropriate in scope for the assignment.	The topic's scope is too big or too small for the assignment.	The topic is unclear and/or confusing.
Thesis Statement	The thesis statement clearly communicates the writer's opinion/evaluation of the topic of the paper.	The thesis statement vaguely communicates the author's opinion or evaluation of the topic.	There is no thesis statement.
Topic Sentences	The topic sentences clearly state the main idea or purpose of each body paragraph.	The topic sentences somewhat communicate the main ideas of the body paragraphs.	There are no topic sentences.
Organization	The paragraphs are organized in a sensible progression through the main argument.	The organization links some of the ideas together but lacks the progression of ideas.	There is no organization.
Content and use of rhetoric - Ethos	There is one powerful or relevant real-world example of Ethos in the supporting details (with documentation).	There is one real-world example of Ethos, but it is weak or lacking documentation.	There is no example of Ethos.

Content and use of rhetoric - Logos	There is one powerful or relevant real-world example of Logos in the supporting details (with documentation).	There is one real-world example of Logos, but it is weak or lacking documentation.	There is no example of Logos.
Content and use of rhetoric - Pathos	There is one powerful or relevant real-world example of Pathos in the supporting details (with documentation).	There is one real-world example of Pathos, but it is weak or lacking documentation.	There is no example of Pathos.
	_____ points	_____ points	_____ + _____ = _____out of 7

First, notice that this rubric does not include anything about grammar, spelling, punctuation, or vocabulary. This is a rubric for a first draft and focuses on higher-order concerns, such as topic, content, strength of argument, and organization. A rubric for a third or fourth draft might focus on lower-order concerns, such as grammar, punctuation, and vocabulary.

Second, notice that this rubric focuses on giving feedback to the learners, so they know what to revise and if they need to talk with the instructor for help.

Third, consider the **strengths of this rubric:** This rubric assesses if the learners used rhetoric in their writing. It provides specific, useful feedback so the learners can make improvements to their writing. The instructor receives insight about what the learners understand and what topics need to be reviewed in class.

The instructor can choose to either give a completion score in the gradebook for submitting a draft or give points for each criterion and add the points together for a total score. Both are acceptable ways of recording learner performance on the assessment.

Table 4-7

An example of a holistic rubric for a finished opinion article

Grade	Description
A	- The topic is appropriate for the assignment and the thesis statement clearly communicates the topic to the reader. - The topic sentences state the main idea of each body paragraph, connecting each paragraph to the thesis statement. - The paragraphs are organized to guide the reader through the main argument. - The writer used one rhetorical example for each of ethos, logos, and pathos. - The article is well-written and persuasive.

	• You are done with this paper! Excellent work!
B	• The topic is too broad or narrow for the assignment and the thesis statement only vaguely communicates the topic to the reader. • The topic sentences state the main idea of each body paragraph, but do not connect each paragraph to the thesis statement. • The paragraphs are not organized to guide the reader through the main argument. • The writer used some rhetorical examples, but not one each of ethos, logos, and pathos. • The article is somewhat well-written but lacks persuasive power. In general, this represents good work. • You have one week to revise this paper (if you choose) to change your grade.
C	• There is more than one topic being addressed and there is no thesis statement. • There are no topic sentences, the organization is vague, and the reader is left in confusion. • The writer either didn't use any rhetorical examples or used them poorly. • The article is poorly written. • You have one week to revise this paper (if you choose) to change your grade.
F	• No paper was submitted. • You have one week to turn in a paper to change your grade.

First, notice that this rubric gives similar feedback to the analytic rubric, but it is less helpful for making revisions. The product is evaluated as a whole, and the most accurate overall score is selected. A learner may have a great thesis statement, but poor topic sentences and poor use of rhetoric and would thus receive the intermediate score of a B (or whatever value the instructor chooses to give that level).

Second, notice the instructor's rubric offers any learner with a score below A one week to revise the paper and improve the grade if they choose. This rubric is for a writing class and focuses on the process of learning to write, allowing students to learn from mistakes. The rubric gives learners a clearer understanding of how to use rhetoric to persuade. The formative feedback students receive from the rubric allows them to learn the writing process rather than focus solely on the final product.

Third, consider the **strengths of this rubric:** This rubric assesses how well the learners used rhetoric in their writing. It provides general feedback so each learner can understand their grade. The instructor can evaluate what the learner knows and award an appropriate grade along with guidance for potential improvement.

To create your rubrics

You need to decide what you want to communicate to the learner.

If the assessment is **formative**:

- Do you want to give general or specific feedback?
- What changes would you expect a learner to make after receiving your feedback?
- How does your feedback help the learner understand *the learning process* better?

If the assessment is **summative**:

- Are you only explaining the reasons for the grade the learner earned, or are you also allowing learners another chance to make changes?
- If they can make changes, what changes would you expect a learner to make after receiving your feedback?
- How does your feedback help the learner understand *their product* better?

The answers to these questions will help you decide which type of rubric might be best, what criteria to use to evaluate the learner's work, and what to include in the rubric.

Within the categories of formative and summative rubrics, there are many ways to structure the rubrics. For more information about rubrics see the resources section of this chapter.

✏️ Blueprint Challenge

Open your assessment plan document. Read the directions for **Part 1: Assessment Brainstorming Table**.

Review the example in the first column. Then fill in the first column with your assessment ideas.

4.3 Strengths and Limitations of Digital Assessments

In this section, you will learn how to evaluate the strengths and limitations of digital assessments. You will also be introduced to how different types of digital rubrics can help with the assessment strategy for your blended course.

*Learning Outcome: I can evaluate the strengths and limitations of my digital assessments. **Assessment:** Blueprint Challenge Part 1 Assessment Brainstorming*

Table - Second Column.

4.3.1 Strengths of Digital Assessments

Technology makes it possible to enhance the assessment of student learning. Figure 4-2 below highlights some of the ways in which learning assessment is evolving in a digital world.

Figure 4-2

The Future of Assessment

FUTURE OF ASSESSMENT

The shift from traditional paper and pencil to next generation digital assessments enables more flexibility, responsiveness, and contextualization.

	TRADITIONAL	NEXT GENERATION
TIMING	After learning	Embedded in learning
ACCESSIBILITY	Limited	Universally designed
PATHWAYS	Fixed	Adaptive
FEEDBACK	Delayed	Real Time
ITEM TYPES	Generic	Enhanced

Source https://tech.ed.gov/netp/assessment/

When deciding whether to use digital assessments or more traditional offline assessments, it is important to consider the strengths and limitations of your different options. Table 4-8 shares examples of how digital assessments can benefit student learning, access, flexibility, and efficiency.

Table 4-8

Some Benefits of Digital Assessments

Benefits of Digital Assessments (DA)	Examples

Student Learning	- Real-time Feedback — DA provide immediate and specific feedback when learners complete the assessment. - Multiple Attempts — DA allow for multiple opportunities for practice. - Authenticity — DA can be embedded in real-world learning contexts or enable capture of real-world tasks. - Adaptive Pathways — DA items can be customized to the needs of the learner. - Enhanced Interaction — DA items can include rich multimedia elements and/or a wider range of learner-content interactions.
Access & Flexibility	- Time Flexibility — DA can be taken at a time that is convenient for each learner. - Location Flexibility — DA can be taken at a location that is convenient to the needs of each learner.
Efficiency	- Feedback Automation — DA's scoring and basic feedback can be automated so the instructor doesn't spend time providing repetitive feedback and students don't have to wait for it. - Customized Feedback — digital rubrics can speed up the process and reduce the cost of providing quality and timely individualized feedback to learners. - Peer Feedback Coordination — digital tools can make peer feedback and coordination more manageable.

4.3.2 Authentic Assessment

Authentic assessment engages learners in real-world applications and problem-solving tasks, which require learners to apply their knowledge in real-world contexts. This deepens learner engagement with the content and fosters greater connections between theory and practice. It also increases motivation because learners perceive greater relevance to their own experience and transferability to their world outside of school. Video 4-3 below presents a brief introduction to authentic assessments.

Video 4-3

Authentic Assessment (2:45)

Authentic Assessment: Examples & Overview

What to look for: *The analogy of the driving test and how it relates to our educational systems.*

Below are some questions adapted from Burton (2011, p. 25) that can be used to evaluate the authenticity of a learning assessment.

1. Is the learner required to mimic a professional in the real world?
2. Is the learner required to complete the assessment task using resources similar to that in the workplace?
3. Does the assessment task produce a valuable artifact or require the performance of a relevant skill?
4. Is higher-order thinking or meta-cognition seamlessly integrated with the assessment task?
5. Does the learner collaborate with other stakeholders (for example, professionals/learners) when completing the assessment task?
6. Does the assessment task produce novel or diverse responses?

One assessment may not incorporate every principle listed above, but implementing any of them will increase its authenticity. Table 4-9 contains some examples of authentic assessments in different academic domains. Figure 4-3 shows an example from a psychology class.

Table 4-9

Examples of Authentic Assessments

Field	Example of Authentic Assessment
Art	Create an original artwork inspired by a specific art movement or theme.
Business	Develop a comprehensive business plan for a new startup venture.

Education	Design and implement a lesson plan for teaching and assessing student learning.
Engineering	Design and build a functional model or prototype of a complex machine or structure.
Geology	Map and interpret geological formations in the field.
History	Conduct archival research with primary sources and write a historical analysis paper.
Psychology	Design and conduct a psychological experiment to test a hypothesis.

Figure 4-3. Example of an Authentic Assessment — Psychology Class

Here is an example of what an authentic digital assessment might look like in a Psychology Research Methods class:

Learning Objectives

- Use several methods for finding previous research literature on a particular research idea or question.
- Convert research ideas into empirical research questions.
- Evaluate research questions for interesting or valuable research.

Research Proposal Evaluation

Instructions — To practice the skills you learned in this module and ready yourself for potential research in an area that interests you, complete the following tasks:

1. Choose a research idea from the list below (or choose one of your own and clear it with your instructor).
2. Convert your topic into an empirical research question that is focused, specific, and testable.
3. Identify five articles in existing research literature related to your research question.
4. Using your preparation from 1-3, create a research proposal evaluation as a slide deck, showing your topic, proposed question, and current literature.

Research Ideas

- The impact of social media usage on self-esteem in teenagers.

- The relationship between sleep quality and academic performance among college learners.
- The effects of mindfulness/meditation on stress reduction in working professionals.
- The influence of parental involvement on child development outcomes.
- The role of personality traits in job satisfaction among employees in the service industry.
- The effects of music on cognitive performance in older adults.
- The relationship between exercise habits and mental well-being in young adults.
- The impact of video game violence on aggressive behavior in children.
- The effects of color on mood and productivity in office environments.
- The relationship between gender stereotypes and career choices in adolescents.

4.3.3 Renewable Assessment

Renewable assessments are a type of authentic assessment that has value beyond the scope of the classroom. While most classroom assessments are **disposable** because they have no lasting value beyond the classroom, renewable assessments produce artifacts that have value beyond the classroom and the assessment itself. They are often associated with internships or projects that serve the local community.

By creating authentic artifacts with a sense of permanence, renewable assessments enable learners to demonstrate their understanding, critical thinking, and practical skills in a manner that can have lasting value and relevance in their respective fields. Table 4-10 has some examples of renewable and disposable assessments in various fields.

Table 4-10

Examples of Renewable and Disposable Assessments

Field	Renewable Assessment	Disposable Assessment
Art	Create an art portfolio that can be used to represent your skills to future employers.	Demonstrate your understanding of complementary color pallets and the color wheel.
Business	Develop a comprehensive business plan for a client with an idea for a new small business.	Take an exam on essential elements of a comprehensive business plan.
Education	Design a worksheet or learner assignment that can be used in a	Design a lesson plan for the class that the learner never

	mentor instructor's class.	intends to use.
Engineering	Work with a non-profit organization to create a solution to a real-world challenge.	Solve problems on an exam that demonstrate your understanding of an engineering principle.
Geology	Work with local earth science school instructors to create a podcast answering learner questions about the earth.	Map and interpret geological formations in the field.
History	Conduct archival research with primary sources and update a Wikipedia entry on the topic to share the knowledge with the community.	Do historical research using primary sources and write an essay to share with the class in a final presentation.
Psychology	Work with a local school district to create posters for the schools with accurate information about mental health services in the community.	Conduct research and write a report on the mental health resources available in the local community.

4.3.4 Limitations of Digital Assessments

Digital assessments have some limitations when compared to traditional offline assessments. Below is a list of some of those limitations.

- **Academic integrity** — Cheating is generally considered to be easier to monitor in an in-person environment.
- **Technical challenges** — Internet access, outdated computers and software, and other technical issues can be barriers to a good assessment experience for learners.
- **Human connection** — When a skill necessitates human connection, a digital format can be a hindrance (e.g., class discussions, learning to communicate in a language, negotiation tasks, etc.)
- **Tactile richness** — It may be difficult to evaluate tactile objects (e.g., art projects, physically built engineering projects, etc.)
- **Inequities** — While some inequities might be improved in a digital assessment (e.g., the ability to take an assessment at a convenient place and time), there can be significant limitations if success is dependent on internet speed, software compatibility, and other technical requirements.

4.3.5 Compare Strengths of Digital and Offline Assessments

Blended courses allow for assessments in both online and offline modalities. It is important for you as an instructor to consider the strengths and limitations of the assessments that you design for your course. You might consider creating a table like the example in Table 4-11 as you consider whether to use digital or offline assessments for your blended course.

Table 4-11

Example of Comparing the Strengths of Digital and Offline Modalities for Different Types of Assessments

Type of Assessment	Online Assessment Strengths	Offline Assessment Strengths
Quizzes and Exams	- automated scoring and feedback - multiple attempts - randomized questions	easier to prevent cheating
Live Presentations and Physical Demonstrations	- time and space flexibility - time to provide detailed feedback between presentations - presentations can be rewatched - management of peer review	- sensory richness - spontaneity of questions and responses - fewer technology barriers
Projects & Portfolios	- digital submissions and storing - easy to distribute for peer review - online rubrics for easy grading - automatic gradebook integration	physical tactile projects can be more easily evaluated
Papers	- digital submission and storing - ability to see versions and progress, not just final product - ability to provide specific and timely feedback with rubrics and comments - ability to check for plagiarism	- fewer technical challenges - doesn't require access to writing software

Discussion Participation	- everyone can participate - quality of contribution can be assessed	- participation (attendance) can easily be tracked, but contribution is more difficult to assess - energy of contribution can be more easily felt

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✎ **Blueprint Challenge**

Open your assessment plan document. Read the directions for **Part 1: Assessment Brainstorming Table**.

Review the example in the second column. Then fill in the second column with your assessment evaluation.

4.4 Ensuring Academic Integrity

Academic integrity is the ethical and honest pursuit of learning in an academic setting. Instructors have the responsibility to encourage learners to be honest in their academic work as well as to ensure practices that promote academic integrity. This section will address several course design strategies that can help reduce academic dishonesty. We will discuss the following:

- Creating lower-stake, mastery-based assessments.
- Creating authentic, competency-based assessments.
- Incorporating proctoring for high-stakes exams.
- Incorporating originality (or plagiarism) detectors for writing assignments.

> ***Learning Outcome***: I can develop an assessment plan that addresses academic integrity. ***Assessment:*** Blueprint Challenge Part 1 Assessment Brainstorming Table — Third Column.

4.4.1 Creating Low-Stakes, Mastery-based Assessments

Many educational situations create or provide unintended incentives to cheat because the consequences of failure are so high. For example, a final exam worth 25% of the course grade could cause students to feel they must succeed at any cost because performing

poorly on the exam would have a dramatic impact on their final course grade. High-stakes assessments usually occur at a single point in time, typically at the end of a learning unit. After taking the assessment, learners move on to the next unit even if they have performed poorly and haven't mastered the material. On the other hand, in a mastery-based approach, learners are given multiple opportunities to demonstrate their knowledge or skills. The mastery assessments are less stressful because they focus on learning. Video 4-4 explains what mastery means and provides examples of it.

Video 4-4

TED Talk — Let's Teach for Mastery (10:49)

Let's teach for mastery -- not test scores | Sal Khan

Created by Doug Archibald CC SA

Digital assessments can play an important role in making a mastery-based approach possible. For example, Section 4.3 identified the following strengths that can make mastery-based assessments more practical.

Real-time Feedback/Feedback Automation — in a mastery approach, getting quick diagnostic feedback on assessments allows learners to seek remediation immediately while the problems are fresh in their minds.

Multiple Attempts — a mastery approach depends on learners being able to take assessments multiple times. This typically means having a bank of items that measure the same knowledge or skill. Digital tools enable each attempt to draw different questions from the question bank, ensuring that when learners are making another attempt, they aren't just learning the answers to the previous assessment items.

Adaptive Pathways — in some domains, digital software is utilized to give learners adaptive feedback based on their performance on mastery-based assessments. For example, a learner who has missed questions related to Concept A will be directed to different learning activities from a learner who has missed questions related to Concept B.

4.4.2 Creating Authentic, Competency-Based Assessments

Competency-Based Assessments are becoming more common in education. These assessments are like the mastery-based approaches described previously; however, a core idea behind many competency-based approaches is that learners can demonstrate their competency through authentic experiences that they have had outside of the classroom and sometimes before enrolling in the course. Below are a few examples:

- **Computer Science** — a learner can use a software program developed previously for a client to demonstrate specific coding competencies.
- **Nursing** — a learner who was a medic in the military can demonstrate already learned skills based on their military experience and training.

Watch Video 4-5 to understand how competency-based education compares to traditional education.

Video 4-5

Competency-Based vs. Traditional Education (1:54)

Competency Based vs Traditional Education

showcase their skills and abilities in a tangible and often personal way, making cheating more difficult.

Assessment process: Authentic assessments often involve a process rather than a single final product. For instance, a research project may require learners to develop a research question, gather and analyze data, and present their findings. The assessment process itself provides opportunities for instructors to observe and evaluate a learner's progress, making it harder for cheating to go unnoticed.

Assessment variety: Authentic assessments can take various forms, including group work, field experiences, internships, and simulations. These diverse assessment methods make it more challenging to cheat, as the evaluation is not limited to traditional test formats. The authentic nature of the assessments reduces the predictability of cheating methods and requires learners to demonstrate their skills in different contexts. Figure 4-5 shows examples of competency based assessments.

Figure 4-5 Example Competency-Based Assessment - TV commercials

This is an example of learners creating a series of commercials, promoting a local business for a viewer contest, as part of a local TV station's self-promotion initiative.

- Learners were enrolled in the [Radio, Television, and Broadcast News](#) diploma at the southern Alberta Institute of Technology (SAIT).
- Learners were tasked to find a local business or not-for-profit.
- Working with this business they needed to write a script that their client approved, and then direct the shoot, editing, and production of two commercials (30 second and 15 second versions).
- The client could freely use the commercial where they wanted, and the learner could keep it for their demo reel (like resume for the video industry).
- The examples were made in 2016. These commercials aired on CHAT TV in Medicine Hat Alberta for about 2 months.

Primetime 30-second spot

The Primetime Pay Off

Primtime 15 contest spot

4.4.3 Incorporating Exam Proctoring

Exam proctoring is the process of monitoring learners as they take an exam. Exam proctoring can happen in-person or remotely using digital technologies. Typically, the monitoring is done for high-stakes, summative assessments to discourage academic dishonesty and ensure that the exam conditions setup by the instructor are enforced.

In-person Proctoring. In the in-person classroom, proctoring is often done by the instructor who walks around the classroom observing learners to ensure that cheating does not happen and that learner questions during the exam are addressed (see Figure 4-6). Some

institutions have a separate testing center where learners can take exams overseen by human proctors outside of class time.

Figure 4-6

Photo of live exam proctoring

BYU-Idaho Testing Center

Digital Proctoring. Digital Proctoring involves using technology to monitor learners and ensure desired test conditions are met while they take an exam (see Figure 4-5). Some common features of digital proctoring software include:

- **video monitoring** — use of video to record or observe the learner taking the exam in real-time.
- **screen recording** — recording of activity taking place on the computer monitor during the exam.
- **browser lockdown** — locking down browser screens or features to prevent accessing unauthorized information.
- **identity verification** — features such as facial recognition or ID verification that ensure the test taker is a registered learner.
- **environment monitoring** — detecting suspicious behaviors in the exam environment such as eye movement, head gestures, audio activity, or anomalies in screen activity to identify potential irregularities.
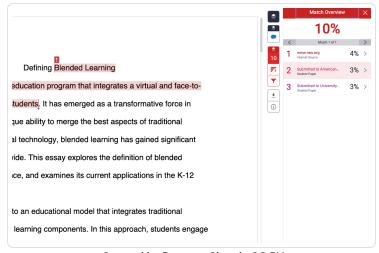
4.4.4 Incorporating Plagiarism Detectors

Plagiarism is when a person presents someone else's ideas or work as their own without adequate acknowledgement. Some examples of plagiarism include:

- copying blocks of text from a website for use in an essay without proper attribution.
- copying code written by another person and representing it as your own work.
- using artwork or images from another author without proper attribution.

Plagiarism detectors are software programs that help identify instances of similarity in written content. The software generates a report identifying places in a submitted text that are similar to other work in the database. Figure 4-7 shows an example of plagiarism software.

Figure 4-7

Photo of Plagiarism Detector Report

Created by Breanna Slaugh, CC BY

Instructors and learners can then use the report to determine if plagiarism may have happened. In this example, 10% of this paper is similar to other sources. Clicking on the match in the report links to a side-by-side comparison of the texts.

⚠ **Caution: Interpreting Reports**

It is important for instructors and administrators to know that it is unrealistic to expect 0% plagiarism in a report. The program can only detect how similar the paper is to other sources. For example:

- If a learner has done the bibliography correctly, the references will be the same as other papers that cite the same source and will be highlighted in the report as similar.
- The learner cannot change proper nouns, so those will be the exact same as other papers that contain the same proper nouns and will be highlighted in the report as similar.

> The instructor must review each report for accuracy before accusing a learner of plagiarism.

Plagiarism detectors can be used to encourage academic honesty through plagiarism prevention and detection strategies.

Prevention

Sometimes learners commit intentional plagiarism. They purposefully use work from other people and claim it as their own. Informing learners that their writing will be processed by a plagiarism checking program may be enough to deter them. It is a best practice to inform learners in advance that the assignments will be checked, show them the program that will be used, and explain the generated report. Once they are informed of the instructor's expectations, they may be more likely to act with academic integrity.

Detection

However, it is more common for learners to commit unintentional plagiarism because of carelessness or ignorance. Learners usually think they have made sufficient changes to the borrowed information, or they think they have given sufficient acknowledgement to the original author, when they have done neither of those things.

Allowing learners to upload drafts to a plagiarism detector and teaching them how to use the report to revise their writing can be a very beneficial learning experience. The learners can see where they have insufficient or inappropriate quoting, paraphrasing, or summarizing, and learn how to do it better in the future. The detectors do not scan for citations or references, so the instructor will need to teach the learners how to review their own writing to verify adequate in-text citations and a correct reference list.

Use of Generative AI

Using generative AI, such as ChatGPT, can be a helpful tool for brainstorming and drafting. Many institutions are still trying to develop policies around its use to help learners to know when it is appropriate and inappropriate to use it. In some situations, the use of generative AI can be a form of academic dishonesty because it doesn't necessarily reflect what a learner knows about a subject. The plagiarism detector will not flag text generated by AI as plagiarism because the text will be unique. Be aware of this, come up with a plan that addresses academic integrity, and communicate your expectations to your learners.

> ✏️ **Blueprint Challenge**

Open your assessment plan document. Read the directions for **Part 1: Assessment Brainstorming Table**.

Review the example in the third column. Then fill in the third column with your academic integrity plan.

Conclusion

Chapter 4 has helped you think through aligning your assessments with your learning outcomes and introduced you to types of assessment, strengths and limitations of the different types, and ways to address academic integrity. You have completed the foundational work and can now create your digital assessment plan.

✏️ Blueprint Challenge

Open your assessment plan document.

Read the directions for **Part 3: Digital Assessment Plan**.

Review the example. Then fill in the table with your ideas.

In Chapter 2, we started talking about your syllabus. Eventually information about assessments will be added to your syllabus. There will be a section in your syllabus about major course tests and projects in which you will include brief summaries of the major tests, such as midterm and final, and major projects, such as a choice board assignment. You will also include a course calendar with assessments listed.

This content was previously published as follows:

Graham, C. R., Slaugh, B., McMurry, A., Sorensen, S. D., Arnesen, K. T., & Ventura, B. (2023). Assessment Plan . Blended Teaching in Higher Education: A Guide for Instructors and Course Designers. https://edtechbooks.org/he_blended/chapter_4_assessment_plan

5

Learner-Community Activities

Graham, C. R. , Slaugh, B. , McMurry, A. , Sorensen, S. D. , Arnesen, K. T. , Ventura, B. , & Kimmons, R.

Academic Communities of Engagement Framework

Cooperative learning   Instructor Presence
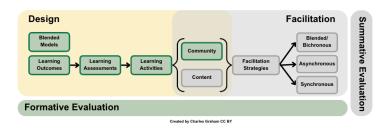
Learner-Community Activities   Positive Learner-Instructor Interactions

This chapter focuses on designing learner-community activities for a blended course, emphasizing the importance of community-based learning, cooperative learning, and instructor presence. The chapter introduces the Academic Communities of Engagement Framework, which supports learner engagement in cognitive, behavioral, and affective areas. It also highlights the significance of positive learner-instructor interactions, including cognitive, behavioral, and affective support. The chapter concludes by emphasizing the importance of planning and

designing community-based activities that foster a sense of community among learners.

The next step in our framework is to design learner-community activities. As always, formative evaluation will be conducted to help you thoroughly think through your design decisions.

Created by Charles Graham CC BY

Learning Outcome

I can create community-based activities for my blended course.

Sub-section outcomes:

- I can articulate reasons for incorporating community-based activities into my blended course. (Section 5.1)
- I can plan positive learner-instructor interactions. (Section 5.2)
- I can plan engaging learner-learner interactions. (Section 5.3)
- I can intentionally design community-based activities with an online component for my blended course. (Section 5.4)

✏️ Blueprint Challenge

You will use the skills presented in this chapter to develop community-based activities for your blended course.

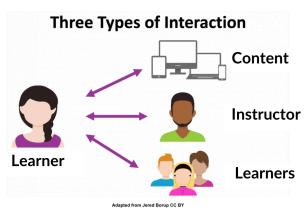Open the Community Activities Plan Template and save a copy.

Some sections of this chapter guide you to complete a part of your community-based activities. You will finish your activity plans at the end of Chapter 5.

5.0 Introduction

Moore (1989) focused on models of interactivity between learners, instructors and content as key elements of meaningful engagement and learning. See an example of this in Figure 5-1 below.

Figure 5-1

Three Types of Learner Interactions

Three Types of Interaction

Content
Instructor
Learner
Learners

Adapted from Jered Borup CC BY

Learner-content interaction describes the experiences and engagement learners have with learning materials and course content. This can include reading, listening, watching, creating, and/or reflecting. You will learn more about learner-content interaction in Chapter 6.

Learner-instructor interaction describes the experiences learners have with the instructor. This can include conversations, getting feedback or grades, and the instructor's presence in the classroom. That is discussed in this chapter!

Learner-learner interaction describes the experiences learners have with one another when they share their understanding and mentor each other. This can include discussion groups, group projects, and each learner's presence in the classroom. We'll also talk about this in this chapter!

This chapter will introduce you to design principles that create a sense of community by engaging learners with their instructor and other learners. The chapter will teach strategies for discussions and group work. Notice that regardless of synchronous or asynchronous learning environments, strategic activity design can build positive community interdependence.

5.1 Community-Based Learning

There are learning theories that explain how community interaction can strengthen the learning experience. A few of those are the Academic Communities of Engagement (Borup, et al., 2020), Communities of Inquiry (Garrison, 2017), and even Vygotsky's More Knowledgeable Other (1978).

> **Learning Outcome**: I can articulate reasons for incorporating community-based activities into my blended course.

Cooperative Learning

Cooperative learning is an instructional strategy that has learners work together in small groups to reach learning goals. It emphasizes active participation, collaboration, and individual accountability. Cooperative learning has the potential to promote critical thinking, communication skills, and positive interdependence among learners.
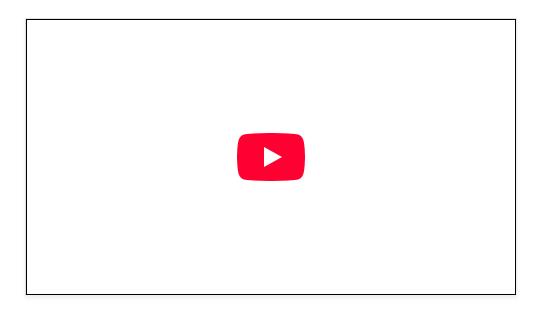
Johnson and Johnson (1989) did a meta-analysis of almost 600 experimental studies and over 100 correlational studies. The studies compared *cooperative* learning methods with *individualistic and competitive* methods. The studies spanned all major age groups: primary (K-3), intermediate (4-6), middle school (7-9), high school (10-12), post-secondary, and adults. They classified the outcomes from the studies into three major categories: achievement/productivity, positive relationships, and psychological health. Individuals who cooperated achieved on average ⅔ a standard deviation above those involved in competitive or individualistic learning. They found that cooperative learning typically results in:

- Increased productivity and greater academic achievement.
- Supportive peers and long-term friendships.
- Better overall health, including social and emotional health.

Individuals are more likely to have successful outcomes when they participate in supportive, collaborative learning communities. This is because the capacity for learning increases when learners feel connected and safe. Video 5-1 discusses this principle.

Video 5-1

Building Belonging in the Classroom (3:58)

Maslow's Hierarchy of Needs

This principle is based on Maslow's Hierarchy of Needs (1943). In order to achieve the highest level in the hierarchy, which he called self-actualization, the needs of the lower levels must be met first. See how this is represented in Figure 5-2 below.

Figure 5-2

Maslow's Hierarchy of Needs

The best learning happens at the top level, self-actualization. That is the learning environment we are attempting to create through design and instruction.

Addressing the lowest level, physical needs, is outside the capacity of a class: someone struggling with food, shelter, and drinkable water would need to find help from another source, such as a housing agency or a food bank. A learner facing difficulty at this level will be very affected by their circumstances and their learning will be impeded. As an instructor, you can be patient and kind and make sure the learner knows about campus community resources that could help.
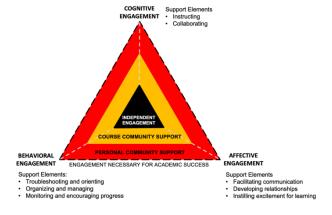
You can see the middle levels are titled safety, connection, and confidence. These areas can be addressed in a classroom setting. Within your classroom, with you and with each other, the learners can feel safe, connected, and confident. This will allow learners to thrive in your classroom. Occasionally, outside factors can impede individual learning, such as domestic violence, beginning or ending significant relationships, or working through mental health challenges. Again, as an instructor, you can be patient and kind and make sure the learner knows about campus community resources that could help.

Academic Communities of Engagement Framework

The Academic Communities of Engagement Framework (Borup, et al., 2020) explains that the course community needs to support learner engagement in three areas: Cognitive, Behavioral, and Affective. See Figure 5-3 below.

Figure 5-3

ACE Framework

Borup, J., Graham, C.R., West, R.E. et al. (2020). Academic Communities of Engagement: an expansive lens for examining support structures in blended and online learning. *Educational Technology Research & Development, 68*, 807–832.

- The cognitive area addresses the course content and how well learners understand it. Supporting cognitive engagement includes quality instruction, positive collaboration, mentoring, and tutoring.
- The behavioral area addresses course organization and learner behavior. Supporting behavioral engagement includes orienting learners to the course (both course culture and expectations), curriculum organization, assignment management, grading, problem-solving, and monitoring and encouraging learner progress.
- The affective area addresses that which influences learners' emotions, moods, or feelings. Supporting affective engagement includes developing mentoring relationships, facilitating group communication, encouraging resilience, and sharing excitement for learning.

Purposefully designing support in these areas into your course will contribute to learner engagement and academic success.

In summary, why community-based activities? Because they help. Because learners are more likely to be successful when they are supported cognitively, behaviorally, and affectively by an academic community where they feel safe, connected, and confident.

5.2 Learner-Instructor Interactions

Research has shown that learners are more motivated to engage in online learning when they can recognize the instructor's presence in the course and have positive learner-instructor interactions.

> **Learning Outcome**: I can plan positive learner-instructor interactions. **Assessment:** Blueprint Challenge Community Activities Part 1.

Instructors establish their presence through regular, meaningful communication with the class and with individuals, but also through the strategic facilitation of online learning activities. While instructor presence is largely a function of facilitation, it can also be a design consideration. As you design a course and its learning activities, keep in mind the instructor's role to invite and maintain learner engagement. Video 5-2 provides some strategies to consider.

Video 5-2

Instructor Presence (3:17)

> This video is not currently available.

The learner-instructor interactions need to support cognitive, behavioral, and affective engagement in a way that helps learners feel safe, connected, and confident. For example, you can support learner engagement in:

- Cognitive interactions with the instructor by delivering competent instruction, with good scaffolding, acting as a kind mentor and helping learners through the zone of proximal development. This could include well-designed activities, prepared instructions, and modeling mastery.
- Behavioral interactions with the instructor by presenting clearly defined course and assignment expectations, monitoring progress, and providing sincere encouragement. This could include having a very well-organized syllabus, good grading rubrics, and giving prompt feedback.
- Affective interactions with the instructor by creating a safe, welcoming classroom (including a virtual classroom), forming positive mentoring relationships, and providing clear communication. This could include assigning and responding to weekly learning

journals, arriving early to synchronous class times, and visiting with the learners as they arrive, or being very present and involved in learner discussions.

Overall, it is worth the investment of time and energy to plan and carry out positive learner-instructor interactions.

✎ Blueprint Challenge

Open your community activities document.

Read the directions for **Part 1: Plan positive learner-instructor interactions**. Review the example. Then fill in the table with your ideas.

5.3 Learner-Learner Interactions

This section focuses on designing effective interactions among learners, including establishing community expectations, creating engaging discussion prompts, providing clear discussion guidelines, and using synchronous and asynchronous tools. These strategies can promote active participation and meaningful learning experiences.

> ***Learning Outcome***: *I can plan engaging learner-learner interactions.* ***Assessment:*** *Blueprint Challenge Community Activities Part 2.*

The learner-learner interactions also need to support cognitive, behavioral, and affective engagement in a way that helps learners feel safe, connected, and confident. For example, you can support learner engagement in:

- Cognitive interactions with each other by utilizing best practices of sociocultural learning theories, peer mentoring, and reflective inquiry. This could include well-designed cooperative and collaborative activities, facilitating study groups, and encouraging groups to meet synchronously and asynchronously.
- Behavioral interactions with each other by having groups establish group norms, require accountability in their group work, and encouraging positive peer feedback and interactions. This could include carefully structured study groups and learning activities.
- Affective interactions with each other by creating a class culture of a safe, welcoming classroom (including a virtual classroom), forming positive friendships, and participating in clear group communication. This could include team-building activities, peer evaluation, and self-evaluation.
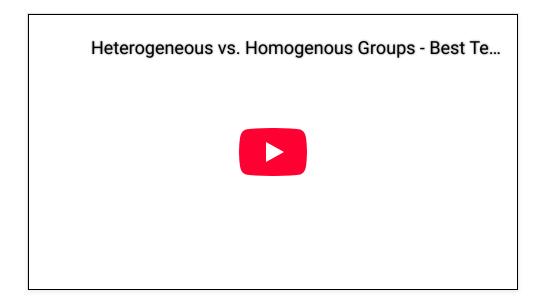
5.3.1 Effective Group Strategies

Effective group work strategies involve thoughtful planning of group size and composition, structuring activities to promote positive interdependence and individual accountability, facilitating promotive interactions and interpersonal skills, and addressing common challenges. Here are some specific considerations for each strategy:

Create Groups

When creating groups, it is important to consider factors such as group size and composition. Determining the group size depends on the nature of the task and the desired level of interaction. Smaller groups can foster more active participation and engagement, while larger groups may provide diverse perspectives. Group composition can be homogeneous, where members share similar abilities or characteristics, or heterogeneous, where individuals have diverse backgrounds and skills. Video 5-3 compares these two types of groups.

Video 5-3

Best Teaching Practices—Group Composition (2:42)

Heterogeneous vs. Homogenous Groups - Best Te…

Allowing learners to inform your decisions, such as who they study with and where or how they meet, is one aspect of personalization of learning (more will be said about personalization in Chapter 6). Even if you make the grouping decisions, you can ask for learner input first. Sometimes learners do not get along and it is good to know that before placing them together in a group.

Research conducted by [Stoddard, Karpowitz, and Preece (2020)](#) suggests that adding one token member to a group, such as adding one token woman to a group with four men, devalues the contributions of the token member. They wrote:

"Using laboratory, survey, and administrative data, we find that even after accounting for their proportion of the group, token women are seen as less influential by their peers and are less

likely to be chosen to represent the group than women on majority-women teams. Token women also participate slightly less in group discussions and receive less credit when they do. Across multiple indicators, our results show a pattern of devaluing women's participation and expertise in work teams, especially when they are in the minority."

This suggests that a token member of any type may face similar devaluation in group settings. Therefore, create groups mindfully, get learner input if possible, and be willing to adjust groups as needed.

Establish Course Community Expectations

Learners need to understand your expectations for online interaction. You are creating a shared culture within your classroom and becoming a community of learners. You need to clearly explain guidelines for their interactions and lead by example. You will participate in group discussions and model appropriate posting and responding. One model that could help inform your class netiquette is the THINK acronym. It has several elements to consider when making posts or comments in a discussion.

- **True** — Make only **true** comments. If you are unsure about something, state that in the discussion. Find sources to support your claims if necessary.
- **Helpful** — Make only **helpful** comments. If the thought you wish to share would be distracting in any way, do not share it. Participate in a way that benefits the conversation.
- **Inspiring** — Make only **inspiring** comments. If your comment would cause others to withdraw or begin to argue, reconsider what or how you would share. Encourage others to higher thinking and new perspectives.
- **Necessary** — Make only **necessary** comments. If it is repetitive or off-topic, think of something else to say. Your comment can agree with and support another comment, but be sure to respond to the other person rather than hijacking their idea.
- **Kind** — Make only **kind** comments. If your statement would be hurtful or rude, do not share it. Discussions are not a place for argument or debate. Respectful sharing of differing perspectives without contention is the goal for all discussion groups and class activities.

Remember you need to create a class culture of belonging, unity, and collaboration. Everything should contribute to the feeling of safety for all learners, instructors, and TAs in the course.

Group Structure
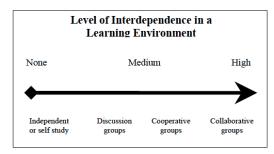
A cooperative activity should encourage learners to collaborate, communicate, and rely on one another. Establish positive interdependence among group members, considering the elements of positive goal, resource, and role interdependence.

Positive interdependence is the first requirement for successful cooperative activities. This means that there is mutual dependence among group members for the activities of the group to be successful. Graham and Misanchuk (2004) described the level of interdependence necessary in various group settings, as seen in Figure 5-4 below.

Figure 5-4

Level of Interdependence in a Learning Environment

Figure 1: Different Levels of Interdependence in Learning Environments

Graham and Misanchuk, 2004

Instructors and designers need to plan for positive group interdependence in these learning environments. Types of positive interdependence include:

- *Positive goal interdependence.* Group members perceive that they share a common goal or objective and understand that the achievement of that goal is dependent on the collective efforts of the entire group. In other words, the success of one individual is linked to the success of the entire group.
- *Positive resource interdependence.* Group members recognize that they have shared resources, such as information, materials, or skills, that are necessary to accomplish the group's goals. Each member contributes their unique resources, and there is a mutual reliance on the collective knowledge and abilities of the group.
- *Positive role interdependence.* The group distributes different roles and responsibilities among members, where each individual has a specific role to fulfill that contributes to the overall success of the group. Positive role interdependence fosters cooperation, coordination, and a sense of value and contribution within the group.

To ensure accountability, strategies like assigning individual roles, setting clear expectations, and providing specific criteria for evaluation can be employed. Holding each learner accountable for their contributions fosters a sense of responsibility and motivates active participation. You can give learners opportunities to choose their roles within the group. Figure 5-5 shows some ideas of responsibilities that could be a starting place for choosing roles within groups.

Figure 5-5

Group Roles and Responsibilities

Created by Alison McMurry, 2023, CC-BY 4.0

Establish Group Norms

Groups should establish a positive and respectful group climate, promote active listening, and provide guidelines for effective communication. You will want each group to establish their **group norms**. Group members should discuss and agree upon the following norms. These guidelines are important contributors to group-work success:

- **Workload.** Establish each individual's workload and assigned content. Determine an appropriate balance.
- **Communication.** Decide how participants will communicate with each other, including what media platforms they will use (LMS, email, text, etc.).
- **Timing.** Discuss the reasonable expectation of response time from group members. Create a timeline for intermediate tasks with agreed-upon interim and final deadlines.

Encourage synchronous and asynchronous interactions. Synchronous interaction can facilitate immediate feedback and spontaneous exchange of ideas. Asynchronous interaction allows for flexibility and accommodates different schedules. In a blended class, strike a balance between both modes, utilizing synchronous interactions for critical discussions and collaborative tasks, while using asynchronous platforms for ongoing communication and individual contributions.

In addition, group processing sessions at regular intervals allow members to discuss their experiences, identify areas for improvement, and develop strategies for better collaboration.

The frequency of these sessions may vary based on the length and complexity of the task. The instructor will need to facilitate these processing sessions to help learners debrief, refocus, and reconnect.

Avoid Common Challenges

"GroupThink," a phenomenon where group members conform to consensus without critical evaluation of ideas, can hinder effective decision-making and creativity. Strategies to avoid it include encouraging diverse perspectives, promoting constructive dissent, and assigning a devil's advocate role.

"Social loafing" is the tendency for individuals to assume they can exert less effort in a group setting. This challenge can be addressed by raising awareness among learners, promoting a sense of collective responsibility, and emphasizing the importance of individual contributions. Clear expectations regarding individual accountability and opportunities for individual recognition can also discourage social loafing tendencies; where appropriate, these considerations can be built into the activity rubric.

5.3.2 Engaging Discussion Groups

Blended courses often use discussion groups. Careful planning must go into the creation of discussion prompts and responses.

Create Engaging Discussion Prompts

Creating effective prompts plays a vital role in online discussions as they set the stage for engaging and worthwhile interactions. Video 5-4 presents some ideas on how to make online discussions more meaningful.

Video 5-4

Making Online Discussions Meaningful (2:01)

Make Online Discussions Meaningful

To elicit discussion among learners, educators can employ different types of prompts to encourage diverse perspectives and critical thinking.

Convergent prompts focus on a specific answer or solution and aim to elicit consensus or agreement among participants. These prompts can help consolidate knowledge and provide a starting point for discussion.

Divergent prompts, on the other hand, encourage multiple perspectives and open-ended responses. They foster creativity, encourage the exploration of different viewpoints, and promote a deeper analysis of the topic.

Evaluative prompts invite learners to assess, critique, or evaluate a concept or idea, allowing them to demonstrate their analytical skills and ability to make informed judgments.

Table 5-1 presents some examples of how to encourage different types of thinking.

Table 5-1

Discussion prompt wording examples

	Convergent Thinking	Divergent Thinking	Evaluative Thinking

	Usually begins with: • Why • How • In what ways...	Usually begins with: • Imagine • Suppose • Predict • If... then... • How might... • Can you create... • What are some possible consequences...	Usually begins with: • Defend • Judge • Justify • What do you think about... • What is your opinion...
Marketing Class Examples	What is the primary goal of a market segmentation strategy?	Share an example of a company's marketing strategy that adapted to changing trends.	Evaluate the ethical implications of targeted advertising.
Psychology Class Examples	Where are the main stages of memory?	How does culture influence personality development?	What are the strengths and weaknesses of cognitive-behavioral therapy?
Computer Science Class Examples	What is the purpose of a computer in programming?	What are the potential future applications of artificial intelligence?	Assess the advantages and disadvantages of cloud computing.

Graham et al., 2019. Accessed under a CC BY-SA License

By incorporating a mix of convergent, divergent, and evaluative prompts, you can create well-rounded discussions that stimulate critical thinking, encourage active engagement, and promote a deeper understanding of the subject matter. In addition, open-ended questions encourage learners to use higher-order thought processes. Put effort into creating good discussion questions.

Provide Discussion Guidelines

The structure, content, flow, and timing of online discussions play a crucial role in their success. See this further explained in Table 5-2 below.

Table 5-2

Characteristics of Online Posts

Category	Factor	Suggestions

Structure	Length	Communicate your expectations for the length of posts and responses. It might be different for each assignment depending on the purpose and focus of the discussion. Remember that learners do better with reading and responding to shorter posts.
	Style	Communicate your expectations for the tone of posts and responses. The tone can be informal and conversational, but still academic in nature.
	Formatting	Communicate your expectations for the formatting of posts and responses. Make it simple and easy. Perhaps include the learners in setting these standards.
Content	Requirements	Communicate your expectations for the content of posts and responses, especially if you want them to include sources or references. Keep it simple and easy! The more complex it is to respond, the less likely the learners are to stay engaged over an entire semester.
Flow	Replies	Communicate your expectations for the flow of posts and responses. Make sure the learners know who to respond to. You could ask them to respond to everyone, or a small group, or to the posts directly before and after theirs, or any other scheme you like. However, consider cognitive load when setting these guidelines.
Timing	Due Dates	Clear due dates should be provided to ensure learners understand the expectations and can plan their participation accordingly. Additionally, there should be sufficient time between the initial post and the required response, allowing learners to thoroughly engage with their peers' contributions and provide thoughtful feedback. By allowing for a reasonable timeframe, educators can encourage in-depth discussions and create a supportive learning environment where everyone has the opportunity to receive peer feedback.

Graham et al., 2019. Accessed under a CC BY-SA License

Tables 5-3 and 5-4 below show examples of discussion prompts and a range of examples of (1) group size, (2) feedback structure, and (3) timing/flow.

Table 5-3

Group Size and Responses

Not Good	In the class (of 20-30 people) discussion page, explain what you felt when you read the article from the *Washington Post*. Then read and respond to the other posts. *Feedback*: Too big of a group means they won't read everyone's ideas and their responses will be superficial.
Good	In your reading partner (2-3 people) discussion page, describe what you felt when you read the article from the *Washington Post*. Then read and respond to all other group members. *Feedback*: Too small of a group means there won't be enough responses for diversity of thought.
Better	In the class (20-30 people) discussion page, first explain what you felt when you read the article from the *Washington Post,* and then read and respond to five class members' responses. *Note* look for the posts with the fewest responses. We want every post to get responses.* *Feedback:* This narrows the scope of their response to a manageable number, but might result in some learners' posts being ignored.
Best	In your discussion group (5-7 people) discussion page, explain what you felt when you read the article from the *Washington Post*. *Feedback:* A mid-sized group allows for diversity of thought with a manageable number of posts and every post will receive responses.

Graham et al., 2019. Accessed under a CC BY-SA License

Notice the better and best examples both target approximately 5 responses. This is the sweet spot of responses. It allows for depth of responses to a few posts and is large enough to hopefully produce diverse thoughts.

Table 5-4

Timing and Flow

Not Good	In your group (5-7 people) discussion page, explain what you felt when you read the article from the *Washington Post*. Your post should be about one paragraph in length. Then respond to your group members' posts. Find something about each post that you can challenge, pushing them to consider other points of view. Be courteous in your response. Our aim is NOT to argue, but to encourage deeper thinking. *Feedback*: When is the initial post due? When is the response due?
Good	Before class, in your group (5-7 people) discussion page, explain what you felt when you read the article from the *Washington Post*. Your post should be about one paragraph in length. Then respond to your group members' posts. Find something about each post that you can challenge, pushing them to consider

	other points of view. Be courteous in your response. Our aim is NOT to argue, but to encourage deeper thinking. *Feedback*: The due date is before class… which is very vague. Most learners will submit their initial post before class and there won't be time for responding.
Better	By Tuesday, in your group (5-7 people) discussion page, explain what you felt when you read the article from the *Washington Post*. Your post should be about one paragraph in length. Then, on Thursday, respond to your group members' posts. Find something about each post that you can challenge, pushing them to consider other points of view. Be courteous in your response. Our aim is NOT to argue, but to encourage deeper thinking. *Feedback:* This is better, but still somewhat vague. When on Tuesday? When on Thursday?
Best	By Tuesday night, in your group (5-7 people) discussion page, explain what you felt when you read the article from the *Washington Post.* Your post should be about one paragraph in length. Then, by noon on Thursday, respond to your group members' posts. Find something about each post that you can challenge, pushing them to consider other points of view. Be courteous in your response. Our aim is NOT to argue, but to encourage deeper thinking. *Feedback:* These are clear guidelines for posting and responding.

Graham et al., 2019. Accessed under a CC BY-SA License

Overall, it is worth the investment of time and energy to plan and facilitate effective learner-learner interactions.

> ✏️ **Blueprint Challenge**
>
> Open your Community Activities Plan document.
>
> Read the directions for **Part 2: Plan engaging learner-learner interactions**. Review the example. Then fill in the table with your ideas.

5.4 Designing Community-Based Activities with an Online Component

One important aspect of blended learning is comparing the advantages of forms of communication and making informed decisions for each assignment. **Synchronous communication** is that which occurs in real time, such as telephone conversations, video

conferences, or in-class discussions. **Asynchronous communication** is that which does not occur in real time, such as an email thread, an online discussion board, or receiving voice mail. Both are useful in blended settings and instructorts must be purposeful in what they choose.
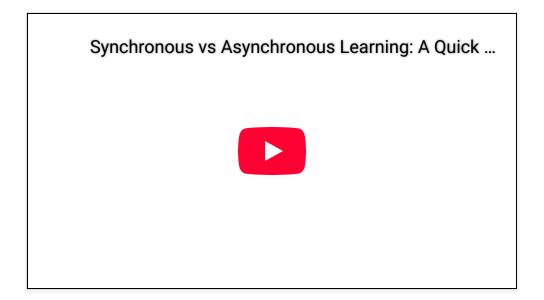
> *Learning Outcome*: I can intentionally design community-based activities with an online component for my blended course. *Assessment*: Blueprint Challenge Community Activities Part 3

5.4.1 Synchronous and Asynchronous Tools

Asynchronous and synchronous tools play distinct roles in fostering learner community engagement within the context of blended learning. By leveraging both asynchronous and synchronous tools, blended learning environments can provide learners with diverse opportunities to engage with their peers, build relationships, and cultivate a sense of community, ultimately enriching their learning experiences. See this further explained in Video 5-5 below.

Video 5-5

Synchronous and Asynchronous Communication Tools (2:50)

Synchronous vs Asynchronous Learning: A Quick …

Asynchronous tools, such as discussion boards and online forums, provide flexibility for learners to participate at their own pace and convenience. They enable learners to engage in thoughtful discussions, share insights, and provide feedback, even if they are not online simultaneously. These tools create a space for in-depth interactions and encourage collaboration beyond traditional classroom boundaries.

On the other hand, synchronous tools, such as video conferencing and real-time chat, facilitate immediate communication and foster a sense of real-time presence among learners. These tools can be utilized for virtual meetings, live discussions, and group

activities, enabling learners to connect synchronously and engage in spontaneous exchanges that enhance the feeling of community and collaboration. Table 5-5 lists some tools you can use.

Table 5-5

A few examples of tools you can use

Communication Tools	Document Sharing Tools	Digital Whiteboard Tools
• Google Meet • WhatsApp	• Canva • Box	• Jamboard • Miro
Collaboration Platforms	**Quiz/Poll Tools**	**Simulation/Game Tools**
• Nearpod • Trello	• Poll Everywhere • Kahoot!	• Blooket • Sli.do

You can learn more by reading [Online Tools for Teaching and Learning](#) by Torrey Trust.

5.4.2 Comparing Synchronous and Asynchronous Online Interactions

We must understand the strengths and limitations of these interactions and how we use them to benefit learning. For example, many blended courses use discussion boards, but some discussions would be better in-person. Instructors must weigh their strengths and weaknesses and make decisions based on the hoped-for outcome of the learner-learner interaction. Table 5-6 discusses some of the strengths and weaknesses of asynchronous discussion boards compared with the strengths and weaknesses of synchronous in-class discussions. As you study the table, consider how you will make mindful decisions about the use of modalities.

Table 5-6

Comparing Discussion Environments

	Asynchronous Text-Based Discussion	Synchronous In-Class Discussion
Strengths	• Flexible in terms of time and place learners can access the discussion. • Inclusive because all learners can contribute in	• Human connection is possible because learners are together. They can have casual conversations before and after class (and sometimes during). They can

	similar ways to the discussion. • Considered responses are more common because learners have time to think deeply before responding.	share snacks (if they are in person). In general, we respond better to face-to-face interactions. • Spontaneous discussions are possible because learners are together in real-time and can respond to nonverbal cues, such as facial expressions and body language.
Weaknesses	• Lack of spontaneity because the exchange is not happening in real time and learners are more likely to send carefully considered and crafted responses. • Procrastination is likely. Many learners wait until just before the deadline to post or respond. This can be mitigated by having deadlines for initial posts that are a day or two earlier than deadlines for responses. • Lack of human connection because they are responding to names and words instead of faces and nonverbal cues. This could be mitigated by having learners record and post video responses from time to time.	• Inflexible: There is only one time and place that learners can participate. • Exclusive because class time is limited, and some learners are more vocal, so not all learners can participate at the same level. This could be mitigated by having small group discussions in class which would allow everyone to participate more equally. • Considered responses are less likely because learners are usually responding on the spot. This could be mitigated by having learners prepare thoughts before class or giving them time to prepare in class before having a discussion.

Graham, 2006

Conclusion

This chapter has prepared you to create community-based activities for your blended course. You have planned learner-instructor interactions and learner-learner interactions. Now create one community-based activity for your course. Consider everything you have learned in this chapter as you plan interactions to support learner engagement.

✏️ Blueprint Challenge

Open your Community Activities Plan document.

Read the directions for **Part 3: Designing community-based activities with an online component**.

Review the example. Then fill in the table with your ideas.

In Chapter 2, we started talking about your syllabus. Just like with your assessments, major assignments will be summarized in one section of your syllabus, and assignments listed in the course calendar.

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6

Learner-Content Activities
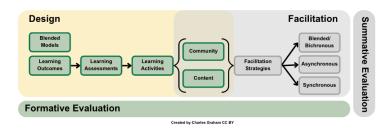
Graham, C. R. , Slaugh, B. , McMurry, A. , Sorensen, S. D. , Arnesen, K. T. , Ventura, B. , & Kimmons, R.

alignment table   assessments   creative learning activities

interactive learning activities   learner-content interaction

learning outcomes   passive learning activities   PICRAT model

This chapter focuses on designing learner-content activities in a blended course, aligning them with learning outcomes and assessments. The PICRAT model is introduced as a framework for planning and evaluating the use of technology to enhance learner-content interaction. Passive, interactive, and creative learning activities are discussed, along with examples from computer science and Shakespearean literature courses. The chapter also explores ideas for activities, including real-world examples, multimedia materials, and simulations. An alignment table is provided to articulate the

relationship between desired learning outcomes, assessments, and activities chosen.

The next step in our framework is to design learner-content activities. As always, formative evaluation will be conducted to help you thoroughly think through your design decisions.

Created by Charles Graham CC BY

Learning Outcome

I can create content-based activities for my blended course.

Sub-section outcomes:

- I can plan effective learner-content interactions that align with my outcomes and assessments. ([Section 6.1](#))
- I can create opportunities for learners to choose their goals, pace, and/or path as they interact with the learning activities. ([Section 6.2](#))
- I can present content-based activities with appropriate cognitive pacing to increase learner engagement in my blended course. ([Section 6.3](#))

✏️ Blueprint Challenge

You will use the skills presented in this chapter to develop content-based activities for your blended course.

Open the [Content Activities Plan Template](#) and save a copy.
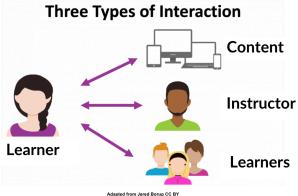
Some sections of this chapter guide you to complete a part of your content-based activities.

6.0 Introduction

Remember that Moore (1989) focused on models of interactivity between learners, instructors, and content as key elements of meaningful engagement and learning.

Figure 6-1

Three Types of Learner Interactions

Adapted from Jered Borup CC BY 2.0.

We already talked about learner-instructor and learner-learner interactions in Chapter 5.

Learner-content interaction occurs when learners engage with learning materials through reading, listening, watching, reflecting, writing, manipulating, mapping, and/or problem-solving. That is what we are going to talk about in this chapter.

Content-based activities in blended learning refer to instructional strategies and tasks that are designed to engage learners with the subject matter or content being taught. These activities focus on delivering the core content of the course or curriculum in a meaningful and interactive manner.

Learner-content interactions play a vital role in creating engaging, personalized, and effective learning experiences. These interactions stimulate cognitive processes and higher-order thinking skills, like critical thinking and problem-solving. Ideally, learner-content interactions support the transfer of learning by providing opportunities for applying knowledge to real-world contexts, enhancing learners' ability to use what they have learned in practical situations. We will explore strategies to engage learners with course content, including the integration of multimedia tools and the creation of personalized options.

6.1 Aligning Activities with Outcomes and Assessments

In **backward design**, learning activities are the last elements to consider when we talk about alignment. We started with creating a learning outcomes map that defines what learners will be able to do by the end of the course (or unit or lesson). Then we designed an assessment plan to measure how learners achieve the outcomes. Now we need to plan activities and lessons that align with the outcomes and assessments. These activities need to guide learners to accomplish the outcomes and perform well on the assessments.

> **Learning Outcome**: I can plan effective learner-content interactions that align with my outcomes and assessments. **Assessment**: Blueprint Challenge Content Activities Part 1.

6.1.1 PICRAT Part 1

The PICRAT model (see Video 6-1 below) provides a framework for planning and evaluating the use of technology to enhance learner-content interaction. In this chapter, we focus on PIC, which is the progression from passive to interactive to creative learning activities, helping learners to become increasingly active participants in the learning process. PICRAT Part 2 is in Chapter 7, where we will discuss RAT.

As you design learning activities, consider to what degree you want learners to take responsibility for their own learning and develop higher-order thinking skills.

Video 6-1

PICRAT Model (4:33)

PICRAT for Effective Technology Integration in Teaching

Passive learning activities are characterized by low levels of learner engagement and interaction with the content. In this mode, the learners' role is primarily to receive and absorb; they do not actively participate or contribute to the learning process. Examples of passive learning activities include reading textbooks, listening to lectures, or watching educational videos. These often require lower-order thinking, as described in Bloom's Taxonomy.

Here are some examples of passive learning activities in a computer science course and a Shakespearean literature course:

- Computer Science Course — Watching a video lecture on programming concepts.
- Shakespearean Literature Course — Reading an analysis of a Shakespearean play.

Interactive learning activities involve higher levels of learner engagement and interaction with the content, materials, or resources provided. Learners might solve problems, complete exercises, or participate in interactive online modules that require them to actively engage with hands-on exercises, simulations, videos, animations, virtual experiments, or other practical applications. These activities could involve either lower-order or higher-order thinking, depending on the activity, but as learner-content interactions become more interactive, they usually involve more higher-order thinking skills.

Here are some examples of interactive learning activities in a computer science course and a Shakespearean literature course:

- Computer Science Course — Participating in a virtual coding lab.
- Shakespearean Literature Course — Participating in a virtual tour of Shakespeare's Globe Theatre.

Creative learning activities represent the highest level of engagement and involvement in the PICRAT model. In this mode, learners not only interact with the content but also generate new ideas, synthesize information, and apply their knowledge in innovative ways. Examples of creative learning activities include project-based assignments, research projects, design challenges, or presentations. These often require higher-order thinking.

Here are some examples of creative learning activities in a computer science course and a Shakespearean literature course:

- Computer Science Course — Programming a short "Choose Your Own Adventure" game.
- Shakespearean Literature Course — Using descriptive AI prompts to generate an appropriate costume or set design for a scene from a play.

6.1.2 Explore Ideas for Activities

As you plan activities, incorporate a variety of formats and platforms to engage learners with your course content.

- Use real-world examples, such as case studies or scenarios.

- Include text-based resources, multimedia materials (videos, podcasts, interactive presentations), infographics, or simulations.
- Incorporate quizzes, polls, discussions, case studies, problem-solving exercises, reflection journals, or virtual simulations.
- Utilize learning management systems (LMS), virtual labs, digital resources, online research, collaborative tools, or multimedia creation tools to facilitate content delivery, interaction, and exploration.

Bonk and Khoo (2014) have provided a free online book, *Adding Some TEC-VARIETY: 100+ Activities for Motivating and Retaining Learners Online*, which has 100 practical examples of technology-supported activities. Many of the ideas represent learner-content interactions that can be done in an online or blended class. Here is a downloadable summary of these activities.

6.1.3 Alignment Table

You must design activities that are directly aligned with the learning outcomes and assessments. The need for alignment may seem obvious, but it is not uncommon for courses to get out of alignment, especially over multiple iterations of a course. As you align activities with your learning outcomes and assessments, consider Bloom's Taxonomy to help guide your choices. Keep in mind that higher-order outcomes require activities that promote higher-order thinking. You can use an alignment table to articulate the relationship between your desired learning outcomes, assessments, and activities you are choosing. Table 6-1 shows an example of alignment of outcomes, assessments, and activities in a Shakespearean literature course. We looked back at our learning outcomes map (Chapter 3 Blueprint Challenge) and assessment plan (Chapter 4 Blueprint Challenge) to fill in those columns of the table.

> *Example context: In this unit, learners will read, discuss, and demonstrate learning about themes and characters in Shakespeare's Hamlet.*

Table 6-1

Unit Alignment Chart

Learning Outcomes	Formative and Summative Assessments	Potential Learning Activities	Timeline from Assessment Plan
Unit Learning Outcome: Learners will create and present a project that shows their understanding, application, and evaluation of		Instructor micro-lecture outlining major themes (passive, video). Read *Hamlet* and fill in graphic organizer (interactive, text).	First, second, and third weeks of March.

		Watch specific scene clips of *Hamlet* (passive, video). Discuss themes and characters (interactive).	
Supporting Outcomes: Learners will understand basic themes in Shakespeare's *Hamlet. Bloom's Taxonomy—Understand.*	Formative: Break the choice board project into segments: • Part One: Identify and explain theme. *Bloom's Taxonomy—Understand.*	Jigsaw "learn and present" discussion activity and create infographics (interactive, creative, verbal, visual)	Fourth week of March.
Learners will choose one of the themes and compare/contrast a main character from *Hamlet* (List 1) with a character from a different story (List 2) in the context of that theme. *Bloom's Taxonomy—Apply and Analyze.*	• Part Two: Illustrate the theme with a character from *Hamlet* (choose from List 1). *Bloom's Taxonomy—Apply.*	Pair and share to brainstorm ideas (interactive). Mind mapping (creative). Pair and share for reflection/feedback (interactive).	First week of April.
	• Part Three: Compare with a character from a different story/movie/genre (choose from List 2). *Bloom's Taxonomy—Analyze.*	Pair and share to brainstorm ideas (interactive). Mind mapping—compare and contrast (creative). Instructor/TA conferences for reflection/feedback (interactive).	Second week of April.
Learners will determine which of the two characters did a better job within that	• Part Four: Who did better? *Bloom's Taxonomy—Evaluate.*	Pair and share to brainstorm ideas (interactive). Find textual support for opinion (active).	Third week of April.

framework (opinions must be supported with information from the texts). *Bloom's Taxonomy - Evaluate.*		Create an outline for the project (creative).	
	Summative: A project would be best. It is authentic, renewable, encourages academic integrity, and allows tailoring to each learner's strengths. We will turn it into a choice board so learners can choose what type of project they will do. They will present the projects to the class. They will receive an evaluation of the project from themselves, peers, and instructor. *Bloom's Taxonomy—Create.*	Time-constrained presentations (Pecha Kucha-style) • View examples of Pecha Kucha presentations (interactive). • Create draft presentations (creative). • Practice the presentation (creative).	Fourth week of April and first week of May.
		• Final presentations (interactive). • "Best of" nominations as peer evaluation (interactive). • Personal reflection as self-evaluation (active).	Second and third weeks of May.

Doing this will help you accomplish your learning goals.

✎ **Blueprint Challenge**

Open your content activities document.

Read the directions for **Part 1: Align Activities with Outcomes and Assessments**. Review the example. Then fill in the table with your ideas.

6.2 Personalized Learning

It is important to design appropriate learner-content interactions. We want to stimulate interest and facilitate learning without overloading the brain. However, every learner has a slightly different cognitive capacity. And an individual learner can have good days and bad days. How do we account for variations in cognitive capacity?

Blended teaching allows us to shift from instructor-led practices —in which the instructor determines what should be learned, when it should be learned, and how it should be learned — to more learner-centered practices that give learners power over their learning journeys.

> **Learning Outcome:** *I can create opportunities for learners to choose their goals, pace, and/or path as they interact with the learning activities.* **Assessment**: *Blueprint Challenge Content Activities Part 2.*

Personalization (see Figure 6-2 below) gives the learners some control over customizing the goals, time, place, pace, and/or path of their learning experience. Technology has made it easier than ever to personalize learning. Through the integration of online learning programs or learning management systems and the use of data, you can help learners learn in ways that align with their interests and goals. Personalization involves two core ideas:

1. Customization: Tailoring/customizing the learning experience to the individual learner's needs and interests.
2. Learner Control: Giving learners some element of control over their own learning experience.

Figure 6-2

Five Dimensions of Personalization

https://edtechbooks.org/k12blended/personalizing_instruction

Personalization gives learners more power, but instructors are usually best suited to make decisions that guide learning. Personalization simply allows instructors to emphasize what

we have always known—learning is personal.

In Video 6-2, notice how personalization changes the experiences of learners.

Video 6-2

Basic Personalization Practices (2:27)

What Is Personalized Learning?

The instructor most often curates playlists around a specific learning outcome. However, sometimes learners are given the ability to create their own playlists from a pool of activitiesf. Digital learning playlists almost always provide the instructor with options for personalization around time, place, or pace. Some playlist options allow personalization around path. Learners can progress through a learning playlist using different approaches:

- Learners complete all activities in the playlist in a specified order without a specified timeline (path is not personalized).
- Learners complete select activities from a list based on pre-assessment performance data (path is differentiated but not personalized).
- Learners complete all activities in the playlist but may choose the order of completion (path is personalized).
- Learners complete required activities and have other activities that they can choose to do for additional review, practice, or enrichment (path is personalized).
- Learners can choose the number and sequence of activities they complete until they reach mastery on the assessment (path is personalized).

Table 6-2 is an example of a learning playlist from a Marketing 101 course.

Table 6-2

Learning Playlist

Marketing 101 Project Playlist: Product Development and Branding Unit. Complete playlist items 1-5 to practice the unit's five learning goals. Some assignments require a specific task; others have options to choose from.

1. Understand the product development process. Required Activity: Product Development Timeline Activity.
2. Apply branding strategies to create and position a brand. Required Activity: Branding Case Study Discussion Board.
3. Analyze market trends and consumer preferences. Choose One: Trend Analysis Exercise or Consumer Survey Mini-Project.
   - Option A: Trend Analysis Exercise
   - Option B: Consumer Survey Mini-Project
4. Develop effective marketing strategies for new product launches. Required Activity: Social Media Marketing Plan.
5. Evaluate the success of product development and branding efforts. Choose One: Product Feedback Analysis or Brand Perception Survey.
   - Option A: Product Feedback Analysis
   - Option B: Brand Perception Survey

Choice boards or menu boards share the purpose with playlists of providing learning path options to learners (see Figure 6-3 below for an example). However, often choice boards are organized intentionally in rows and columns. For example, tasks in columns might be

organized based on learning preferences or content categories while rows are organized by difficulty or a variety of options to achieve learning objectives.

Figure 6-3

Choice Boards and Personalization
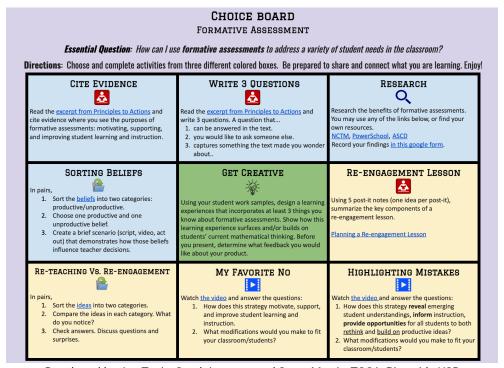
Figure 6-4 is an example of a choice board from a Math Education course.

Figure 6-4

Example Choice Board

Developed by Jen Tanis, Sarah Lwanga, and Steve Morris, TOSA, Riverside USD.

6.2.2 Using Software with Adaptive Pathways

Personalization can also happen with learners using adaptive learning software. Most adaptive learning software determines the learning path for the learners based on individual needs and performance. This is a kind of differentiation that would be very difficult and time-consuming for an instructor to do for every learner in a class. When learners use the learning software, they are typically able to make other personalization choices about pace as well as time or place of learning.

Adaptive Learning Software uses computer algorithms to deliver a customized path through learning activities for learners based on their needs and past performance. The use of adaptive software in classrooms is becoming increasingly common. Video 6-3 explains the principles associated with adaptive learning.

Video 6-3

Adaptive Learning (1:14)

McGraw Hill PreK-12: Adaptive Learning in K12 Ed…

Personalized learning paths are one of the greatest strengths of blended courses.

✏️ Blueprint Challenge

Open your content activities document.

Read the directions for **Part 2: Personalized Learning Activities**. Review the example. Then fill in the tables with your ideas.
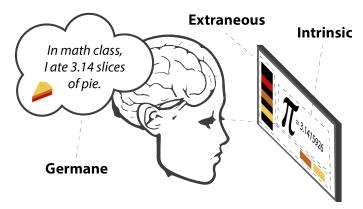
6.3 Cognitive Load Theory

When designing content, it's important to consider how learning happens. If a learner is understimulated, boredom could result and learning might not occur. If a learner is overstimulated, burnout could be a result and learning might not occur. We need to hit the sweet spot in Vygotsky's Zone of Proximal Development.

> **Learning Outcome**: I can present content-based activities with appropriate cognitive pacing to increase learner engagement in my blended course.
> **Assessment**: Blueprint Challenge Content Activities Part 3.

6.3.1 Types of Cognitive Load

Video 6-4 explains how the brain processes information and explains why instructors must be aware of cognitive load theory.

Clark, C., & Kimmons, R. (2023). Cognitive Load Theory. EdTechnica: The Open Encyclopedia of Educational Technology. https://doi.org/10.59668/371.12980

Video 6-4

Learner-Content Interaction and Cognitive Load (2:19)

Cognitive Load Theory, How Do I Apply It?

The video explained intrinsic and extraneous loads, and gave several suggestions for how to reduce cognitive load.

Intrinsic cognitive load involves the difficulty or complexity of the content itself. This factor cannot be changed about a subject, but it can be mitigated through effective planning, teaching, and materials.

Germane cognitive load involves the effort needed to transfer short-term information to long-term knowledge and understanding via schemas

Extraneous cognitive load involves the difficulty or complexity of how the content is presented. Difficult materials make a difficult subject even harder.

Reducing cognitive load means simplifying and clarifying how the content is presented to remove unnecessary **extraneous cognitive load**. When the subject is appropriately chunked and scaffolded, schema is activated, materials are easy to use and understand, and student learning is facilitated. Remember learning about the 3 Ms: medium, modality, and method? Germane cognitive load explains why method is the most important factor impacting student learning. Using good teaching methods makes a difficult subject simple enough for cognitive processing.

6.3.2 Managing Cognitive Load

There are three ways to manage cognitive load.

1. Keep the *content* simple. Plan scaffolding into your lesson plan.

- One lesson = one topic.
- Chunk it into bite-sized pieces.

- Organize it carefully to support the learner through increasingly complex ideas or tasks.
- Activate or build schema.
- Prioritize main ideas.
- Be prepared to skip low-priority or off-topic ideas or tasks.

2. Keep the *delivery* simple. Plan pacing into your lesson plan. Video 6-5 below explains how you can introduce pacing into your classroom.

- Move from guided practice to independent practice to mastery.
- Change activities every 10-15 minutes.
- Vary the levels of instructor-talk vs. learner-talk.
- Vary passive and active tasks.
- Vary individual, small group, and large group activities.
- Schedule time for decompression, reflection, and metacognition.
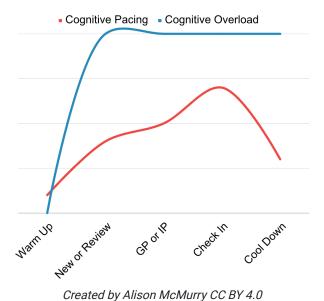
Video 6-5

Pacing in the Classroom (3:56)

Teach Like a Champion - Change the Pace

Figure 6-5

Cognitive Pacing vs. Cognitive Overload

Created by Alison McMurry CC BY 4.0

The red line represents cognitive pacing. The instructor plans the parts of the lesson carefully to include:

- Starting with a warm-up designed to build or activate schema, encourage positive transfer of previous knowledge or skill to the new lesson, and initiate positive learner-learner interactions.
- Presenting a short lesson that either presents new material or reviews previous material.
- Practicing with the new material.
    - GP stands for guided practice, which means working with the help of the instructor. This could include working on something as a whole class.
    - IP stands for independent practice, which means working without the help of the instructor. This could include individual or group work.
- Culminating in a check-in, which could include something as simple as a thumbs-up or thumbs-down from the learners to indicate their understanding, or as complex as the final exam. The purpose of the check-in is to determine if any concepts need to be retaught or if the learners are ready to move on.
- Ending with a cool-down activity designed to encourage reflection. This could be self-evaluation or class feedback. The goal is to have learners be aware of their learning performance or preferences and make plans for improvement. This time for reflection is important because it gives learners time to decompress from the lesson, encourages metacognition, and increases learners' self-regulation skills. The following video explains why reflection is important for cognitive pacing and deeper learning.

Notice that the red line of the graphic rises gradually, peaks, and then subsides, but ends slightly higher than the original starting point. The instructor plans scaffolding carefully, and gradually moves from lower-order skills and thinking to higher-order skills and thinking. The

end point is higher than the start point because of the learning that occurred in this lesson. In the next lesson, the instructor can start at this new point, and that lesson ends slightly higher, and so forth. Over time, the learners' cognitive capacity and endurance grow to mastery of the new material.

Video 6-6 below explains how to use and introduce learner reflection.

Video 6-6

Encouraging Learner Reflection to Support Deeper Learning (2:44)

Research@Work: Encouraging Student Reflection to Support D

Now we put it all together to plan lesson modules. Blended courses incorporate synchronous and asynchronous, online and in-person, individual and group work, and all of these modalities of learner-content interaction can be knit seamlessly together. Please note this is all part of the planning and design phase. We are not developing or implementing anything yet.

Review Table 6-1, the unit alignment chart and create a unit calendar. Next, chunk the unit into lesson topics and put the topics into the calendar. Table 6-3 shows an example of this.

Table 6-3

Unit and Lesson Calendar

Week of unit: Dates Main Activity	Chunking into lesson segments
Week 1: March 1-7 Read *Hamlet,* Act 1: Scene 1—Act 1: Scene 5.	Schema building, introduce graphic organizer, read scenes, watch movie clips, discuss scenes, characters, and themes.
Week 2: March 8-14 Read *Hamlet,* Act 2: Scene 1—Act 3: Scene 3	Read scenes, watch movie clips, discuss scenes and characters.
Week 3: March 15-21 Read *Hamlet,* Act 3: Scene 4—Act 4: Scene 4.	Read scenes, watch movie clips, discuss scenes and characters.
Week 4: March 22-28 Read *Hamlet,* Act 4: Scene 5—Act 5: Scene 2.	Read scenes, watch movie clips, discuss scenes and characters. Introduce themes. Introduce choiceboard project. Choose theme by March 29 and report in Canvas.
Week 5: March 29-April 4 Explore and better understand chosen theme.	Group investigation and creation of infographics. Choose *Hamlet* character by April 5 and report in Canvas.
Week 6: April 5-11 Analysis of *Hamlet* character.	Mind mapping. Discussion. Reflection. Choose another character by April 12 and report in Canvas.
Week 7: April 12-16 Analysis of another	Mind-mapping. Discussion. Reflection.

character.	
Week 8: April 17-23 Comparison of characters. Evaluate who did better.	Venn diagram. Find textual support. Find movie clips to support analysis. Create an outline for the project based on the required number of slides.
Week 9: April 24-30 Choose presentation tool and create presentation.	View examples of Pecha Kucha presentations that use a variety of presentation tools. Choose presentation tool by April 26 and report in Canvas. Create presentation outline in the slide deck.
Week 10: May 1-7 Work on presentation.	Add content to presentation. Practice giving the presentation.
Week 11: May 8-14 Presentations.	Individuals present their work to the class. Class members have scoring cards and are required to take notes.
Week 12: May 15-21 Presentations.	Individuals present their work to the class. Class members have scoring cards and are required to take notes. Class nominates and votes on "Best of" categories. Peers evaluate and give feedback on presentations. Individuals reflect and evaluate their own presentations. Class wrap-up of unit with reflections and feedback.

Next, retrieve your blended course rhythm from your Chapter 2 Blueprint Challenge. Plan each week of your blended course. Table 6-4 shows Week 1 for this *Hamlet* unit. Table 6-5 shows Monday's lesson plan.

Table 6-4

Hamlet Unit Week 1

	Monday	Tuesday	Wednesday	Thursday	Friday
Modality	In-Person Classroom	Asynchronous Online	Synchronous Online	Asynchronous Online	In-Person Classroom
Medium	Powerpoint, online textbook, film clips, handout	online textbook, film clips, online discussion board	Zoom, Jamboard, breakout rooms, online quiz	online textbook, film clips, online discussion board	Powerpoint, online textbook, film clips, handout
Method	schema building, direct	small group discussions,	group discussion	small group discussions,	direct instruction, small group

	instruction, small group discussions, guided practice, independent practice	independent practice	and group quiz	independent practice	discussions, guided practice, formative assessment
Content	Discuss background and overview of *Hamlet*. Introduce unit.	Discuss characters and themes.	Discuss scenes and characters, group quiz about the plot and characters.	Discuss characters and themes.	Discuss scenes, characters, and themes. Individual quiz about Act 1—compare different film clips and determine which one is closest to the original text.
Homework	Read Act 1 Scene 1, watch film clip, fill in graphic organizer.	Read Act 1 Scene 2, watch film clip, fill in graphic organizer.	Read Act 1 Scene 3, watch film clip, fill in graphic organizer.	Read Act 1 Scene 4, watch film clip, fill in graphic organizer.	Read Act 1 Scene 5, watch film clip, fill in graphic organizer.

Table 6-5

Monday's Lesson Plan

Lesson Segment	What to do	What to prepare
Warm-up	1. Show film clip of *Lion King*. Ask learners to tell what they know about the story. 2. Hamlet Memes to introduce major themes.	film clip, memes

New or Review	1. introduce characters in PowerPoint slideshow	Powerpoint
GP or IP	1. Read part of Act 1: Scene 1 as a class. This will help the learners understand how to navigate the online reader. 2. Fill out graphic organizer in small groups.	graphic organizer
Check-In	Review what to do for homework	film clips, discussion groups, discussion prompts
Cool-Down	Write in your learning journal: If I thought I'd seen a ghost, I would...	

✏️ Blueprint Challenge

Open your content activities document.

Read the directions for **Part 3: Planning Lessons**. Review the example. Then fill in the table with your ideas.

☑️ Design Self-Assessment

Retake the Design Competency Self-Assessment. You will again receive a score out of 20 points, which will indicate your new level of competency. Since this is a post-test, you might score higher than you did in the pre-test.

☑️ Design Competency Self-Assessment

Points	Competency Level
0	No Design Competency
1-5	Novice Level

6-10	Intermediate Level
11-15	Advanced Level
16-19	Superior Level
20	Expert Level

This content was previously published as follows:

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<div style="border:1px solid; display:inline-block; padding:0.3em 0.6em;">**7**</div>

Universal Accessibility

Kimmons, R.

Accessibility · Education · Inclusivity · Learning

Universal Design

This chapter focuses on designing a learning environment that allows all learners to fully participate and learn. The chapter introduces three narratives of equal opportunity: designing for the mean, accommodating differences, and designing for difference. It highlights the limitations of designing for the mean and accommodating differences, and instead advocates for designing learning experiences that meet the unique needs and goals of individual learners. It also emphasizes the importance of considering the root causes of learner disengagement and other challenges in course design, using Universal Design for Learning (UDL) as a lens. It then addresses Website Content

Accessibility Guidelines (WCAG) pertinent to learning designers.

Now that you have designed a blueprint for much of your course, we should take a step back to consider how well your course is serving the needs of all learners through a lens of universal accessibility and specifically the Universal Design for Learning (UDL) framework. In your future designs, applying UDL should be done early in the process, but for our purposes, it made more sense to have you design something first so that you could reflectively evaluate it through this lens in order to identify gaps in your own developing practice and to identify areas for growth. As part of this chapter, you will complete an Accessibility Audit of your design up to this point to determine what you can adjust and improve to make your course an experience wherein all learners can thrive.

Learning Outcome

I can design a learning environment that allows all learners to fully participate and learn.

Sub-section outcomes:

- I can explain different narratives of equal opportunity.
- I can explain the core principles and concepts of universal design and UDL.
- I can apply UDL Guidelines to my own course design.
- I can apply general principles of UDL to my practice.
- I can meet WCAG requirements in my course design.

✏️ Blueprint Challenge

You will use the skills presented in this chapter to conduct an accessibility audit and plan for your blended course.

Open the Accessibility Audit Template and save a copy.

7.0 Introduction

"If you only listen with your ears, I can't get in." *Radical Face*

As we design coursework in any setting, we have responsibilities to ensure that every learner has equal access and opportunities to learn. Video 7-1 is a music video of the song "The Mute" by the music group Radical Face. As you watch the video, consider the following questions:

- What challenging or worrisome behaviors do you notice in the child?
- How might such behaviors negatively impact learning or be misinterpreted in a classroom?
- What responsibilities do educators and designers have in helping **all** learners?
- What might be the root causes of our learners' disengagement from learning and other challenges we face in our courses?
- How might designers help all learners despite such challenges?

Video 7-1

"The Mute" by Radical Face

Radical Face - The Mute (Official Video)

not account for these and design for them, then we run the risk of excluding would-be learners simply because they are different from us. This can be made worse when we layer our own interpretations of behavior upon learners that may be invalid, such as believing that a learner is unmotivated, incapable, or unwilling when failure occurs. The locus of control that designers have is over the design, not the learner, and narratives that center the locus of failure on learners often ignore the reality that learners' experiences are the direct result of poor design and other factors external to the learner.

Figure 7-1

Regular-sized Rudy from Bob's Burgers was Misdiagnosed

7.1 Three Narratives of Equal Opportunity

Learning Outcome: *I can explain different narratives of equal opportunity.*

Terms like **equality**, **equity**, and *opportunity* have been deeply politicized and bring with them a variety of misunderstandings and tensions. To simplify matters, let's begin with a simple metaphor to illustrate three approaches to this issue that are common in education: (1) designing for the mean, (2) accommodating differences, and (3) designing for difference. Let's imagine that three learners come to our class, where our stated objective is "to fit learners with proper clothing for their future lives as professional adults." Our students come to our class in their street clothes (see Figure 7-2). One is excited to try on their new clothing, one is trepidatious, and one clearly does not want to be there. How should we go about providing them with clothing suitable for their future selves?

Figure 7-2

Learners Arriving at Our Classroom in their Street Clothes
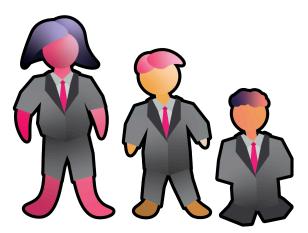
7.1.1 Designing for the Mean

In most formal learning scenarios, designers and educators begin by establishing learning objectives for all learners and then designing curricula and supports to meet the needs of the imagined "typical," "average," or "mean" learner. In this case, determining what professional clothing should look like might lead us to a specific prestigious profession like a lawyer. We then begin dressing our students according to our image of what a lawyer should look like. We buy clothing that matches that of a lawyer in terms of look, cut, and size, and we produce a number of gray suits that match the typical size of a student in our class (see Figure 7-3). In this scenario, we treat all of our students equally by designing for an imagined mean student and by aligning the suits to our image of what a student should become.

Figure 7-3

Designing for the Imagined Mean (or Equality)

In many educational settings, this is where the designer or educator stops, because we see our job as ending by merely providing a common, one-size-fits-all solution to our learners' needs. This creates all sorts of problems for our students, because they are all different sizes and have different body types and shapes. After watching the students struggle for a while with sleeves that are too long or pants that are too tight, we console ourselves by shrugging our shoulders because we have treated students equally and provided the exact

same suit to everyone. "The average student does perfectly fine with what I've provided," we think, "and actually making the suit fit is up to the learner. If they just tried a little harder, then they should have no trouble making it fit."

Yet, no matter what they do, some students just can't make it fit, and then we begin to wonder whether the learner is really cut out for learning, and instead of picking up scissors to trim the material, we pick up our gradebooks to trim the student's future.
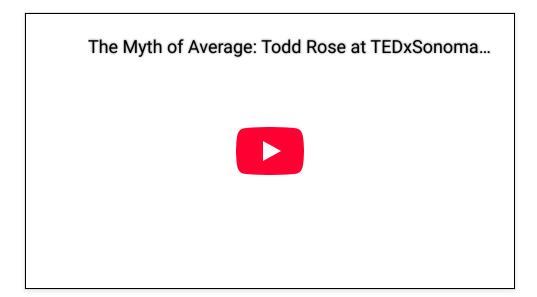
One of the key problems with this approach is that there is no such thing as an "average student" because each student is unique in a variety of ways, and even though we have *equally* provided the same solution to everyone, our students have *unequal* opportunities to move forward into their professional lives dressed for success, because our design favored some while excluding others.

To understand this point more deeply, watch Video 7-2 and consider the following questions:

- Why is designing for the mean such a problem?
- Does providing the exact same curriculum to every learner result in equal opportunities for learning?
- How have you or others you know been impacted by such mean-based thinking?

Video 7-2

The Myth of Average

The Myth of Average: Todd Rose at TEDxSonoma…
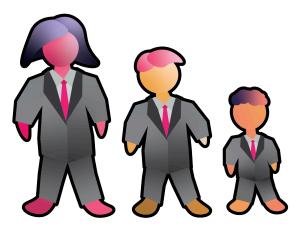
7.1.2 Accommodating Differences

Seeing this difficulty, a more conscientious designer or educator might reconsider their role to be that of a tailor, requiring them to cut, patch, and resize material so that each student has a suit that fits (see Figure 7-4). This takes a lot more hard work and requires us to focus much more on some students than others. "Some students," we tell ourselves, "fit naturally

into the suit, so they don't really need us. The ones who really need our attention are the ones that don't fit." And so, our efforts become focused upon accommodating our materials to fit each learner's unique needs, until by the end, we have a classroom full of sharp-looking lawyers.

Figure 7-4

Accommodating for Unique Needs (or Equity)

In large part as a response to lawsuits and legal mandates like the *Americans with Disabilities Act*, universities have had to create offices and hire a host of professionals who operate as tailors to step in as needed to help instructors make learning experiences work for students who just otherwise wouldn't be able to make them fit. This is laudable, and if all universities took this more equitable approach to learning, then our courses would be much more ethical and effective than they currently are.
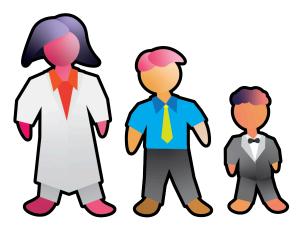
Yet, a nagging concern still remains: Is this the best way to meet our learners' needs? Namely, they came into our class to be fitted with proper clothing for their future selves, and we interpreted this to mean that they should all dress like lawyers. Perhaps part of the difficulty we experienced when fitting students with these suits is that some complained about things unrelated to the fit. Maybe they said things like "this suit doesn't work for what I want to do," "when will I use this," or "this doesn't apply to me," and instead of listening to their concerns, we chose instead to enforce our view upon them of what professional adult clothing should be from our myopic view of a single profession.

Although we needed to have a learning objective that united our efforts, such as "dressing for professional life as an adult," our shift to interpreting this to mean that "professional clothing equals lawyer clothing" was a wrong assumption to make. This precluded us from designing a learning environment that met our students' actual needs, honored their agency, or engaged them in their own learning. The result is that even if our students were successful in passing our class, they were successful only because they conformed to our misguided view of what they should be and not because they were better prepared for adult life.

7.1.3 Designing for Difference

A third approach would have been to design from the beginning with our students' shapes, sizes, interests, and goals in mind (see Figure 7-5). If we had started by identifying what professions students wanted to prepare for, then we could have assisted them in identifying appropriate clothing for their future selves and then acquiring and fitting what would help them to be successful in adult life. This is the heart of Universal Design for Learning or UDL, wherein we strive to design learning experiences in ways that are universally valuable to all learners out-of-the-box, not just to the "average learner" and not as a result of trying to make everyone else look like the average.

Figure 7-5

Universal Design

Such an approach is exciting for many reasons, but perhaps its most beautiful feature is that it benefits all learners, including the average, the marginalized, the malconforming, and (yes) even the future lawyer. Also, notice that the term "disability" has not been mentioned at all in our conversation yet, but that is because when approaching the problem of learning through this lens, disability becomes a subset of difference, and serving the needs of learners with disabilities changes from an add-on accommodation to a core design decision.

7.2 Universal Design Overview[1]

> **Learning Outcome:** *I can explain the core principles and concepts of universal design and UDL.*

Universal Design (UD) was originally coined by Ron Mace at North Carolina State University as an architectural approach to building structures that includes accessibility features in the original designs. Common features such as stairs, swinging doors, button height, and visual signage can create barriers to access for a wide range of people, but especially those with disabilities. For this reason, architects began to design buildings that took into consideration a wide range of needs, such as providing a way for people who had difficulty walking up stairs as an alternate way of getting to the second floor. In reality, there are many considerations, from flooring and lighting to the width of a bathroom stall, that must be taken into account to provide universal access. By incorporating features in the original

design such as ramps instead of stairs and automatic doors instead of buttons, people with and without disabilities may have equal access to aesthetically pleasing and functional structures.

Learning Check

Consider this beautiful staircase in the Kunstmuseum in Bonn, Germany. Who might struggle to use these stairs?

- ☐ Those with heart conditions
- ☐ Those who use wheelchairs
- ☐ Those who use walkers
- ☐ Those with a broken leg
- ☐ Those pushing strollers
- ☐ Small children
- ☐ Those making a large delivery

One takeaway from this architectural example is that there are unintentional barriers built into the world around us, including our educational system. These barriers can be physical, cognitive, or psychosocial, and they can be found in our schools, curricula, materials, and tools. Just like using a staircase presents a barrier for someone using a wheelchair, aspects of an educational curriculum can present barriers to students accessing necessary information. UDL locates the problems of access to education with the design and presentation of educational products, rather than in the students, and is a way to think about planning classrooms and lessons in ways that don't just fix barriers, but remove them while also honoring and empowering learners.
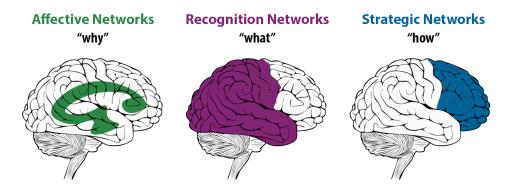
Here are a few examples that are commonly seen in schools:

- Printed textbooks can present barriers to accessing information for students with visual impairments or reading disabilities.
- Watching videos can present a barrier to students who cannot hear.
- Drawing a poster could present a barrier to students who have a physical disability or poor fine motor skills or just simply cannot draw well enough to express their ideas.
- Verbal presentations present barriers to students with social anxiety.

The list could go on and on. The point is that many of the common pedagogical practices that teachers use will present a barrier to some students, and in those instances, teachers can either ignore them, accommodate for them, or rethink their design to remove the barrier altogether.

7.2.1 Neuroscience and cognitive science[1]

Universal Design for Learning (UDL) is, in part, informed by research on how the brain functions during learning. It's important to say up front that this is a very complex and still unfolding area of research. We cannot give it sufficient attention in this chapter, but a 5-video series called Brain Matters by Todd Rose is a good place to get a basic understanding. For our purposes, we need to know that learning is a complex process that takes place across three interconnected networks in the brain: the affective, recognition, and strategic networks (Rose & Meyer, 2002). Each network is made up of millions of neurons, and the process of learning any particular skill or information varies for every person based on their individual patterns of strengths, weaknesses, and learning preferences within those networks, as well as prior experience, skills, and the learning strategies a student employs.

Affective Networks
"why"

Recognition Networks
"what"

Strategic Networks
"how"

7.2.2. Affective Networks1

Affective networks primarily deal with emotional states. This is the "WHY" of learning (CAST, 2018). Emotions have a powerful effect in learning as they can affect readiness, engagement, motivation, meaning making, and memory. One way to visualize this is to think of the characters in the Disney movie Inside Out. The emotion characters had a lot of control over the decisions that were made. Similarly, the emotional state of our students will influence their ability to learn on a given day.

Watch Video 7-3 and consider the following questions:

- What are the primary emotions influencing your learners' behaviors in your course?

- Rather than ignoring or fighting against these emotions, how might you engage them for learning?

Affective Networks
"why"

Video 7-3

Inside Out Meet the Emotions

Meet Riley's Emotions! 🎭 | Inside Out 2 | Disney Kids

Recognition Networks
"what"

7.2.4. Strategic Networks[1]
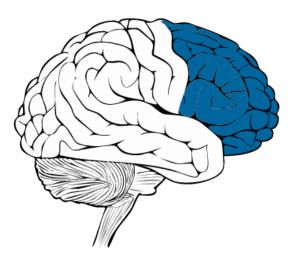
Strategic networks are made up of the executive functions that allow people to plan, direct their attention, and be intentional about the way they approach a task. This is the "HOW" of learning (CAST, 2018). The strategies employed in learning include any goal directed behavior, managing time, and monitoring progress toward that goal. As students vary greatly in their ability to be strategic in their learning, teachers need to build in supports to make learning goals salient.

Figure 7-5

Peter Quill has Part of a Plan

Strategic Networks
"how"
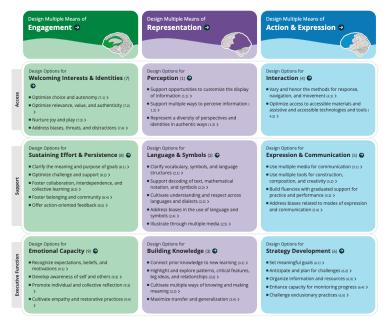
7.3 UDL Guidelines[1]

Learning Outcome: *I can apply UDL Guidelines to my own course design.*

UDL considers these three brain networks and provides guidelines and checkpoints for designing learning experiences that optimize all three. The infographic below (Figure 7-6) shows the foundational principles of UDL to address all three of the networks with the guiding considerations that designers should provide multiple means of (a) engagement, (b) representation, and (c) action and expression. The interactive infographic provided by CAST also provides detailed examples of how each of these goals can be achieved. We will now explain each of these in more detail.

Figure 7-6

The UDL Guidelines Infographic

Design Multiple Means of **Engagement** ➜	Design Multiple Means of **Representation** ➜	Design Multiple Means of **Action & Expression** ➜
Access — Design Options for **Welcoming Interests & Identities (7)** ➜ ● Optimize choice and autonomy (7.1) › ● Optimize relevance, value, and authenticity (7.2) › ● Nurture joy and play (7.3) › ● Address biases, threats, and distractions (7.4) ›	Design Options for **Perception (1)** ➜ ● Support opportunities to customize the display of information (1.1) › ● Support multiple ways to perceive information (1.2) › ● Represent a diversity of perspectives and identities in authentic ways (1.3) ›	Design Options for **Interaction (4)** ➜ ● Vary and honor the methods for response, navigation, and movement (4.1) › ● Optimize access to accessible materials and assistive and accessible technologies and tools (4.2) ›
Support — Design Options for **Sustaining Effort & Persistence (8)** ➜ ● Clarify the meaning and purpose of goals (8.1) › ● Optimize challenge and support (8.2) › ● Foster collaboration, interdependence, and collective learning (8.3) › ● Foster belonging and community (8.4) › ● Offer action-oriented feedback (8.5) ›	Design Options for **Language & Symbols (2)** ➜ ● Clarify vocabulary, symbols, and language structures (2.1) › ● Support decoding of text, mathematical notation, and symbols (2.2) › ● Cultivate understanding and respect across languages and dialects (2.3) › ● Address biases in the use of language and symbols (2.4) › ● Illustrate through multiple media (2.5) ›	Design Options for **Expression & Communication (5)** ➜ ● Use multiple media for communication (5.1) › ● Use multiple tools for construction, composition, and creativity (5.2) › ● Build fluencies with graduated support for practice and performance (5.3) › ● Address biases related to modes of expression and communication (5.4) ›
Executive Function — Design Options for **Emotional Capacity (9)** ➜ ● Recognize expectations, beliefs, and motivations (9.1) › ● Develop awareness of self and others (9.2) › ● Promote individual and collective reflection (9.3) › ● Cultivate empathy and restorative practices (9.4) ›	Design Options for **Building Knowledge (3)** ➜ ● Connect prior knowledge to new learning (3.1) › ● Highlight and explore patterns, critical features, big ideas, and relationships (3.2) › ● Cultivate multiple ways of knowing and making meaning (3.3) › ● Maximize transfer and generalization (3.4) ›	Design Options for **Strategy Development (6)** ➜ ● Set meaningful goals (6.1) › ● Anticipate and plan for challenges (6.2) › ● Organize information and resources (6.3) › ● Enhance capacity for monitoring progress (6.4) › ● Challenge exclusionary practices (6.5) ›

7.3.1 Means of Engagement

The affective network correlates with learner engagement. The guidelines have been arranged to put engagement first, partly because getting learners to actively engage with the material is a foundational step in the learning process. Recruiting interest, or providing a "hook" to a lesson, is often an early consideration in lesson planning, though engagement must go beyond the hook. Once students are interested, how do we help them sustain their engagement and become self-regulated learners? The bulleted checkpoints provide specific recommendations on how to accomplish this. Important considerations for engagement include providing learners choice and autonomy in authentic and relevant situations.

Learning Check

Which of the following are example(s) of providing multiple means of engagement:

☐ Giving student access to digital, audio, and print versions of a text.

☐ Giving students the choice of topic for a persuasive essay.

☐ Giving students options of tools to use to compose an essay.

☐ Giving students access to the expected learning outcomes.

☐ Giving students options to work with other students

7.3.2 Means of Representation

The recognition network correlates to the representation of information. Content can be represented in many ways, visually through text, images, and videos; auditorily through recordings, lectures, and conversation, and through physical objects. Using only one method of presenting material can create a barrier for students. Providing multiple means of representation removes barriers to perception, language and symbols, and comprehension.

An example of this might be using closed captions when watching a video to help the student who has difficulty hearing, the student who has a hard time processing auditory information, and to support students who speak English as a second language. Providing access to digital dictionaries will allow students to look up unfamiliar vocabulary terms. Language translation tools or bilingual dictionaries are powerful aids to build comprehension. These tools are increasingly being built into educational programs so that each student can access content with the needed supports.

Learning Check

Which of the following are example(s) of providing multiple means of representation:

- ☐ Giving student access to digital, audio, and print versions of a text.
- ☐ Giving students the choice of topic for a persuasive essay.
- ☐ Giving students options of tools to use to compose an essay.
- ☐ Giving students access to the expected learning outcomes.
- ☐ Giving students options to work with other students in groups

7.3.3 Means of Action and Expression

The strategic network correlates to how students show their learning. As discussed earlier, learning outcomes can be met in many different ways. This includes options for physical movement and action as well as options for expressing their learning.

For example, to meet the goal of comparing differences between the colonies, students could use a comparison chart like a Venn diagram, but they could also make a verbal presentation, make a poster, draw pictorial representations, compose a poem or song, build a model, or type a blog post on a tablet or computer. There are times in which a specific

format or structured outcome is necessary, such as learning to plan, organize, and compose an essay. In this case, a teacher could still provide options on the topic of the essay, or whether it could be typed or handwritten.

Learning Check

Which of the following are example(s) of providing multiple means of expression:

- ☐ Giving student access to digital, audio, and print versions of a text.

- ☐ Giving students the choice of topic for a persuasive essay.

- ☐ Giving students options of tools to use to compose an essay.

- ☐ Giving students access to the expected learning outcomes.

- ☐ Giving students options to work with other students in groups

✏️ Blueprint Challenge

Using the accessibility checklist, Take 10 minutes to explore the interactive infographic and consider the following questions:

- What might be some examples of multiple means of **Engagement** in your context?
- What might be some examples of multiple means of **Representation** in your context?
- What might be some examples of multiple means of **Action and Expression** in your context?

Then, open your Accessibility Audit document and complete the UDL section (the first 9 items). For each item, consider whether your design meets the criterion, and if it doesn't, then adjust your design to better do so. (The interactive infographic can give you great ideas and examples on how to do this.) Then, mark the item as Passed/Failed and list any evidences in your design for why you believe it passes (e.g., "Learning goals are clearly stated in each module.").

7.4 UDL in Practice

Learning Outcome: *I can apply general principles of UDL to my practice.*

UDL is a powerful lens for approaching design, because it encourages designers to improve learning experiences in ways that benefit all learners. However, its depth and breadth may be daunting and even discouraging to novices, because it may always seem that there is more that could be done to make designs more universally accessible. This is a normal feeling, and though formal evaluations and processes using the full UDL framework will always be beneficial, here are a few brief key practices that will help ensure that you are addressing the key components of UDL:

7.4.1 Design for the edges and plan for variability

Designers naturally design for themselves or people like them. If they intentionally think about an audience, then their next natural inclination is to design for a mean learner. Designing for those different than us, which UDL requires, takes intentional effort, but it can be daunting, because a universe of learners is vast, and this is much harder than just designing for the self or a single mean learner. To make this simpler, begin by identifying two or three axes of differentiation and identify two learners on the far margins (e.g., the high achiever and the low achiever, the native speaker and the second language speaker, the racial majority and minority). Use these axes to then identify 3-5 hypothetical or real learners that represent the greatest variability possible in your audience. Then, design with these learners in mind. The beautiful thing about this approach is that it is not much more complex than designing for the self or the mean, but by identifying those on the margins and designing for them, you capture everyone within those margins as well, whereas had you designed for the self or mean, you would have only captured those close to it.

7.4.2 Create clear, method-free objectives

Designers are used to creating learning objectives early in the design process, but sometimes we are taught or slip into embedding methods of assessment into an objective. For example, if I was designing a class on the U.S. Revolutionary War, I might write an objective that "Learners will be able to explain the reasons for the war in an essay." However, the problem with this goal is that it conflates the "what" of learning (i.e., reasons for the war) with the "how" of learning and expression (i.e., writing an essay). A better goal would be "Learners will be able to effectively communicate the reasons for the war." By separating the method of assessment (i.e., writing an essay) from the goal, it then allows the possibility for learners to exemplify their knowledge in a variety of ways that foster diverse methods of engagement and expression (e.g., writing an essay, making a documentary video, designing an infographic). This does not diminish the importance of assessment but merely removes the possibility that a single method of assessment will prevent learners from learning. These objectives should then be communicated to learners regularly and appropriately so that learners can organize their executive functions toward achieving them.

Some might argue that in some fields and courses the method of assessment is part of the objective. And this is true. For instance, in an academic writing class, the guiding learning objective might be to learn to write an effective essay. Allowing for variability in method to allow students to turn in videos or poems in this context wouldn't make sense, but the point remains that if method is not essential to the context of the course or field, then its inclusion in the learning objective introduces an unnecessary barrier. So, to reduce barriers, the designer must carefully consider what the objective actually is and what methods or other details might actually just be barrier-inducing distractions.

7.4.3 Use a variety of flexible methods and materials[1]

Consider that one of your broad, overarching goals as a designer is to help learners grow into expert learners who are purposeful and motivated, resourceful and knowledgeable, and strategic and goal-directed. The guidelines and checkpoints in UDL provide guidance on how to accomplish this by providing flexible options to learners. Providing students with multiple means, or pathways, to engage with content, access the information in a way that is digestible, and then show their learning gives learners autonomy and allows them to become independent and self-directed learners.

While technology is not required to universally design a lesson, many of the tools now available can be extremely useful in removing barriers and promoting independent, self-guided learning. Many programs have built-in features that allow students flexibility and options in how they interact. Features could include the option to choose an avatar, change the display colors or font size, turn closed captions on or off, adjust the playback speed, and others. These features allow designers and learners to customize their learning environment to meet individual needs. Using technology for its own sake is not pedagogically sound, but targeted use of technology to remove instructional barriers can transform student learning and engagement.

7.4.4 Build mechanisms for progress monitoring and actionable feedback

Perhaps the most important role an instructor provides in any learning scenario is helping learners to understand where they are in the process to mastery and what they need to do next. Thus, all learners need constructive formative assessment and actionable feedback for making progress that is unique to them. As designers plan assignments, rubrics, discussions, and activities, an emphasis should be placed on ensuring that learners are receiving helpful guidance back from the learning experience. This may especially be important in blended and online settings where it might be easy for courses to become black boxes where students feel like they are inputting assignments and effort but seeing very little back in return. Such unidirectional designs are both ineffective cognitively but are also discouraging for motivation and persistence. One of the reasons that massive open online courses (MOOCs), for instance, have less than a 6% completion rate (e.g., Pursel et al., 2016) is that they generally do not have any plan or system for providing feedback to learners. So, though a student may be motivated to learn when they first sign up for a course, this

motivation dies out quickly when they do not perceive any effort reciprocated back toward them.

7.5 WCAG Requirements and Guidelines

Learning Outcome: I can meet WCAG requirements in my course design.

UDL operates off of cognitive and learning design principles, and if we follow UDL well, we will address most potential barriers to learning before they happen. However, just as there are legal mandates placed on public buildings to ensure access to specific groups of people with disabilities, there are also specific legal requirements that designers must ensure that they are meeting in order to meet the needs of specific learners and groups. With the evolution of the internet, the World Wide Web Consortium (W3C) has created a collection of Web Content Accessibility Guidelines (WCAG) for determining whether a resource, such as a course, is accessible to those with disabilities. Nations and other governing bodies have subsequently passed laws that use these guidelines as standards for accessibility that are legally mandated when delivering coursework.

WCAG takes more of an "accommodating for differences" approach, while UDL takes more of a "designing for differences" approach, but many WCAG considerations have clear overlap with UDL. For instance, WCAG requires that if an image is used in your coursework, then you should also include a textual description of the image nearby and as an "alt" tag in the HTML itself. This aligns with the UDL Perception guideline to "Support multiple ways to perceive information" (1.2) but is a very specific method for ensuring that people with vision disabilities can understand what information is being conveyed in an image. Similarly, the WCAG requirement to include captions on a video aligns with this UDL guideline as well, but it concretely addresses the needs of learners with auditory disabilities by prescribing a specific solution.

Thus, WCAG tends to be more prescriptive and technical than UDL. This is both a positive and negative to designers. The positive is that WCAG makes it clear to designers what they must do to make their work accessible, but the negative is that many guidelines relate to technical systems beyond the designer's control (such as how a LMS presents data). WCAG is also so robust and technical that it is beyond the scope of training for most (or any) designers to be fully knowledgeable of all its requirements (e.g., SVG mappings, ARIA states). However, there are specific guidelines that are clearly within the scope of work of designers and within their realm of expertise to address. Though these are not enumerated by W3C itself, the Accessibility Audit Template provides some key WCAG requirements that apply to the work of learning designers that will help you address some of the most pressing and common barriers that learners face when accessing learning content on the web.

Some non-technical examples of these guidelines include the following:

- Define all technical terms and jargon.
- Provide expanded forms of abbreviations.
- Provide pronunciations for uncommon terms.
- Provide simplified versions of complex content.

- Avoid using images of text unless they are essential.
- Provide descriptive names or context for all links.
- Provide information in links regarding their purpose (unless it would be clear to most users).
- When colors are used to convey meaning, also provide other methods of conveying meaning, such as by shape or text.
- Provide sufficient contrast between all text and backgrounds (4.5:1).
- Provide meaningful, descriptive, and concise page titles.
- Provide headings and labels showing the content's structure.
- Make content visible in both landscape and portrait layout.
- Ensure that text resizing does not hide content.
- Avoid two-dimensional scrolling layouts.
- Provide consistent navigation across pages of content.
- Provide consistent access to help features.
- Provide text alternatives for all visual and auditory materials.
- Provide alternatives for all audio-only and video-only content, such as textual scripts for a video.
- Provide captions for all video.
- Provide descriptions of all visual content.
- Allow all automatic audio to be stopped or paused.
- Avoid flashing content (more than three flashes per second).

✎ Blueprint Challenge

Open your Accessibility Audit document and complete the WCAG section. For each item, consider whether your design meets the criterion, and if it doesn't, then adjust your design to better do so. Then, mark the item as Passed/Failed and list any evidences in your design for why you believe it passes (e.g., "Learning goals are clearly stated in each module.").

Note that some of these requirements may deal more with development than with design and may not apply until you have actually created your course (e.g., "alt" tags wouldn't need to be added until you've actually added images to an online system). In these cases, leave the Status field **blank** for now but also mark in the **Evidence(s)** cell what you plan to do to meet this requirement when the time comes. In cases of elements that don't apply to your course, choose **N/A**.

Conclusion

This chapter provided an overview of universal accessibility considerations in online and blended learning design by exploring the topic of equal opportunity and introducing UDL and

WCAG guidelines. As you move forward in your continuing design work, we encourage you to keep these issues at the forefront of your thinking as they are necessary for ensuring that all learners can fully benefit from the courses you create.

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Footnotes

[1]This section was adapted from Michela (2020).

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8

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Copyright

Kimmons, R.

Copyright   Creative Commons   Fair Use   Open Licenses

Public Domain

This chapter provides an overview of copyright law as it applies to visual creations such as images and photographs. It emphasizes that most works are copyrighted by default and that permission is required to use them legally. The chapter also discusses the types of works that can be copyrighted, gaining copyright, ownership, usage, linking, losing copyright, and common questions related to copyright. Additionally, it touches on fair use and provides resources for further learning.

As you begin creating your course, you will often use existing resources that others have created, such as books, journal articles, images, videos, etc. You will also likely create your own resources that may be useful as stand-alone content, such as an illustrative image of a

difficult concept. In all of these cases, legal frameworks exist that determine what you can and cannot legally use, when permissions are needed, and what rights you have over your own creations. In this chapter, we will address the basics of copyright law and guide you in conducting a copyright audit for formative evaluation purposes.

Learning Outcome

I can use copyrighted material while adhering to applicable laws.

Sub-section outcomes:

- I can reasonably determine whether fair use applies to specific copyright cases.
- I can use public domain resources to improve my course design.
- I can interpret the meaning of open licenses, use open content, and choose appropriate licenses for my own works.

8.0 Introduction

Copyright is typically established in federal law and varies from country to country. In the U.S., copyright was written into the original constitution in 1787, where it was stated that copyright is established "to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries" (Article 1.8.8). It does this by giving creators control over their creative works for a specified period of time so that they can profit from them, thereby encouraging them to create more.
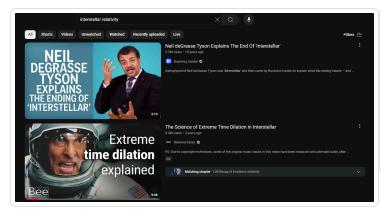
Video 8-1

Copyright basics for teachers

Copyright Basics for Teachers

Figure 8-1

YouTube results for "Interstellar relativity" and a monkey taking a selfie

Other important cases of uncopyrightable work include works created by non-humans, such as selfies taken by a monkey, paintings made by a robot, and content created by artificial intelligence. This becomes a bit complex when we consider that a painting robot was created by a human or that an artificial intelligence may have been trained on copyrighted works, and this aspect of copyright law will likely continue to evolve, but current application of copyright law in the U.S. limits copyright claims to immediate human creators of a work. Any works created by non-humans are in the **public domain**.

8.0.3 Gaining Copyright

In the U.S., copyright is automatic. It applies to a work as soon as it is created, and the author does not need to do anything to make this happen. There is no required process for applying copyright to a work; the work is copyrighted, period. This means that anything created by anyone is copyrighted automatically, whether the creator wants it to be copyrighted or not. So, as soon as Tolkien penned ink to paper on *The Hobbit* or James Cameron and his cinematographers captured video for the movie *Alien*, those works were copyrighted instantly.

However, proving that you hold the copyright on your creative work is another matter. For instance, say that you write a novel and lend the manuscript to your neighbor to proofread. What is to prevent your neighbor from claiming that the novel is her creative work and, therefore, claiming to hold its copyright? To help in preventing and addressing copyright problems, the U.S. government allows copyright holders to register copyright with the [U.S. copyright office](#). Thus, while an author does not need to do anything to copyright a work, they do need to go through a process if they would like to register the copyright of that work to safeguard against infringement or to initiate a lawsuit.

8.0.4 The Copyright Symbol ©

The copyright symbol may be placed on a work to remind and inform users of its copyright status: ©. However, the copyright symbol is only a reminder. The absence of the symbol does not mean that the work is not copyrighted, and the presence of the symbol is not proof that the work is copyrighted. The symbol is a notification and a warning, but it may not be accurate.

8.0.5 Ownership

By default, the author of a work holds the copyright on that work. The main exception to this rule would be if the author was being paid by someone else to create the work and the author had signed a contract stating that the work was created specifically as part of their job. In copyright law, this is called a "work for hire." So, if you hire a graphic designer to create a cover for your book, because they are specifically hired to create this thing for you, you will own the copyright on it when they are done. Contracts might also stipulate that ownership depends upon when and where the work was created (during standard work hours vs. after work hours or in the office vs. at home). Designers and course developers are typically viewed as creating works for hire, so course materials they create are owned by their institutions. However the case of educators, especially professors, is a bit messier. Some educator contracts state that creative works by an educator are owned by the educator, while others state that they are owned by the school, district, or university. If you would like to know who holds the copyright of works you create as part of your job, you should check your teaching contract or contact your employer.

8.0.6 Usage

Copyright generally means that others cannot use copyrighted material without the permission of the author and that permissions are restrictive. For instance, downloading a bootleg version of a movie is a violation of copyright, because you did not purchase the copy from the copyright holder. Further, even if you do purchase the movie from the copyright holder, you can only use the movie in the ways that the copyright holder allows (e.g., for private home use, not for public screenings). Thus, by purchasing a copy of a work, you do not "own" that work in the sense that you are not free to do whatever you like with it. You must still abide by any copyright restrictions placed on the work, which might determine how and where you use the work, your ability to make copies of the work, and your ability to modify the work.

8.0.7 Linking

You can generally provide a web link to copyrighted material from your own materials without permission from the copyright holder. This is different from copying/pasting the copyrighted material into your own work because it allows the copyright holder to maintain control of their content and to generate revenue through web traffic. The primary exception to this rule would be if you provided a link to materials that should not be publicly accessible and, therefore, allowed your learners to bypass restrictions placed on the content by the copyright holder.

8.0.8 Losing Copyright

Copyright comes with a time limit. The purpose of this is that the U.S. government recognizes that copyright can only benefit the copyright holder for so long and that at some point copyright should expire. Currently, the U.S. copyright law states that copyright ends 70 years after the death of the author. Upon expiration, copyrighted materials move into the **public domain**. Copyrighted materials may also lose their copyright status under other conditions. For instance, a copyright holder may relinquish the copyright status on their work, thereby allowing it to pass into the public domain.

8.0.9 Permission

If you would like to use copyrighted material, you generally need permission from the copyright holder, but once a copyright holder gives you written permission to make copies of content or to include something in your course, then you are free to do so. The original creator of the work is typically the copyright holder, but in some cases they might have signed the copyright over to someone else (e.g., a published book is generally copyrighted by the publisher, not the author). So, if you want permission to use something, you will first need to identify the copyright holder and then seek permission from them to use the work in your desired manner.

8.0.10 Risk

Many professionals are not aware of copyright law simply because their jobs do not place them at risk of being sued for violating them. K-12 classroom teachers, for instance, typically work in a closed classroom that is not visible to the outside world. So, if they violated copyright in their classrooms, no one would really know, and there's little chance of being targeted by copyright owners. This perceived safety, however, breeds misunderstanding as many educators think their copyright violations are lawful simply because they are educators when in actuality their illegal behaviors just simply have not been brought to light. The result is that many professionals persist in dubious or unlawful behaviors simply because there is little risk that they will be discovered.

When developing online courses, however, this risk is greatly increased, because content can be shared and recorded. What might have been done behind closed doors previously is now visible to the world, and this increases the risk that copyright violations will be recognized and acted against. For this reason, online course developers should both be aware of copyright law and abide by copyright requirements. Failing to do so may open you or your employer up to lawsuits and other punitive legal action and also serves as a poor model of digital citizenship to learners, leading them to continue a cycle of unknowingly illegal activity.

Frequently Asked Questions

Can I legally show my students videos from my Netflix account or other subscription streaming services?

No. Your license agreement does not allow you to do this.

When is a work copyrighted?

As soon as it is created or published.

Does a work need to be published to be copyrighted?

No, though it must be in some physical form (e.g., manuscript, recording).

Does an author need to register their work in order for it to be copyrighted?

No. Authors may [register their work with the US copyright office](#) to protect against infringement, but even unregistered works are copyrighted.

If something is labeled with a copyright symbol (i.e., ©), does that mean it is copyrighted?

Maybe. The symbol serves as a reminder, but the copyright might have expired.

If something is not labeled with a copyright symbol (i.e., ©), then is it copyrighted?

Maybe. Maybe not. The label has nothing to do with whether or not a work is copyrighted. The copyright label only serves to remind and to inform. If you see no label, you should assume that the work is copyrighted and look into the matter further.

Can I link to copyrighted materials?

In most cases, yes. As the name implies, copyright only takes effect when you make a *copy* something. Just be sure that you are linking to the resource as it is provided by the publisher (not uploaded to someone's personal server, etc.) and that your link does not bypass a copyright holder's login system. If it does, then you can potentially be in violation of other laws, like cybersecurity and anti-hacking laws.

Can I embed copyrighted materials into my presentation or website (e.g., YouTube videos)?

Generally, if a site like YouTube gives you an embed script, then you are able to use it (provided that you do not change the script, remove attribution, etc.). Fair use doesn't apply in cases like this, because the copyright holder has given you permission to do it. So, as long as you don't deviate from what they've allowed, then you're fine.

Learning Check

If you find a work online that does not have the copyright symbol on it, what should you assume?

☐ That it is in the public domain because all copyrighted works have a copyright symbol.

☐ That it may be copyrighted but it probably isn't because if it was copyrighted then the author would have included the symbol.

☐ That it is probably copyrighted, but if it is an old work then the copyright might have expired.

☐ That it is copyrighted because everything is copyrighted unless explicitly stated otherwise.

When does copyright begin on a creative work (e.g., image, photograph, book, movie)?

☐ The date when the work has been approved for copyright by the Copyright Administration or BMA.

☐ The date when the copyright symbol is placed on the work.

☐ The date when the work is created.

☐ The date when the author is born.

8.1 Fair Use

Learning Outcome: *I can reasonably determine whether fair use applies to specific copyright cases.*

Fair use is an exception or limitation to copyright law that allows you to use some copyrighted materials in particular circumstances without the copyright holder's permission. However, fair use is widely misunderstood, with many educators believing that they can do whatever they want under the auspices of fair use. Fair use, however, can actually be very complicated, applies equally to everyone, and operates under the four guiding principles:

"Fair Use" Guiding Principles

- Nature of Use
- Type of Work
- Amount Used

- Commercial Impact

> ⚠ **Myths of Fair Use**
>
> Some common myths of fair use include the following:
>
> - Educators and non-profits are exempt from copyright rules because of fair use.
> - Fair use does not apply to educational uses of copyrighted work.
> - Saying "no copyright infringement intended" makes a use fair.
> - Using fewer than X pages of a book, X% of a song, or X minutes of a video is fair.

To understand what uses of copyrighted material are actually fair, we will now briefly explore the four guiding principles.

8.1.1 Principle 1. Nature of Use

The first principle covers what you are doing with the content and whether your use aligns with the author's intended use. Fair use only applies to uses of works that are transformative in nature. This means that your intended use must be different from the author's intended use. Consider a novel. You can quote lines from a novel in a paper you write without permission from the novel's author, because you are writing the paper to analyze literary elements of the novel, not to tell a story. If, however, you took those same lines and placed them in your own novel, then that would not be an example of fair use, because your intended use would be the same as the original author's intended use. In education, this means that using someone else's educational content (e.g., an image from their textbook) would not generally be fair use, because your intent is the same as theirs (i.e., educational and, therefore, non-transformative).

8.1.2 Principle 2. Type of Work

The second principle gives greater flexibility in using informational or factual works than to artistic or creative works. Thus, copying a few pages from an encyclopedia is viewed as more conducive to fair use than doing the same with a detective novel, because the information's benefit to society is readily apparent.

8.1.3 Principle 3. Amount Used

The third principle ensures that you only use as much of the copyrighted material as is necessary to achieve your goal. Thus, quoting a line from a novel would be considered fair use, but copying multiple chapters of the novel for this purpose would not. This is both a quantitative and qualitative consideration, in that you should not use more than is needed but fair use also should avoid using the "heart" of a work.

However, there is no magic number here. A judge will not look at your use and ask "did they use fewer than 10 pages" but will rather ask "is the amount used reasonable."

8.1.4 Principle 4. Commercial Impact

And the fourth principle considers whether copyrighted material negatively impacts the author's ability to profit from it. If you copy an article to share with your class, this would prevent the copyright holder from selling access to the article, which would be a violation. However, if you were to copy only a paragraph of an article for this purpose, it is less feasible that the copyright holder would potentially lose money on this use. So, this use would be more defensible as fair use.

8.1.5 Applying the Principles

If it weren't for fair use, you wouldn't even be able to write a paper that quoted a famous author without permission, which would be a serious matter for scholarly progress. Consider this poem from *The Fellowship of the Ring*:

> *All that is gold does not glitter, not all those who wander are lost; the old that is strong does not wither, deep roots are not reached by the frost. J. R. R. Tolkien*

Without fair use, the inclusion of this poem in a paper on literary analysis or on this website would be a copyright violation, because I did not seek the author's prior consent to make a copy of this text from his book or to distribute it online. However, my use in this case is a transformative use and is only large enough to make the educational point, so it is allowable. Would being able to read this quote on this website prevent someone from reading his book (thereby depriving the copyright owner of profits)? Certainly not. On the contrary, however, if I were to provide several chapters of Tolkien's book online without prior permission from the copyright holder, then this would not constitute fair use.

Similarly, copying another teacher's lesson plan, changing a few words, and posting it online would be a blatant copyright violation. Fair use becomes problematic in education if you are trying to use educational works in your own creations (e.g., materials created specifically for education, such as lesson plans or textbook chapters) and/or you are using too much (such that it might prevent the owner of the copyright from profiting from the work).

To determine if a desired use of copyright-restricted material would fall under fair use, ask yourself four questions:

1. Use: Is the use transformative? (Yes = Fair Use)
2. Type: Is the work informational/factual in nature? (Yes = Fair Use)
3. Amount: Is the use minimal? (Yes = Fair Use)

4. Impact: Does the use negatively impact the copyright holder's ability to profit from the work? (No = Fair Use)

Fair use is a judgment call, but the call is made based on the answers to these four questions. Thus, if your answer to all four questions aligns with fair use, then your use would likely be judged as fair. If the answer to one question does not align with fair use, then your use might still be fair, but it increases the potential for it to be judged otherwise. And so forth. In many court cases, uses that met three criteria have been deemed as fair, and in others, uses that only met one or two criteria have been deemed as fair, but there is never any guarantee. In short, only a judge can determine if use is fair, but a judge would use these four guidelines in making the determination.

✓ Positive Examples

These are examples that would probably qualify as fair use (i.e. they probably do not violate copyright):

- Quoting a few sentences from a book in a paper on literary criticism;
- Adding text to a movie screenshot to critique/parody the movie;
- Including a paragraph of text from a book in a quiz as background for asking questions;
- Showing a short clip from a popular movie to analyze how it was made.

✕ Negative Examples

These are examples that would probably NOT qualify as fair use (i.e., they probably violate copyright):

- Copying pages from a workbook for students to complete;
- Copying or remixing a lesson plan;
- Creating a calendar of pictures that were photographed by someone else;
- Including a popular song as background music on a YouTube video your students create;
- Holding a public screening of a movie that you have purchased for personal use.

To help safeguard your fair use claims, many institutions require their designers to complete a Fair Use Checklist for any creative work they are using in their coursework. These checklists may vary by institution, but their intent is to provide a positive defense against copyright infringement claims by showing that you have a case for showing that your use is fair.

✎ **Blueprint Challenge**

Complete the Fair Use Checklist for a textual or media item (e.g., image) that you will use in your course.

8.1.6 Institutional Rules

To help safeguard themselves and their employees, many educational institutions will also adopt rules for interpreting fair use. For instance, some institutions will allow copyrighted materials to be used up to a certain percent of the work (e.g., a section of a book can be copied as long as it constitutes 10% or less of the entire book). These rules are not perfect reflections of the law but are rather interpretations intended to protect. Thus, when considering institutional rules, you should recognize that they are intended to prevent you from breaking a rather fuzzy law but that they also may not entirely reflect what the law actually states. In any case, you are safest abiding by your institutional rules for fair use, because this helps to ensure that your institution will be on your side if there is any question about your copyright-restricted material use.

Figure 8-2

John Wayne thinks fair use is confusing

8.1.7 The Bottom Line

Fair use is complicated and confusing, only provides educators with limited opportunities for use, and is typically more of a headache than it is often worth when talking about any substantive use of copyrighted materials. At times, you will need to use copyrighted works in your course, but thankfully, there are other alternatives, such as public domain works and openly licensed works, which we will now explore.

Additional Resources

The U.S. Government archives court cases related to fair use, which may be instructive if you have specific questions about what courts are classifying as fair use and not.

8.2 Public Domain

Learning Outcome: *I can use public domain resources to improve my course design.*

According to copyright law, there are some creative works to which copyright does not apply. These are public domain works or works in the **public domain**. The largest group of these works are simply those works that are old enough that copyright no longer applies, but this will vary by country and the year in which the work was created.

Simply finding a work in a public place does not mean it is in the public domain. Rather, your default assumption should be that any work you find is copyrighted unless it is clear that it is in the public domain. However, if you do find a work that is in the public domain, then it is free game for you to use as a designer. You can do whatever you want with it (without permission) and do not even need to cite the original author to meet copyright requirements.

⚠ Myths of the Public Domain

Some common myths of the public domain include the following:

- If a work is visible publicly, then it is in the public domain.
- If something is free, then it is in the public domain.
- Royalty-free is the same as public domain.
- Fair use is the same as public domain.

8.2.1 Categories

In general, there are three groups of works that are in the public domain:

1. Old works for which the copyright has expired;
2. Exempt works that may not be copyrighted or that were created under certain conditions;
3. Any works that have been released to the public domain by their authors.

We'll now explore each in more detail.

Old Works

Under the current US copyright law, any copyrighted work will automatically pass into the public domain 70 years after the death of the creator. In general terms, this means that almost all classics or materials older than 120 years or so are in the public domain. To determine if a specific work is in the public domain, you should find out when the author died and add 70 years in order to determine the date at which copyright expires. This time frame has gradually been lengthened in US history, so some works may still be in the public domain that were created less than 70 years ago.

Figure 8-3

The movie "McLintock!" and many other works are in the public domain

The John Wayne and Maureen O'Hara movie McLintock! passed into the public domain in 1994.

Various other works are in the public domain

Exempt Works

In addition to <u>uncopyrightable work</u> described above, some works may also be exempt from copyright if they are created under certain conditions of employment. The most common example of this is when US federal employees create works as part of their jobs (e.g., active duty service personnel in the armed forces). Works that these individuals create (e.g., photos taken) may be placed in the public domain by virtue of their employment as is the case with photos taken by <u>U.S. Fish and Wildlife</u> employees.
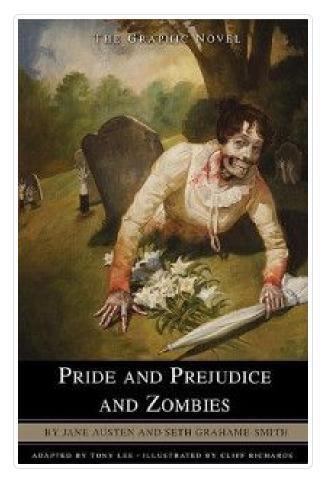
Released Works

In addition, the creator of a work may willingly choose to release that work into the public domain by simply labelling the work as public domain (e.g., "this work is in the public domain"). By doing so, the author gives anyone—including individuals, corporations, and governments—the right to use their work for any purpose, without limitation or attribution.

8.2.2 Use

Since they are not subject to copyright protection, public domain works may be used for anything and may even be included in derivative works and may be sold. For this reason, you could take Jane Austen's *Pride and Prejudice* and remix it to *Pride and Prejudice and Vampires* without seeking permission or violating copyright. You could also take the book *Moby Dick*, replace every reference to a whale with a dragon, and make it a fantasy novel. You could then make movies or commercial books with these derivatives.

The entire Disney empire was built on this model of taking preexisting content and remixing it without permission or attribution, as with Snow White, Cinderella, Beauty and the Beast, Sleeping Beauty, etc. In these cases, the remix is subject to copyright protection,

but the original is not. So, you could make your own version of Cinderella as long as you worked from the original storybook and not from the Disney remake.

Furthermore, there are no restrictions on how these works may be used, so citations are not generally needed. However, if you are using public domain content in your own work, it would be helpful for others to know what parts are public domain so that they know how they might also reuse and remix your content.

Public Domain Repositories

Some examples of online repositories that collect public domain works include the following:

- Project Gutenberg
- Pixabay
- Army Photos
- Library of Congress
- Internet Archive
- U.S. Fish and Wildlife Digital Library
- Digital Public Library of America

💡 Learning Check

What is the best definition of "public domain" as it relates to copyright?

	Public domain refers to content that is awaiting approval by the copyright administration.
	Public domain refers to any type of content that is not copyrighted (due to age or any other reason).
	Public domain refers to any type of content that is publicly visible (e.g., a website).
	Public domain refers to any type of content that has been shared by a reputable source (e.g., news site).

Which of the following are examples of (legitimate) Fair Use?

☐ Using a popular song as background music to a video you are posting to YouTube.

☐ Copying several chapters of a novel to distribute to your students.

☐ Copying a lesson plan from a textbook and sharing it with other teachers in your district.

☐ Quoting a few sentences from a novel in a paper so that you can analyze the meaning of the passage.

☐ Making additional copies of a student workbook.

Which factors determine whether the use of a work would be classified as Fair Use?

☐ Short: It only uses a very small portion of the work.

☐ Transformative: It is used for a different purpose than that which was intended by the author.

☐ Intention: You are not intending to violate copyright.

☐ Non-Commercial: You are not profiting monetarily from the work.

Which of the following are ways in which a work could enter the public domain.

☐ The work was created by a teacher.

☐ The author releases the work to the public domain.

☐ The work is very old.

☐ There is no copyright symbol on it.

If you use a work in the public domain, you are NOT legally required to cite it.

☐ True

☐ False

Which of the following are examples of works in the public domain?

☐ J.K. Rowling's "Harry Potter and the Prisoner of Azkaban" (first published in 1997)

- [ ] Jane Austen's "Pride and Prejudice" (first published in 1813)

- [ ] Shakespeare's sonnets (written between 1592 and 1598)

- [ ] Wikipedia articles

In the current U.S. law, how long does copyright last?

- [ ] 28 years after the work was created

- [ ] Life of the author, plus 70 years

- [ ] Life of the author, plus 50 years

- [ ] 60 years after the work was created

⑦ Clarification: Royalty-Free Licenses

Royalty-free does not mean public domain. If an image or other resource is released under a royalty-free license this means that copyright restrictions still apply but that you may be able to make a limited number of copies as long as you do not use them in a website banner, do not use them in a logo, etc. "Royalty-free" can have a variety of meanings, and if you wish to use a royalty-free work, then you will need to carefully read and understand the the fine print in the individual case you are considering. "Royalty-free" does not mean free but merely means that there are situations wherein you might not owe the creator money for using their work.

8.3 Open Educational Resources

Learning Outcome: _I can interpret the meaning of open licenses, use open content, and choose appropriate licenses for my own works._

Though public domain works are very useful for course creation, there main drawbacks are that most public domain works are old and that there may not be many useful resources available for every subject area. As another option, open educational resources have gained prominence as a way to share and use content freely without authors fully giving away their copyright protections to the public domain. **Open educational resources** are materials that
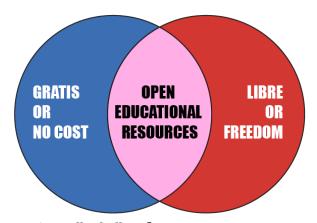
are released under an open copyright license, which allows course creators and others to freely use them without permission or unnecessary copyright restrictions.

The terms "open" and "free" colloquially have many meanings. "Free" generally has two that may be best understood by referring to their latin equivalents: *gratis* and *libre*. In the context of openly licensed materials or Open Educational Resources (OER), *gratis* means that content and resources are provided at no cost, while *libre* means that you have the freedom to do what you want with these resources.

As an example of this distinction, you may find a website with "free" videos or another teacher may give you a set of old textbooks for "free" (i.e.*gratis*), but you are not then able to do whatever you want with those videos and textbooks (i.e., not *libre*). Similarly, Facebook is a *gratis* service, because you do not pay a fee to use it, but it is not a *libre* service, because you have only limited access to download, delete, or control your data. This is an important distinction, because many *gratis* resources are not *libre*, and when we talk about *openness*, we mean both *gratis* and *libre*.

Figure 8-4

Open educational resources have the characteristics of having no cost and allowing you to exercise freedom

8.3.1 The Five "R's" of Openness

Openness may mean different things to different people, and the freedom aspect of openness is often what people have the most difficulty understanding. To help with this, Wiley (n.d.) has articulated the five R's of openness as follows:

1. Retain
2. Reuse
3. Redistribute
4. Revise
5. Remix

Using this framework, an open educational resource is one that (1) you can retain access to forever, (2) you can reuse at multiple times or in multiple ways, (3) you can redistribute or share with others, (4) you can revise, adjust, and update forever, and (5) you can remix with

other resources. None of these freedoms are allowed under a typical blanket copyright restriction, but with open educational resources, designers, educators, and learners are free to do many things that they otherwise would not be able to.

8.3.2 Open Licenses

Rather than circumventing or replacing copyright law, open educational resources operate by adopting specific open licenses that signal to others how they can use a created work without violating copyright, thereby preventing the need to contact the original creator to seek permission. By releasing a work under an open license, creators ensure that their work can be freely used and that others know what they need to do to abide by the creator's wishes. As such, open licenses find a nice balance between the restrictions of copyright and the unfettered freedoms of public domain, making them a good option for anyone desiring to share their work with others. In most educational settings, the most popular licenses used are Creative Commons licenses, while in other settings like software development GNU, MIT, and other licenses are prevalent.

Table 8-1

Common Open Licenses

Name	Image	Links
Creative Commons		• [Creative Commons](#)
GNU General Public License (GNU-GPL)		• [GNU License](#) • [Wikipedia: GNU General Public License](#)
MIT License		• [MIT License Template](#) • [Wikipedia: MIT License](#)

8.3.3 Creative Commons

[Creative Commons](#) is a non-profit organization that has created a series of licenses that can be used by content creators to release their work openly. Many works found on the internet are licensed under one of these types of licenses, and in general, you do not need permission to use them in your work as long as you properly attribute (cite) them and abide by any additional requirements set forth in the license.

There are currently eight (8) different Creative Commons licenses. Two are merely restatements of [Public Domain](#), while the rest provide the author of a work the ability to retain varying levels of control of how the work may be used. The most general Creative Commons license is the CC BY or Creative Commons Attribution license, which basically

means that others are free to retain, reuse, redistribute, revise, and remix the creation as long as they properly cite the author. More information about each license is provided in the following table.

Table 8-2

Creative Commons License Brief Explanation Table

License Type	Image	Brief Explanation
Public Domain - By Age		These works are not subject to copyright or their copyright has expired.
Public Domain - Released		These works are released to the public domain by their authors before the copyright has expired.
Creative Commons Attribution (CC BY)		Others may reuse, redistribute, revise, and remix the creation as long as they cite you.
Creative Commons Attribution - Share Alike (CC BY-SA)		Others may reuse, redistribute, revise, and remix the creation as long as they cite you and share their creation under an identical license.
Creative Commons Attribution - No Derivatives (CC BY-ND)		Others may reuse and redistribute the creation as long as they cite you. They may not remix it or revise it.
Creative Commons Attribution - Non-Commercial (CC BY-NC)		Others may reuse, redistribute, revise, and remix the creation as long as they cite you, but they may not use your creation for commercial purposes.
Creative Commons Attribution - Non-Commercial - Share Alike (CC BY-NC-SA)		Others may reuse, redistribute, revise, and remix the creation as long as they cite you and share their creation under an identical license. They may not use your creation for commercial purposes.
Creative Commons Attribution - Non-Commercial - No Derivatives (CC BY-NC-ND)		Others may reuse and redistribute the creation as long as they cite you. They may not remix it, revise it, or use it for commercial purposes.

8.3.4 Open Content Providers

Open educational resources (OER) are made available from many different sources. The following list, though not exhaustive, includes some of the more prominent providers. Explore these resources to find material that will be useful for you in your classroom, taking note of what licenses resources are released under. Watch this video to learn how to use a search engine to find openly licensed content.

Open Textbooks & Curricula

1. Open Textbook Library
2. EdTech Books
3. CK-12
4. Saylor
5. Connexions / OpenStax Library
6. Textbook Equity
7. BC Campus
8. Wiki Books
9. Merlot

Search Engines

1. OER Commons
2. Creative Commons Search
3. Google Advanced Search (set the "usage rights" field)
4. Google Advanced Image Search (set the "usage rights" field)
5. Yahoo Image Search (set the "Filter > Usage Rights" value in the results)

Text Content Providers

1. Wikipedia: open encyclopedia
2. Simple English Wikipedia: simplified encyclopedia
3. Project Gutenberg: public domain texts
4. Wiki Source: source materials
5. Wiki Quote: quotations

Media Content Providers

1. Wikimedia Commons: open media
2. LibriVox: public domain audio books
3. Internet Archive: public domain works
4. U.S. Army: public domain images
5. Library of Congress: public domain works
6. U.S. Fish and Wildlife Digital Library: public domain works (mostly)

Open Courses

1. Lumen Learning

2. [Wikiversity](#)

💡 **Learning Check**

Which of the following are true of openly licensed (e.g., Creative Commons) works?

☐ You do not need the permission of the author to use them.

☐ They do not need to be cited.

☐ They are free as in cost ($0).

☐ You can do whatever you want with them without consideration for the author's wishes.

If you see a work with a symbol that says "CC BY" on it, what does this mean?

☐ It is released under a Creative Commons (Attribution) license, and you can use it for anything as long as you properly cite it.

☐ It is close captioned. This has nothing to do with copyright.

☐ It is copyrighted by someone and cannot be used without permission.

If you see a work with a symbol that says "CC BY-ND" on it, this means that the CC BY license applies, plus what else?

☐ Non-Derivative

☐ Non-Distributable

☐ Needs Dates

☐ Needs Directions

If you see a work with a symbol that says "CC BY-SA" on it, this means that the CC BY license applies, plus what else?

☐ Show Attribution

☐ Signal Author

☐ Share Alike

☐ Simulated Area

If you see a work with a symbol that says "CC BY-NC" on it, this means that the CC BY license applies, plus what else?

☐ Needs Collaboration

☐ Non-Creative

☐ Non-Commercial

☐ Needs Citation

Which of the following works are the most free (as in freedom)?

☐ Copyrighted

☐ GNU GPL

☐ Public Domain

☐ Creative Commons

8.3.5 Attribution

When utilizing someone else's work in your own, you should be sure to attribute the work. In education, we generally use formatting guidelines from the American Psychological Association (APA), and you should cite works according to these guidelines if required for a research paper or publication. However, in most situations, a simpler citation that includes the work's title, author, license, and url will be appropriate. All work licensed under an open license will generally require you to properly attribute (cite) the resource in order to use it in your own work. **Failure to properly cite one of these works if it is used in your own work is a violation of copyright.** At minimum, you should attribute such works with the following information:

Attribution Items

Title

What is the title of the work (e.g., name of article, picture, or song)?

Author

Who created the work?

Source

Where did you find the work (e.g., url)?

License

What license is the work shared under (e.g., CC BY)?

As possible, you should also cite these works in such a way that it is clear to which portions of content the attribution refers and so that the attribution is prominent. For instance, if you include a Creative Commons image in a book you are writing, the attribution should be included as a caption under the image. When such attribution is not possible, including attributions in a works cited page is acceptable if it is clear to which content each reference belongs (e.g., providing page numbers).

Common Questions

If there is no author mentioned, how do I cite the resource?

Use the author of the website. If the website does not have a mentioned author, use the name of the website (e.g., "CK-12").

What if there is no copyleft license or notice of public domain mentioned?

Remember, just because no copyright symbol is present does not mean that the work is open (e.g., not every page of a Harry Potter book has a copyright symbol on it, but it is still copyrighted). Since everything is automatically copyrighted, you should generally assume that all work is copyrighted and should not treat it as an open resource without further investigation.

May I use a copyrighted work if I properly cite the author?

This depends on what you are using it for (see the discussion of fair use), but generally, you must have written permission to use it in any significant way.

If something is marked as released under Creative Commons, but there is no specific license identified, which should I use?

You should probably either use the most restrictive license (CC BY-NC-ND) or the most common license (CC BY). Use your best judgment.

Can I modify or revise an openly licensed work?

This depends on the license. In most cases, yes, but you may need to release your new work under the same license. The primary times when you cannot do this would be when the license prohibits derivative works (e.g., any CC BY-ND and CC BY-NC-ND).

Can I use *Royalty Free* work?

This is tricky. Royalty Free does not generally mean free as in *libre* (i.e., free to use for whatever). Rather, it typically means that you can use a work in a very specific way (e.g., print an image up to ten times) that will vary based upon the provider. So, *royalty free* is essentially just another way of saying *copyrighted*, but the material might be able to be used in some very limited manner without paying a fee.

If something is copyrighted, does that mean I cannot ever use it?

You *can* use it *if* you have the *copyright holder's permission*. You can always contact the owner and ask her/him if you can use it. Open resources are handy, simply because they make it easier for you to use materials without asking permission every time you want to use something.

8.3.6 Sharing Your Work

As the author of a creative work, you can release your it under an open license or into the public domain. All you need to do is place the Creative Commons license on your work or state that the work is in the public domain, and this allows others to know how they can use it. For example, by simply placing "CC BY 3.0" below a picture, you give anyone the right to use it for any purpose as long as they attribute you as the author.

Public Domain vs. Creative Commons

As the author of a creative work, you should consider the benefits of different ways of sharing your content. If you don't care how it's used but just want others to be free to use it,

release it into the public domain. If you want to receive credit (be cited) when others use it, use CC BY 3.0. For a more detailed walkthrough of how you should release your content, follow the steps provided in the table below.

Table 8-3

Workflow for Choosing a License

Step	Question	Yes	No
1	Do you want to allow others to use your work without asking permission?	Go to Step 2	**Copyright**
2	Do you want to receive credit for your work by requiring others to cite you?	Go to Step 3	**Public Domain**
3	Do you want to make sure that anyone who uses your work also shares their work in the same way?	Go to Step 4	Go to Step 5
4	Do you want to prevent others from profiting from your work?	**CC BY-NC-SA**	**CC BY-SA**
5	Do you want to prevent people from changing your work?	Go to Step 6	**CC BY**
6	Do you want to prevent others from profiting from your work?	**CC BY-NC-ND**	**CC BY-ND**

Example Statements

Releasing your work under an open license is easy. Just place a statement somewhere on your work that states what license you are releasing it under. The Creative Commons site provides a [wizard to create a statement and image](#) for you, or here are a few more examples:

- This work is released under a CC BY 3.0 open license by [Your Name Here].
- This work is released into the public domain.

Conclusion

This chapter has provided an overview of copyright, public domain, fair use, and open licenses. With this you should feel sufficiently knowledgeable to use copyright-restricted, open, and public domain resources in a legal manner.

> ✏ **Blueprint Challenge**

Complete a [Copyright Audit](#) for five (5) textual or media items (e.g., image) that you will use in your course.

References

Wiley, D. (n.d.). Defining the "Open" in Open Content and Open Educational Resources. *improving learning.* https://opencontent.org/definition

Online Facilitation

Graham, C. R. , Slaugh, B. , McMurry, A. , Sorensen, S. D. , Arnesen, K. T. , Ventura, B. , & Kimmons, R.

Academic Communities of Engagement

Community of Inquiry

Computer Conferencing Moderation
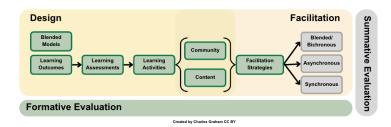
Educational Interactions

online facilitation

This chapter discusses four online learning facilitation frameworks: Anderson's Educational Interactions framework, Berge's Computer Conferencing Moderation framework, Garrison's Community of Inquiry framework, and Borup's Academic Communities of Engagement framework. Each framework includes elements that facilitators should keep in mind as they provide support in their courses, whether in online or blended contexts. The chapter explores learner-content, learner-instructor, and learner-learner interactions, pedagogical, social, managerial, and

technical facilitation strategies, cognitive, social, and teaching presence, and how these interact to create a community of inquiry. The frameworks can help instructors recognize elements of their own course facilitation that they could improve.

The next step in our framework begins the facilitation unit. We will discuss facilitation strategies. The unit learning outcome is: I can facilitate my blended course. The mastery challenges are now facilitation challenges. As always, formative evaluation will be conducted to help you thoroughly think through your facilitation decisions.

Created by Charles Graham CC BY

Learning Outcome

I can explain how instructor facilitation influences student learning.

Sub-section outcomes:

- I can distinguish between online facilitation and design. ([Section 9.1](#))
- I can articulate how online course design affects an instructor's ability to facilitate learning. ([Section 9.2](#))
- I can explain why developing online facilitation skills is important. ([Section 9.3](#))
- I can categorize interactions as learner-learner, learner-instructor, and learner-content interactions. (Section 9.4)
- I can describe each of Berge's four categories of facilitation: pedagogical, social, managerial, and technical. (Section 9.5)
- I can discuss how cognitive, social, and teaching presence interact to create a community of inquiry. (Section 9.6)
- I can describe the affective, behavioral, and cognitive dimensions of engagement. (Section 9.7)

- I can compare and contrast different frameworks for talking about online learning facilitation. (Section 9.8)

9.0 Introduction

By definition, to facilitate something is to make it easier. In the context of a discussion, a facilitator would help the discussion run more smoothly and effectively. Similarly, in the context of blended and online courses, the goal of facilitating is to help your learners have a smoother experience when learning the content, participating in activities, and interacting with others. All of which should, hopefully, have a positive effect on learner engagement and learning outcomes.

Many blended and online courses are facilitated by one person—the course instructor. This instructor may be the same person who designed and created the course, or it could be another faculty member or adjunct instructor who was tasked with teaching the course. And while some instructors may be facilitating on their own, others may have teaching assistants or other support. Instructors may also teach learners to be effective facilitators in online discussions and teamwork. In any of these scenarios, the instructor is the main facilitator of the course.

Facilitating a course typically involves a variety of roles, such as guiding learners through the learning process, clarifying instructions, helping learners utilize technology, and promoting discussions and interactions with and between learners.

The course facilitator may have a variety of responsibilities within these roles, such as:

- Creating a course navigation video
- Guiding discussions
- Making regular announcements
- Answering learners' questions
- Clarifying assignment instructions
- Supporting group interactions
- Establishing and enforcing course policies
- Giving personalized feedback on learner assignments
- Encouraging and acknowledging learner contributions

See Figure 9-1 for some verbs describing what facilitators do.

Figure 9-1

What Facilitators Do

We need to begin with the Facilitation Competency Self-Assessment. Since this is a pre-test, you might expect to score between 0 and 10, especially if you have little or no previous experience.

☑ Facilitation Competency Self-Assessment

Points	Competency Level
0	No Design Competency
1-5	Novice Level
6-10	Intermediate Level
11-15	Advanced Level
16-19	Superior Level
20	Expert Level

9.1 Facilitation vs. Design

Learning Outcome: *I can distinguish between online facilitation and design.*

In Chapter 1, we related the design of a course to the design of a building. The blueprint of a course, like the blueprint of a building, shows how each of the elements will work together, with each element designed for a particular purpose. After a course has been designed, facilitation is like a building being used for the purposes it was designed for. Now that the

course (or "building") has been developed, how are you going to help your learners use what has been created to maximize their learning?

Consider an asynchronous discussion. The course designer was careful when designing the prompt: choosing words that would enable evaluative and divergent thinking and setting guidelines on the structure, content, flow and timing of responses (see Chapter 5).

Now envision two instructors simultaneously teaching this course as described in Table 9-1.

Table 9-1

Two contrasting examples of facilitating online discussion

Facilitator 1	Facilitator 2
This instructor logs into the course once a week, looks at whether learners had an original post and a reply, gives them a grade, and doesn't talk about the discussion in their synchronous class session.	This instructor logs into the course frequently, actively participates in the discussion with learners, and summarizes key insights from the discussion during their synchronous class session.

While the design of the activity is consistent across each, the methods the instructors use to facilitate diverge significantly. Are these instructors facilitating this activity in a way that fulfills the purpose it was designed for? Maybe! It depends on the purpose of the assignment.

Another example to compare design and facilitation is a lecture. In this scenario, an instructor may have designed the slide deck by adding information and images, organizing the content, and creating supporting activities. The facilitation of the lecture encompasses all the dynamics during the actual presentation, which may include interacting with learners, noticing when they're not engaged, answering questions, reviewing ideas, and more. Consider two contrasting examples in Table 9-2 of facilitating during a lecture.

Table 9-2

Two contrasting examples of facilitating during a class lecture

Facilitator 1	Facilitator 2
An instructor pauses at the end of the lecture to ask learners if they understand the content that was shared and if they have any questions. The instructor tells learners that they can email any questions they have.	An instructor actively monitors learner body language during a lecture and frequently pauses to ask questions to see if the learners are understanding the material. If learners seem insecure about raising their questions to the whole class, the instructor lets learners submit anonymous questions using their cell phones.

Similarly, an instructor might create a lesson plan, which is a specific design for a class session and an outline for what they hope they will do to facilitate. However, when they implement the lesson, there may be moments where learners need support or encouragement that were not already planned for in the design.

While an instructor can plan facilitation strategies for their course and activities, often facilitation is spontaneous and unscripted. In many cases, the instructor is reacting to a set of forces and relationships that can't be predicted ahead of time.

9.2 Design Influencing Facilitation

Learning Outcome: *I can articulate how online course design affects an instructor's ability to facilitate learning.*

In some cases, there may not be a clear separation between the design of a course or activity and the facilitation of the course or activity, because the two are ultimately intertwined. Usually, the design of a course or an activity creates the structure in which facilitation occurs. In other words, the design shapes the facilitation needs.

Consider our asynchronous discussion example from section 9-1. The course designer specifically created the prompt and instructions keeping in mind prompt types, structure, content, flow, and timing (see Chapter 5). Table 9-3 below shows how each may affect the facilitation needs.

Table 9-3

Asynchronous discussion design scenarios and corresponding facilitation strategies

Category	Scenario	Facilitation
Prompt Type	The designer created a convergent prompt.	With a convergent prompt, learners will post similar, if not identical responses. There won't be a lot of (genuine) back-and-forth discussion. In this case, the facilitator might only pay attention to whether learners responded to the prompt or not and check for understanding.
	The designer created a divergent prompt.	With a divergent prompt, learners might post a variety of responses. The facilitator may need to connect ideas between learner responses or prompt learners to elaborate on their ideas.
Structure	The instructions suggest a post length of 2-3 sentences.	Learners typically do better with reading and responding to shorter posts. The facilitator may be able to get more of a back-and-forth discussion going

		between learners by bringing learners into others' conversations.
	The instructions suggest a post length of 12-15 sentences.	Longer posts like this one allow learners to write more in-depth posts. However, this can also make it difficult for learners to read and respond to each others' posts. The facilitator may need to summarize key ideas from the posts and encourage learners to read more responses.
Content	The prompt includes instructions explaining what learners should include in their replies.	This discussion will have more structure. If the structure is important, the facilitator may highlight and show appreciation for learners' replies that follow the structure and use them as examples.
	The prompt does not include any instructions on what learners should include in their replies.	This discussion will have less structure. The facilitator may need to help focus conversations if learners go off topic. The facilitator may also need to encourage more depth in responses by asking probing questions.
Flow	Learners can reply to any two posts that they want.	If learners can reply to any two posts they want, there may be some posts who will not receive any replies and others who will receive multiple. This could be discouraging for those who do not have replies, so the facilitator might try to respond to these posts or encourage others to participate in this conversation. Similarly, learners may only choose to respond to posts that they agree with. The facilitator could encourage learners to respond to people they don't necessarily agree with.
	Learners are asked to reply to the post directly before theirs (or the most recent post if they were first).	Whenever learners are asked to respond to a specific person or group of people, the facilitator may need to clear up confusion or misunderstandings about who each person should respond to. Learners will likely get better at this over time, but they may need guidance at the beginning. Additionally, since there is a specific structure to how learners are responding, they might have to respond to somebody that they don't agree with. The facilitator may need to emphasize the importance of respect and any netiquette policies that have been established.

Timing	The discussion post has no due date. Learners can respond or reply whenever they want.	With no due date, learners might not be motivated to participate in the discussion. The facilitator may want to "nudge" learners to participate by sending emails or announcements. They could also show appreciation for those who have been active participants in the discussion.
	The original response to the prompt is due before class and replies are due 48 hours later.	When there's both a due date for the original response and the replies, the facilitator may want to emphasize the importance of getting those done on time. If the original responses are not posted in a timely manner, learners won't have anything to respond to. The facilitator may want to remind learners of due dates in a synchronous class session, through an announcement, or some other means.

9.3 Why Online Facilitation Matters

Learning Outcome: I can explain why developing online facilitation skills is important.

Imagine a face-to-face classroom with 30 learners. The learners have done their pre-class readings and assignments, and now the instructor wants them to discuss what they've learned before moving on to the next topic. The instructor writes a prompt on the whiteboard and then proceeds to leave the classroom. How would the learners react? How would they interact with each other? Would they achieve the intended learning outcome?

This scenario would be an example of design without instructor facilitation. The prompt was created and provided to the learners, but the learners don't have anyone to support their discussion, helping move it along when it gets stuck, connecting ideas, or answering questions. This very thing happens often in online discussions where the prompt is made available to the learners but the instructor or main facilitator doesn't engage in the discussion, leaving learners to discuss amongst themselves with very little guidance, sometimes as little as, "Answer the prompt and then respond to two peers."

A discussion is just one activity. What would an entire course look like as a design without facilitation? Learners' questions would go unanswered. Nobody would provide feedback on learner work. There would be no announcements, emails, or direct messages. The learners wouldn't interact with the instructor and they would likely be disengaged with the material. There would be nobody to notice when a learner begins to disengage and nobody trying to figure out how to help a learner stay engaged.

For a course to run smoothly, the instructor (and TAs or other supporting facilitators) will be utilizing facilitation skills in some form or another. In the upcoming chapters, we will discuss some of these facilitation skills in various blended teaching contexts. It is important to note that different skills are necessary for in-person and online facilitation.

One large difference is the technological skills necessary to facilitate in online contexts. For in-person classes, an instructor does not necessarily need to use technology to facilitate interactions between learners or between them and the learners. In the online space, they will need some technical skills to facilitate, whether it be sharing their screen in a conferencing tool, organizing learners into groups, or using communication tools to answer questions or send announcements.

If you are teaching in a blended context, you will need to be able to facilitate both in-person and online activities effectively. These skills will help you foster learner participation, enhance learner engagement, create a sense of community, and continuously improve your teaching practices.

For instructional designers, developing online facilitation skills is useful because it can help you better design with facilitation in mind. You can better understand how your designs might be used and help guide instructors with new facilitation ideas.

We will now discuss four online learning facilitation frameworks: Anderson's Educational Interactions framework, Berge's Computer Conferencing Moderation framework, Garrison's Community of Inquiry framework, and Borup's Academic Communities of Engagement framework. Each of these frameworks includes elements that facilitators should keep in mind as they provide support in their courses, whether in online or blended contexts.

As you learn about these frameworks, pay attention to how facilitation affects the learning environment and learner engagement. You may recognize elements of your own course facilitation that you could improve.
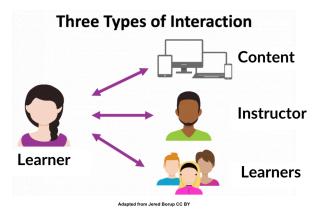
9.4 Educational Interactions (Anderson)

Learning Outcome: *I can categorize interactions as learner-learner, learner-instructor, and learner-content interactions.*

In Chapter 5, we introduced three different kinds of interactions: learner-content, learner-instructor, and learner-learner (see Figure 9-2). Each of these interactions can incorporate facilitation in some form or another, though the most observable facilitation happens in learner-learner and learner-instructor interactions.

Figure 9-2

Interaction Types

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Learner-content interactions describe the interactions learners have with course content, such as reading, listening, watching, creating, practicing, and/or reflecting. Learner-instructor interactions are the ways in which the learners and the instructor interact with each other, such as the instructor giving learners feedback on an assignment or the learners asking the instructor clarifying questions. Learner-learner interactions describe the interactions learners have with each other to share their understanding and mentor each other. Table 9-4 contains some examples of the three types of interactions.

Table 9-4

Examples of Learner-Content, Learner-Instructor, and Learner-Learner Interaction

Learner-Content	Learner-Instructor	Learner-Learner
- Reading a textbook - Watching videos - Interactive games - Taking notes - Creating artifacts	- Receiving feedback on an assignment - Asking questions in lectures, tutorials, or discussions	- Discussing key takeaways from a reading - Peer reviewing - Small group projects

Some learning activities in your course may include multiple types of interaction. For example, you may have an activity that includes both learner-instructor and learner-learner interaction, such as a class discussion. You could also have group projects, which may include learner-content, learner-instructor, and learner-learner interaction.

What might facilitation look like for different activities? See Table 9-5 for examples of activities and how instructors may use different strategies to *facilitate* learner-content, learner-instructor, and learner-learner interactions within each activity.

Table 9-5

Activities, Interactions, and Facilitation Strategies

Example Activity	Interactions	Possible Instructor Facilitation Strategies
In a synchronous Zoom session, learners look at their most recent homework assignment in breakout rooms to compare solutions and the methods they used to find the answers.	Learner-learner	The instructor may assign facilitator roles to a learner in each group to help facilitate group conversations in the breakout rooms.
	Learner-instructor	The learners may invite the instructor into their breakout room when they can't agree on an answer or method.
Learners are assigned to groups for in-person presentations. The learners work asynchronously in a collaborative document to prepare for the presentation. They leave comments for and respond to each other.	Learner-content	The instructor may provide a presentation template to encourage learners to create a more focused presentation.
	Learner-instructor	The instructor may ask each group to share their document with them so they can leave feedback in comments as learners work asynchronously.
	Learner-learner	The instructor may have learners create a "team charter" to describe how they will communicate and interact with one another.
Learners complete a reading and then record a video response in an asynchronous discussion. In their videos, each learner will respond to a discussion prompt and share their thoughts on the reading. The instructor and 1-2 of the learners' peers will respond to the video.	Learner-content	The instructor may post a video modeling the structure that learners' videos should follow, such as stating which discussion prompt they are responding to, quoting directly from the reading, and/or sharing whether they agree or disagree.
	Learner-learner	The instructor may encourage learners to respond to each others' videos.
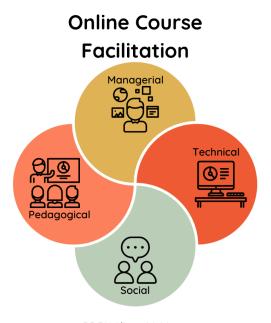
9.5 Computer Conferencing Moderation (Berge)

__Learning Outcome:__ I can describe each of Berge's four categories of facilitation— pedagogical, social, managerial, and technical.

In Berge's (1995) framework, four categories of facilitation describe the various roles and responsibilities of an online instructor or moderator (see Figure 9-3).

Figure 9-3

Online Facilitation Framework

CC BY Alison McMurry

Pedagogical Facilitation: This category focuses on guiding and enhancing learners' learning. This may include strategies such as:

- Asking questions to stimulate critical thinking
- Probing and elaborating on learner responses to deepen understanding
- Encouraging active participation and contributions from learners
- Promoting meaningful conversations among learners
- Directing learners to additional resources for further exploration
- Connecting and synthesizing ideas within a discussion to create coherence

Social Facilitation: This category is concerned with fostering a positive and interactive learning environment. This may include strategies such as:

- Conducting icebreaker activities to build rapport and establish a sense of community

- Setting a friendly and welcoming "social tone" for the course to encourage collaboration
- Modeling effective discussion and interaction behaviors for learners
- Assisting learners in working together on group projects
- Creating dedicated spaces for learners to interact socially and build relationships

Managerial Facilitation: This category deals with the organization, procedures, and administration of the online course. This may include tasks such as:

- Adjusting due dates and pacing of course activities to accommodate learner needs
- Setting the agenda and desired outcomes for synchronous sessions, if applicable
- Organizing learners into groups or teams for collaborative work
- Defining and communicating clear course expectations and guidelines
- Responding to emails or messages promptly and efficiently to address administrative needs

Technical Facilitation: This category pertains to the facilitator's role in ensuring learners are comfortable with the technology used in the course. Berge (1995) suggested that the technological layer of the course should be facilitated in such a way that the layer is "transparent," so learners can focus on the academic tasks. This may include responsibilities such as:

- Providing video demonstrations or tutorials to help learners navigate the course learning management system (LMS) or specific tools being utilized within the course
- Organizing content intuitively within the LMS to facilitate easy access and navigation
- Familiarizing oneself with multimedia tools that promote learner engagement in synchronous sessions, when applicable
- Guiding learners to relevant resources or materials to address technical questions and challenges

Berge's framework acknowledges that while these facilitation categories offer a structured way to understand the roles of an online facilitator, real-world facilitation may involve some overlap between categories as tasks and functions do not always fit neatly into one category.

For example, facilitating a synchronous online discussion could involve all four types of facilitation. The facilitator is likely asking open-ended questions and probing learner responses when necessary (pedagogical facilitation). Additionally, they are setting the tone for interaction and ensuring that learners are participating in respectful ways (social facilitation). The facilitator may organize learners into smaller breakout rooms to have smaller group discussions (managerial facilitation). And lastly, the facilitator may need to help learners find and utilize tools within the conferencing platform, such as how to share their screen, join a breakout room, or raise their hand (technical facilitation).

This framework can be helpful because often instructors focus on pedagogical facilitation and don't realize that there is a role for them to fill in terms of the other types of facilitation.
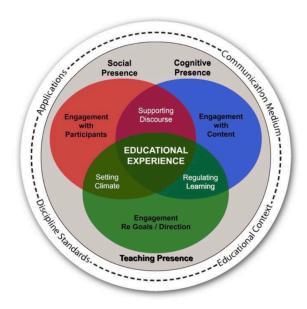
9.6 Communities of Inquiry (Garrison, Anderson, Archer)

Learning Outcome: *I can discuss how cognitive, social, and teaching presence interact to create a community of inquiry.*

The Communities of Inquiry (CoI) framework was developed to help understand and model the online environment elements that are necessary to facilitate effective educational experiences. While this framework was created with the online asynchronous text-based context in mind, it extends to blended and in-person contexts as well. Communities of inquiry are composed of instructors and their learners. The three main elements of this framework are cognitive presence, social presence, and teaching presence (see Figure 8-3).

Figure 9-4

Communities of Inquiry Framework

A visual depiction of the Community of Inquiry Model from http://www.thecommunityofinquiry.org/coi and reproduced under Creative Commons license (CC-BY-SA)

community of inquiry

discussions to
encourage reflection
and critical thinking
- Create small group
discussions for
learners to

course to help
learners get to know
each other
- Open up your
classroom or
synchronous online

participation with
course content
- Provide timely
feedback on learner
work and offer

- collaborate and ideate solutions together
- Include opportunities for learners to provide feedback to their peers, such as with projects, papers, or presentations

space early so learners have an opportunity to interact socially
- Model respectful online interactions on discussion boards

support where needed
- Create weekly announcements providing encouragement and direction

Cognitive presence, social presence, and teaching presence interact with and support one another to create the learning environment and the learners' educational experience. Deep and meaningful educational experiences typically necessitate all three elements.

9.7 Academic Communities of Engagement (Borup)

Learning Outcome: *I can describe the affective, behavioral, and cognitive dimensions of engagement.*
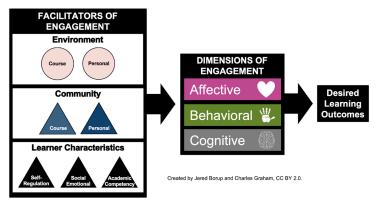
In the Academic Communities of Engagement (ACE) framework, learner engagement can be described across three different, but interconnected, dimensions: affective, behavioral, and cognitive (see Figure 8-4).

- Affective engagement describes the learners' emotions and attitudes involved with engaging in course learning activities. Indicators of affective engagement can include interest, enthusiasm, and enjoyment.
- Behavioral engagement describes the learners' physical behaviors involved with engaging in course learning activities. Indicators of behavioral engagement can include active participation, attendance, and completion of assignments.
- Cognitive engagement describes the learners' mental efforts involved with engaging in course learning activities. Indicators of cognitive engagement can include attention, critical thinking, and metacognition.

These dimensions of engagement are impacted by "facilitators of engagement." These facilitators include individual learner characteristics and support from the personal and course communities. The instructor, or main facilitator, of the course can have a large influence over the course environment and the course community. When they focus beyond teaching of the content, they can also play a role in helping learners to expand relevant learner characteristics like self-regulation, social-emotional skills, and other academic competencies. While not as common in higher education, instructors can also play a role in enabling or encouraging support in the learners' personal community.

Figure 9-5
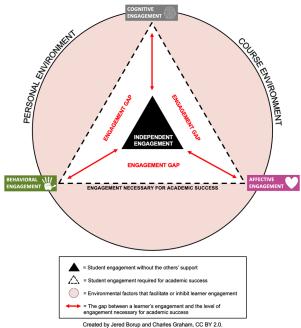
Academic Communities of Engagement - Facilitators of Engagement

Created by Jered Borup and Charles Graham, CC BY 2.0.

There is often an "engagement gap" between the levels of engagement learners have on their own and the engagement necessary for academic success (see Figure 9-6).

Figure 9-6

Academic Communities of Engagement Framework

Created by Jered Borup and Charles Graham, CC BY 2.0.

These gaps can be filled from personal community support and course community support. The course instructor or facilitator, as a large part of the course community support, can utilize a variety of strategies to support each domain of learner engagement. See Table 9-7 for a non-exhaustive list of ideas for the instructor to support learners' affective, behavioral, and cognitive engagement.

Table 9-7

Supporting affective, behavioral, and cognitive dimensions of learner engagement

Support elements	Examples

Affective	Facilitating communication	Creating spaces, such as discussion forums, where learners can share their thoughts and experiences related to course content.
	Developing relationships	Initiating icebreaker activities at the beginning of the course to help learners get to know each other better.
	Instilling excitement for learning	Sharing personal anecdotes or other examples to demonstrate how course principles apply in real-world scenarios.
Behavioral	Troubleshooting and orienting	Allocating time and resources at the beginning of the course to help learners navigate the course and set up any necessary tools.
	Organizing and managing	Ensuring content is structured clearly within the course and providing detailed instructions for assignments and other interactive elements.
	Monitoring and encouraging progress	Utilizing regular formative assessments or quizzes to gauge learner understanding and progress and providing feedback to promote continuous improvement.
Cognitive	Instructing	Developing instructional videos or interactive presentations to deliver course content in a clear, engaging, and digestible format.
	Collaborating	Designing and incorporating collaborative group work where learners are working together to solve a problem, such as with problem-based learning.

Adapted from Borup et al.'s Support Elements for the ABC dimensions of engagement

9.8 Why are facilitation frameworks important?

Learning Outcome: *I can compare and contrast different frameworks for talking about online learning facilitation.*

Understanding these frameworks will help you look at course facilitation from various perspectives and can help you as you reflect and conduct informal formative evaluations of your own facilitation. Frameworks act as lenses that allow us to see the interactions between people and content in different ways.

Let's take the following scenario and look at its different facilitation elements using the four frameworks described in this chapter.

Scenario: For a blended class of 60 learners, Dr. Stevenson held a review session for the first midterm synchronously over Zoom. Two days before the review session, she provided the learners with a study guide, and she had the learners get together with their project groups (of 4-5 people each) to review the study guide and submit 2-3 topics or questions they would like to see addressed in the review session. They submitted their topics or questions on a discussion board, which allowed other learners to "like" topics that they also would like to see in the review. Dr. Stevenson selected the popular topics or questions and those that would specifically be helpful for them to study before the exam, organizing them into a review PowerPoint. At the beginning of the Zoom session, Dr. Stevenson briefly demonstrated to learners how to use the chat feature. Then in Zoom, learners were able to ask follow-up questions using the chat feature. See Table 9-8 for examples of framework elements found in this scenario.

Table 9-8

Frameworks and their elements found in the scenario

Framework "Lens"	Elements in Scenario
Educational Interactions Framework (Anderson)	There is learner-learner interaction since learners are getting together with their groups to discuss course content and submit topics together. There is also learner-instructor interaction as the instructor responds to learner questions. The review may also facilitate learner-content interaction as learners review course content before and after the class review session.
Computer Conferencing Models Framework (Berge)	Having learners participate by asking questions and the instructor answering those questions in the review session demonstrates pedagogical facilitation. Setting the agenda for the review session, organizing the learners into groups, and communicating expectations for posting topics/questions into the discussion board demonstrate managerial facilitation. The instructor is engaging in technical facilitation by demonstrating how to use a feature of the technology. The instructor may also serve in a social facilitation role throughout this activity, though it is not explicit in this scenario.
Communities of Inquiry (Garrison, Anderson, Archer)	The instructor fosters cognitive presence in this scenario by grouping learners to review the study guide and having them ask questions. There is some social presence as learners interact with each other and with the instructor. And lastly, there is teaching presence as the instructor facilitates the review session and answers learners' questions.

Academic Communities of Engagement (Borup)	The instructor supports learners' cognitive engagement by creating the study guide, having learners reflect on topics they may need more support in, and organizing those topics and questions into a review session. The instructor may also be supporting learners' affective and behavioral engagement, however, it is not explicit in the description of the scenario.

After looking at this scenario from different lenses, we can see that some framework elements were missing (or not explicitly stated), such as social and technical facilitation or supporting learners' affective and behavioral engagement. For individual activities, it may not always be necessary to touch upon every point. For example, not every activity will warrant technical facilitation, such as when learners are already familiar with the tools. However, as you facilitate the entire course, you should be aware of these various framework elements and be intentional about when and how you are supporting your learners.

Conclusion

In this chapter, we introduced facilitation and what it means in the context of blended teaching. You learned the difference between facilitation and design and how the design can affect facilitation. And lastly, you learned why online facilitation skills are important, whether you are an instructional designer or an instructor. We also introduced four frameworks for online facilitation and explored how these frameworks can influence your facilitation strategies. These frameworks guide both instructors and instructional designers as they perform formative evaluations of facilitation strategies.

✎ Blueprint Challenge

Looking back at how you responded on the self-evaluation, consider a course you have designed and/or will be teaching and answer the following reflection questions:

- What do you feel are your strengths and weaknesses with online facilitation?
- Why might online facilitation be important for learner success in this course?
- What are some of the activities in the course that would most benefit from intentional facilitation?
- What are some of the facilitation skills you would like to develop?

Resources

1. [What Online Facilitators Do](#) by Tony Carr
2. [Downing, Pittaway, and Osborne, 2014](#)

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Video Facilitation

Borup, J. , West, R. E. , & Kimmons, R.

Asynchronous Video   Instructional Video   Tutorial Videos

Video   Videos

This unit explores the role of video in blended learning scenarios and provides strategies for effectively using video to provide feedback and facilitate learning. The unique aspects of video, including its temporality and multimodality, are discussed, along with the importance of transitioning from synchronous to asynchronous teaching. The unit also highlights the need to understand the strengths and weaknesses of different modalities and to design courses that minimize disruption between online spaces.

Video can play a very important role in blended learning scenarios and merits some focused attention as a facilitation strategy itself. This unit will help you to effectively use video to

provide feedback to students and to facilitate learning in your course.

> ## Learning Outcome
>
> **I can effectively create and use video to provide feedback and facilitate learning in my course.**
>
> Sub-section outcomes:
>
> - I can plan for transitioning from synchronous to asynchronous teaching.
> - I can develop discussion scenarios that benefit student learning.
> - I can use video for providing feedback to students.
> - I can create high-quality videos by following technical guidelines.

10.0 Introduction

When people think about shifts to online learning, their initial thought might be doing some form of video capture on a lecture and posting that for learners to watch on their own. Though this might be somewhat useful, video can serve a variety of other functions and uses in a blended course. Let's start by thinking about what makes video unique from other formats.

First, video is temporal. Unlike text, video is connected to time. This is both bad and good. It's bad, because it means that video is often not the most efficient form of communication. People can generally read a paragraph of simple information and comprehend it faster than watching a video with the same information. They can also scan the paragraph with their eyes and find the part they want faster than scanning a video. However, the temporality of video also means that it locks your learner in to the experience in a way that is less easily disengaged from, similar to our day-to-day human and social experiences. This means that video demands attention in ways that text and other non-linear formats do not. That does not necessarily mean that the learner will give the video their attention, but it does mean that they have to surrender their time (and therefore themselves somewhat) to a video to even watch it.

Second, video is multimodal. Video uses visual and audio communication techniques in synch with one another to convey information. This can be both more engaging than single-modality approaches and more educational. Just as a picture can be "worth a thousand words," a video is a sequence of pictures strung together with music, sound, audio, and perhaps even textual overlay, which makes it a rich format of communication that can convey all kinds of concepts and emotions simultaneously. It also means that,

neurologically, video arouses various faculties within us that other formats do not (listening and watching).

By recognizing these unique aspects of video, we can start to consider what role it should play in blended learning situations to not just replace what we were doing before (as in lecture capture) but to amplify or even fundamentally transform our teaching by allowing us to reach our learners in ways that otherwise would be impossible.

10.1 Transitioning from Synchronous to Asynchronous Teaching[1]

Learning Outcome: *I can plan for transitioning from synchronous to asynchronous teaching.*

The United States had been in quite a drought. The American 4×100-meter relay teams have consistently been among the fastest in the world—the men have won the gold medal at the Olympics fifteen times, while second place on the list is shared by the Soviet Union, Great Britain, and Jamaica, all tied at two gold medals. Meanwhile, on the women's side, the United States has won eleven gold medals, with East Germany next on the list with two. In addition, the United States men's team has medaled at all but seven Olympics.[2]

But for twelve years, the United States had, astonishingly, been denied victory at the world stage. That changed on October 5, 2019, when the U.S. men's team finally ended the drought and claimed the gold at the world championships in Doha, Qatar.[3]

But even then, it almost did not happen. In their qualifying heat, the United States botched two handoffs, the second of which was so poor that the team was very nearly disqualified. Anchor leg Noah Lyles had to push to keep the United States qualified for the final.

"I don't know…the timing was off. I hope we got in," Mike Rodgers told NBC Sports as the team anxiously awaited review to see if their final handoff was completed before the end of the handoff zone.

Figure 10-1

Botched Handoff for Team USA 4x100 Relay

Play (k)
#NBCSports #ChristianColeman #JustinGatlin
Botched handoff leaves USA 4x100 team's fate in limbo | NBC Sports

The U.S. men's team was strong. They were prepared. But a poor transition from one part of the race to another nearly destroyed their momentum. Similarly, in teaching, teachers and students generate a momentum that propels the class effectively forward in learning. A change in modalities, however, can disrupt this momentum, causing students to disengage from the course or slowing the rate of learning as information is lost from one part of the course to another. This is particularly a concern in online learning where all of the communication happens via technology.

However, teaching all of the course in a single modality—for example, either completely through text-based discussion, videoconferencing, or asynchronous video—is also problematic. Variety can help students stay engaged, but moving from one part of the course to another carries a risk of poor handoffs. How can instructors effectively combine these different technologies and modalities in their teaching?

10.1.1 Know the Strengths of Each Modality

The first key strategy for teaching with multiple media is to understand the strengths and weaknesses of each. For example, with its increased fidelity or detail provided, video can be better at establishing connection, whereas text can be better for well-argued responses to questions. Synchronous technologies (such as live conversations or videoconferences) can be better for improvisational conversations, brainstorming, and quickly coming to agreement on a topic. Asynchronous technologies, such as discussion boards or asynchronous video, can be better for measured responses and increased flexibility for class members who are not located in the same physical space. Good instruction is more than just understanding the content of a course—it involves understanding how to best communicate that content to others, and the best option can vary depending on the subject, class objective, and the students involved.

10.1.2 Transition the Discussion from One Modality to Another

In my living room, there is a very small gap between the carpet and the laminate flooring. This gap is only one centimeter wide, and yet the exposed pins have caused enormous irritation to us walking barefoot in our home! The lesson? How we transition from one space to another matters a great deal in how well we enjoy those spaces. The same is true online,
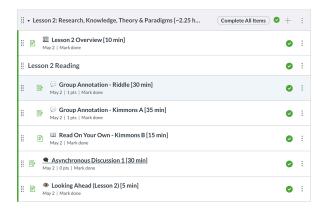
as care should be provided in how the course transitions from one online space to another. Here are a few suggestions to take advantage of the ebb and flow between online spaces with minimal disruption:

- Spend the time to design your course well in your learning management system (LMS). Try to provide all the links to all of the online discussion spaces within one place so students are not scrambling to find where they should go.
- Have a clear purpose for each discussion or interaction. Open-ended discussions in which students can "ask me anything they like" or "reflect on anything they find interesting in the reading" are useful sometimes, but often they become unfocused and feel like a waste of time for students. Thus, these discussions are often best offered as optional activities, office hours, or study sessions. More effective for required interactions are specific prompts such as "Jones and Smith mentioned X. How have you seen evidence for X in your own life?" or "How does their explanation of X further explain what we read last week about Y?"
- Clearly communicate the purpose. Because you are designing each interaction with a clear purpose, it is often helpful to tell students what that purpose is. If they understand why the asynchronous video or text discussions are important, for example, they may be more likely to stay engaged.
- Be clear with students about which learning spaces begin a conversation and which ones end it. For example, in one of my classes, we begin the week with a synchronous videoconference in which I introduce the coming topics for the week and frame the discussion. The class discussion then continues asynchronously through text discussions using online social annotation tools as the students complete the readings. We then end the week with an asynchronous video discussion in which students respond to reflection questions that draw upon all of the week's learnings. Then, the following week, we begin our synchronous video conversation by recapping the discussion from the previous week, answering any questions that were never resolved asynchronously, and highlighting the key points of the discussion. This provides some closure to the discussion from the previous week and helps students know that questions they raise asynchronously will be addressed, either in the text discussions, the asynchronous video discussion, or the videoconference.
- A chronological view within an LMS is often helpful for students, enabling them to move step by step through the assignments for the week and know which activities begin or continue which discussions (see figure 1).
- Alert students to what work should be completed before, during, or after a class discussion. For example, you might ask students to complete the readings before participating in the asynchronous video discussion; or you could ask them to bring unfinished work to a synchronous session so they can raise concerns with the group. You might ask during a videoconference for students to record asynchronous responses to the day's discussion, or you might ask them in discussion boards to brainstorm ideas that will be discussed later through video. By reflecting on what you want students to do before, during, and after their interactions with you, you are also reflecting on what you see as the purpose for every activity, which will help you prepare better learning activities.
- Having a consistent rhythm for the class is usually helpful for students. For example, students appreciate having synchronous sessions at the same time each week and having the same window of time for responses to asynchronous discussions.

- Establish expectations for interactions between students. Asynchronous discussions can feel like "shouting into the wind" if people do not return to read or "hear" the comment and respond. Thus, an important approach is to develop class norms about when people will provide the first post and when (and how often) they will return to participate in responses.

Figure 10-2

Sample Lesson from a Graduate Course, Indicating the Order of Discussions

10.1.3 Use Higher-Fidelity Technologies Earlier to Establish Social Presence

Some of the ways we communicate are richer and deeper than other modes of
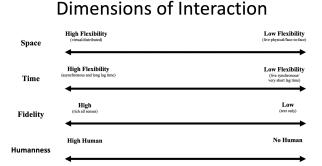
communication in how they engage us. For example, do you yourself more easily distracted in an in-person conversation or in a videoconference? What about in an email correspondence?

The more that all of our senses are engaged in the process of understanding and perceiving others, the more potential there is for our engagement, which also increases the likelihood of feeling a sense of connection, understanding, and trust with each other.

In discussing various ways we can facilitate online or blended learning, Charles Graham referred to these spaces as having four dimensions: space, time, fidelity, and humanness (see Figure 10-3).[4] A "traditional" in-person class, for example, is limited in both space and time—the class meets at the same time and at the same place each week. However, it has high fidelity, as we can see, hear, touch, and even smell each other. This makes us seem more "human" to each other, and we feel a greater ability to relate to each other as people rather than as names or avatars.

Figure 10-3

Graham's Dimensions of Online Learning Spaces

In general, in-person teaching has more fidelity than online teaching and video has more fidelity than text. This is, of course, a general statement with plenty of exceptions—for example, an immersive experience watching a movie in a theater can have higher fidelity than watching an elementary school play from the back of a gym where you cannot hear or see very well. The point is that some learning experiences have higher fidelity than others, and higher fidelity is usually helpful in establishing relationships and norms. For this reason, often the best strategy is to schedule these higher-fidelity experiences at the beginning of the course. For example, many online programs require students to attend an in-person retreat at the beginning of their studies. Similarly, many effective teachers begin their courses with in-person class sessions before moving online—or at least begin with synchronous video sessions before moving to asynchronous discussions. Holding higher-fidelity sessions at the end of the course can also help bring closure to the human experience the students and instructor had together in the course.

10.1.4 Use More Efficient Technologies Later to Complete Projects

Depending on the task, higher-fidelity media tend to be comparatively inefficient. How many meetings have you sat through and thought "This could have been an (asynchronous) email"? Perhaps the takeaway is this: When the goal of the activity is to efficiently complete straightforward tasks or communicate information that is easily understood, select a medium that emphasizes flexibility and focuses the communication to a point. When the goal is to develop relationships, increase connection and engagement, or brainstorm and problem solve, select a medium with greater fidelity.

10.1.5 Be Aware of and Sensitive to Students' Needs

This article ends with a big "but," which is, above all, we need to understand and know our students' needs. Less flexible learning environments may have higher fidelity, but pay attention to whether the lack of flexibility excludes some learners from participating. If it does, we may be perpetuating and extending systemic prejudices that prevent some groups of students from succeeding to the same degree as others. For example, even though in-person meetings can build relationships, they can exclude the mother with young children at home, the working professional unable to leave work, or the international student working in the middle of the night to participate. Synchronous videoconferences can provide the back and forth of conversation unless some participants have poor internet access or no access at all.

In addition, even in perfectly equitable learning conditions, there is great variety in how students engage with various media. Introverted students often prefer asynchronous settings in which they can compose their thoughts before posting. However, extroverts may find this tedious and prefer synchronous settings where they can "think out loud." International students often can read a non-native language better than hear it and, as a result, can better participate in text-based discussions. Sometimes, the difference comes down to just a simple learning preference. For example, I like to listen to conversations while standing or doing something routine like housework because it helps me focus.

10.1.6 Know Your Students, Know Your Technology

All of this means that the best answer needs to be personalized to your teaching situation. Within that truth lie a few key conclusions:

1. Instructors should seek to understand the strengths and weaknesses of various communication technologies and thoughtfully consider which to be most effective for each learning activity.
2. Instructors should pay attention to the transitions from one modality to another so that students understand where they are supposed to go for a discussion and why.

3. Variety can be helpful, as it can enable students with different learning preferences to participate in the ways they find most comfortable.
4. Be aware of students' needs and provide alternative ways for students to participate in a conversation if needed.

Oftentimes compromises must be made between flexibility, equity, and fidelity. Recently, asynchronous video has emerged as one technology that may hold great promise as an educational method that can be both flexible and higher in fidelity than text-based discussions. It may not be the right answer for every teaching scenario, but it could be another arrow in the quiver for instructors.

10.2 Using Asynchronous Video to Improve Online Discussions[5]

Learning Outcome: *I can develop discussion scenarios that benefit student learning.*

Student discussions are an important part of learning. Discussions allow students to be active participants in constructing knowledge and meaning of the material. In-person discussions can be energizing, with rapid exchanges where students can express both their knowledge of and feelings about a subject. These discussions can be memorable experiences that not only help students learn but also change how they relate to the course material. For instructors, it can be exciting to see students engage in meaningful discussions. However, instructors sometimes overestimate students' engagement in discussions, and whole-class discussions are often dominated by only a handful of students. In-person class discussions favor extroverts and frequently lack the voices of introverts, language learners, and others who require flexibility to reflect and form responses.

In contrast to in-person discussions, asynchronous online discussions allow for more equitable opportunities to participate. The flexibility inherent in online discussions also allows participants to be more reflective in their comments. However, most of these discussions occur using text. Text is helpful for critical thinking but can lack the communication cues that allow participants to connect with the material and other students. As a result, students can feel uninterested and isolated.

10.2.1 Discussions Using Asynchronous Video

In many ways asynchronous video communication can combine the best of in-person and text discussions. Similar to text-based communication, video messages are recorded and allow for high levels of flexibility and participation. Once video messages are shared, students can watch and/or respond to them immediately or when it is convenient. At the same time, they contain the fidelity and communication cues that help make in-person communication powerful.

Instructors should be aware, though, of video messaging's disadvantages. First, recording and posting messages can be uncomfortable for students initially. That said, in our research, students reported that the discomfort they felt tended to decrease significantly after just a few posts.[6] Second, video messaging can be less convenient than text because you need to find a relatively quiet place to record videos and because skimming video is more difficult than skimming text. However, participants in our research tended to find that the benefits outweighed the potential drawbacks in most cases.

10.2.2 Using Asynchronous Video When It's the Best Option

Not all online interactions should take place using asynchronous video. The questions below will help you to determine when to use video and when to use text.

If you answer "yes" to any of these questions, then the use of asynchronous video would be beneficial:

- In part, are you assessing students' ability to speak or present on the topic?
- Are you hoping that this discussion will help establish a sense of community?
- Is it important for you to know how students feel about the topic?
- Do some students in your course have difficulty communicating in text?

If you answer "yes" to any of these questions, then the use of asynchronous text would be beneficial:

- In part, are you assessing students' ability to write on the topic?
- Are you primarily assessing students' critical thinking on the topic?
- Is a written record necessary for future review?
- Do some students in your course have difficulty communicating using video or viewing/hearing video?

It's likely that you responded "yes" to questions in both lists. When that's the case, you may want to create activities that combine text with video comments or provide students the choice of which modality they use to comment.

10.2.3 Types of Activities

In most cases, using a variety of discussion activities throughout a course is beneficial for students and instructors. Table 10-1 shows a partial list of asynchronous discussion activities.

Table 10-1

Asynchronous Discussion Activities

Activity Type	Description

Reflections and Replies	A common activity in online courses is for students to read and/or view material, reflect on it, and then share their thoughts and related experiences. It's also common for instructors to require students to reply to a certain number of their peers' comments.
Round-Robin Reflections	Similar to reflections and replies, in round-robin reflections, students still read and/or view material, reflect on it, and then share their thoughts and related experiences. In addition, students ask a related question that they would like to know the answer to. The next person to post to the group then answers the previous person's question, shares their thoughts and related experiences, and asks a question. This continues until everyone has posted. The instructor might then choose to have the first person who posted return to and respond to the last person's question.
Debates	In many subject areas, debates are a common in-person classroom activity. With some preparation, these debates can also be done online with even more reflection and participation than is possible in person. Just as with in-person debates, the instructor should set the ground rules for communicating respectfully. The instructor can break down the online debate into the different phases and set deadlines for each phase. For instance, one day can be designated for opening statements. Other days could be designated for rebuttals. Lastly, students end the debate with closing statements on the last day.
Check-Ins and Updates	During longer projects or experiences such as practicums or internships, having students post regular updates helps instructors keep a pulse on students' progress. As a result, these updates hold students accountable for their activities even in the absence of a hard deadline. These check-ins also give students an opportunity to ask for assistance. Making these posts using video can help students maintain a sense of community.
Jigsaws	In a jigsaw activity, students are placed in a discussion group of about three to six students. Each student is tasked with learning a different aspect of the topic. As a result, in preparation for the discussion activity, each student is focusing on and exploring different materials. Each student then shares their learning with the rest of the group. This allows students to teach one another so that together everyone is able to form a full picture of the topic.
Peer Reviews	Instructors can use asynchronous video [to provide feedback.](#) Similarly, students can use video comments to provide their peers with feedback on projects. Students can share links to their project with a video comment describing their work. Students can then review the projects and provide feedback using either webcam or screencast recordings.

10.2.4 Focus on the Prompt

If a discussion you design for an in-person class flops, you can quickly adjust the activity on the fly. Although the same can be true for an online activity, making those changes mid-stream can be more difficult than in an in-person setting. As a result, instructors need to think more carefully about online discussion prompts. Although one can never be sure if a new discussion prompt will result in the desired learning outcomes, the guidelines below can help increase the likelihood of success. Many of these guidelines and the table 2 below are drawn from "Generating and Facilitating Engaging and Effective Online Discussions" (it's worth a read if you have time).

- **Prompts should be open-ended** and allow for multiple correct responses. Good discussion-board prompts also measure higher-order thinking skills. In many ways it's easier to write good discussion prompts that require divergent and evaluative thinking than it is to write good prompts that only require convergent thinking because you don't want the students to arrive at the same conclusion too quickly. See table 2 for examples.
- **Have students discuss in small groups** (four to eight students) rather than whole-class discussions.
- **Set clear expectations** on the length and number of posts that are required.
- **Provide incentives for participation.** Points should typically be given for participation. However, how those points are awarded can vary. At times you will want to use a rubric, which will allow you to assess the quality of comments. However, simply awarding points for participating is sufficient in some cases.

As you prepare questions for a discussion, think about what is most important that students know and understand about the topic (the article you asked them to read, the last lecture on the topic, the chapter in the book, etc.). Shape your questions with that goal in mind. Avoid questions that prompt a yes or no answer. If you get that kind of answer, ask the student to go further and justify their response. Ask them to refer to the reading they were to do for support for their statements, ideas and opinions.

Table 10-2 provides some question types that stimulate different kinds of thinking.

Table 10-2

Writing Good Discussion Questions (University of Oregon Teaching Effectiveness Program, licensed under Creative Commons BY-NC-SA)

Convergent Thinking	Divergent Thinking	Evaluative Thinking

Usually begin with:	Usually begin with:	Usually begin with these words or phrases:
- Why - How - In what ways...	- Imagine - Suppose - Predict... - If..., then... - How might... - Can you create... - What are some possible consequences...	- Defend - Judge - Justify... - What do you think about... - What is your opinion about...
Examples:	Examples:	Examples:
- How does gravity differ from electrostatic attraction? - How was the invasion of Grenada a modern-day example of the Monroe Doctrine in action? - Why was Richard III considered an evil king?	- Suppose that Caesar never returned to Rome from Gaul. Would the Empire have existed? - What predictions can you make regarding the voting process in Florida? - How might life in the year 2100 differ from today?	- What do you think are the advantages of solar power over coal-fired electric plants? - Is it fair that Title IX requires colleges to fund sports for women as well as for men? - How do you feel about raising the driving age to 18? Why?
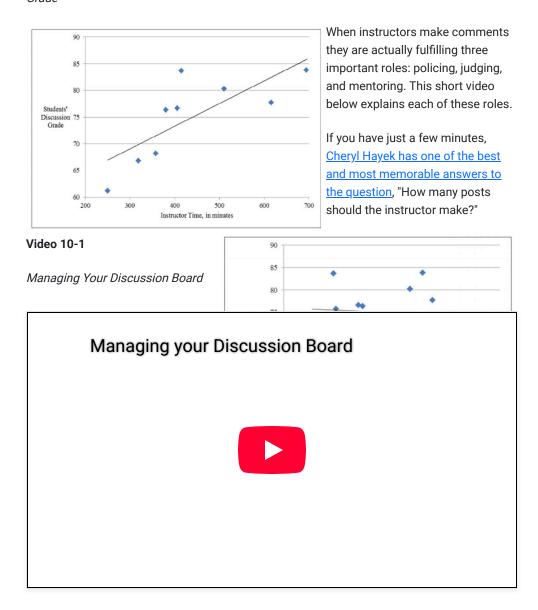
10.2.5 Facilitating the Discussions

Something of a Goldilocks principle is at play in how much the instructor should participate in an online discussion. An instructor who participates too much can actually shut down the discussion by making the activity instructor-centered and not student-centered. However, students also require the instructor's content and pedagogical expertise. Instructor comments can motivate students to increase the quantity and quality of their comments. As a result, if the instructor participates too little, then students may not gain much from the discussion.

Cranney et al. conducted an interesting study examining this phenomenon by correlating student grades on discussion-based activities with the instructor's participation in those discussions.[7] Specifically, two figures from their study help tell the story. Figure 1 shows a strong correlation between the amount of time that instructors spent in the online course discussion and students' grades on the discussion. However, as shown in Figure 10-2, only a weak correlation emerged between the number of instructor posts to the discussion and student grades on the discussion activity. This indicates that it's important that instructors spend time monitoring student discussions, but they should focus more on the quality of their posts rather than on posting a lot of comments.

Figure 10-3

Amount of Instructor Time Spent in Online Course in Relation to Students' Overall Discussion Grade

When instructors make comments they are actually fulfilling three important roles: policing, judging, and mentoring. This short video below explains each of these roles.

If you have just a few minutes, [Cheryl Hayek has one of the best and most memorable answers to the question](#), "How many posts should the instructor make?"

Video 10-1

Managing Your Discussion Board

10.2.6 Conclusion

Discussions are critical in helping students construct understanding. Text-based discussions can help students reflect and think critically but can lack the human touch and emotion that add meaning and interest to what's being discussed. By engaging in discussions using video recordings, students can communicate more personably while still maintaining time to reflect between exchanges. However, asynchronous video discussions still require a quality prompt and instructor facilitation.

10.3 Back to Feedback Basics Using Video Recordings[8]

Learning Outcome: *I can use video for providing feedback to students.*

Feedback is critical to students' learning. In fact, John Hattie's seminal research found that providing feedback is one of the most powerful things instructors can do to impact student learning.[9] Feedback has always been a part of teaching and learning, but the internet has dramatically changed how students demonstrate their learning and how instructors provide them with useful feedback. Although text feedback is still the most common form in our digital world, instructors are increasingly providing their students with video-recorded feedback messages—for good reason.

10.3.1 Types of Feedback Videos

You can provide video feedback to students in three ways: (1) webcam video, (2) screen recording, and (3) screen recording with webcam video (see examples below).
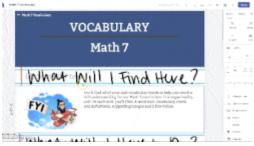
Figure 10-4

Types of Video Feedback
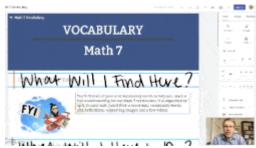
Webcam Only

Screen Recording Only

Screen Recording with Webcam

Each type of video feedback can be used for different purposes.

- **Webcam** videos are appropriate when you are providing feedback that doesn't require you to show student work. By only showing your webcam video, you can help students form a sense of connection with you and know that your goal is to facilitate their learning.
- **Screen recording** videos are appropriate when you need to show and verbally describe specific aspects of students work. For instance, if a student created a project, such as a website, image, or document, showing specific parts of the project as you are giving feedback—as seen in figure 1—can be an effective way to provide feedback. In these videos, students can see their work and hear the instructor's voice but can't actually see the instructor speaking.
- **Screen recording with webcam** videos combine the best of both worlds by placing a small webcam video within the screen recording video. With most tools, however, the webcam video is fairly small, so it can be difficult for students to connect with you, if that is your purpose. Furthermore, if you are not careful, the webcam video can cover up portions of the screen that you are trying to describe. Some tools allow you to change the size and location of the webcam or even remove it completely.

Regardless of the type of video that teachers use to provide feedback, the nature of recording a video allows them to provide more information to students. However, simply providing more feedback is unlikely to benefit students unless it is also quality feedback.

10.3.2 Quality Feedback, and How Video Can Help

Considering the amount of time instructors spend providing feedback, the topic is surprisingly under-researched. I echo Michael Eraut, who said "We need more feedback on feedback."[2] When reviewing the research on feedback, my co-authors and I identified three elements of quality feedback.[3] Specifically, quality feedback should be **timely**, **friendly**, and **specific** (see Figure 10-5).

Figure 10-5

Characteristics of Effective Feedback

GOOD FEEDBACK IS

TIMELY   FRIENDLY   SPECIFIC

10.3.3 Using Video to Provide Feedback That Is Specific and Timely

The primary purpose of feedback is to improve student performance. However, not only should feedback highlight what students need to improve and how to improve it, but it should also affirm to students the specific strengths of their work. It's highly important that feedback comments be grounded in a student's actual performance. If not, it can harm their learning. For instance, if a student did poorly on an assignment but then got a "Great work!" comment, this feedback could reinforce low effort or poor performance, as seen in the following clip from the sitcom "Friends" when Joey was trying to learn French.

Video 10-2

What is Good Feedback?

WHAT IS GOOD FEEDBACK?
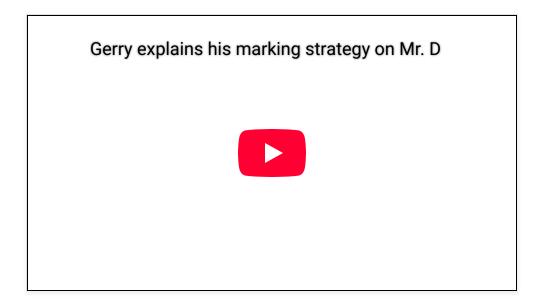
Providing feedback takes time. As a result, giving students comments that are both timely and specific can be a challenge. Too often teachers either provide quick, generic feedback or provide feedback that is specific but not timely. Having to pick one over the other can be frustrating for teachers. Furthermore, even when instructors take the time to review students' work thoroughly, if they only provide students with scores on a rubric and/or

generic-sounding comments, students may question whether the instructors really reviewed their work at all, as in the video below.

Video 10-3

Mr. D Explanation of Grading and Feedback

Teachers increasingly provide students with feedback via video in an attempt to give more-detailed comments that are rooted in students' specific work. Video comments can also be quicker than providing text feedback when the feedback needs to be detailed and unique to the student (i.e., when copying and pasting text comments would not work). Greg Grimsby at George Mason University provided the video feedback below, which shows feedback on a student's animation—this is a good example of the value of this kind of feedback. As you watch the video, imagine how difficult it would have been to give that level of detail in text.

Video 10-4

Example of Screencast Feedback
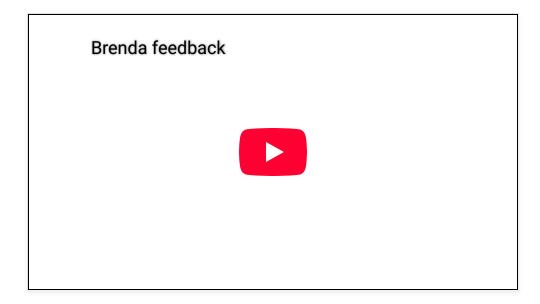
CEHD OTI screencast example

One drawback of providing feedback by video is that students might find it more difficult to refer back to specific parts of the feedback. This is especially important when students are asked to go back to their project and make revisions based on instructor feedback. In other cases, it just makes more sense to provide feedback in text. For instance, if an instructor is reading a student's essay and needs the student to add a comma in a sentence, the student does not need a video explaining that. As a result, in many cases we recommend that instructors provide feedback using some combination of text and video. For instance, if a student has submitted an essay in a word processing document, the teacher can track edits directly within the document but then provide a video feedback comment describing the overall strengths and areas that can be improved. Similarly, as you review students' work, you might jot down notes on what you would like to highlight in your video comment. If these comments are typed on your computer, you can easily send them to the student with a video comment that elaborates on those points.

Video 10-5

Example of Screencast Feedback

Brenda feedback
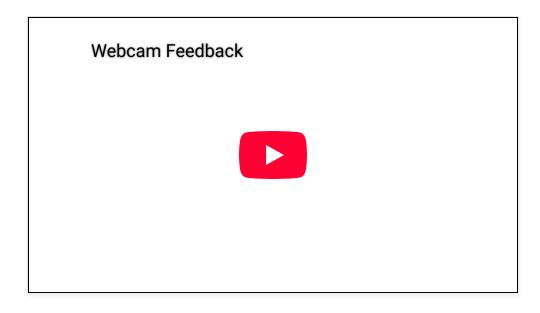
10.3.4 Providing Friendly Feedback

Even though your feedback will likely correct students' work, it should be delivered in a friendly manner that strengthens rather than harms the instructor–student relationship. One drawback of text is that the recipient can misinterpret the meaning behind the message. In video, the instructor can communicate using facial expressions and body language that remove much of the ambiguity present in text-only messages. That said, if the instructor is trying to hide frustration or displeasure, text is a better choice because in a video, the student will see the frustration all over the instructor's face. Sometimes ending a sentence with an exclamation mark is easier than showing actual excitement.

In an online learning environment, friendly feedback is a great way to build relationships with others. In the following video you can see how Christine McLaughlin, a sixth-grade teacher, used video to correct her math students' pronunciation. The students had been posting videos defining various math vocabulary, and several had mispronounced the term "finite." She was kind in her correction while also showing her students a little bit of her world. It is a simple example but shows how video can be used to provide correction gently and in a way that strengthens the instructor–student relationship.

Video 10-6

FlipGrid Feedback Example

Video alone isn't enough to make our feedback friendly. We also need to structure what we say in a way that balances the praise with the critiques while still being social and friendly. One approach to ensure that your feedback is balanced and friendly is to apply the Feedback Cheeseburger. Notice that we added steam coming off the burger to emphasize that feedback burgers should be served quickly, while they are still fresh.

Figure 10-6
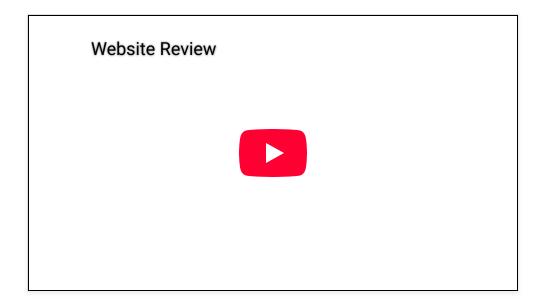
Feedback Cheeseburger, created by the George Mason University's College of Education and Human Development Online Teaching Initiative (licensed under CC BY SA)

The following video is an example of a feedback comment that followed the model of the Feedback Cheeseburger. Notice that this video features Christine McLaughlin, the same teacher who provided the webcam video comment above. In this case she chose to provide feedback as a screen recording because she needed to highlight specific portions of the students' website.

Video 10-7

Example Screencast Feedback Following the Feedback Cheeseburger

Website Review

10.3.5 Conclusion

Regardless of the context, quality feedback should be timely, friendly, and specific. At times this can be especially time consuming to provide online using only text, so we encourage instructors to consider how video messages could improve the feedback that they provide to students. The goal is not to use video feedback for all students on all assignments. Rather, instructors strategically use video when it likely to make the feedback more timely, friendly, and/or specific.

10.4 Putting your best self forward[12]

Learning Outcome: I can create high-quality videos by following technical guidelines.

People tend to get nervous when they are new to recording themselves. They seem to believe that to look and sound professional, they need professional equipment. Having worked in studio environments such as the one in Figure 10-7 with Joan Shin, I know that professional-grade equipment can result in more professional videos. However, I also know that the cameras on webcams and smartphones have become quite good, and you can make great looking and sounding videos with the technology you already own, as shown in Figure 10-8. While technology is important, it's much more important to know how to use the technology well.

Figure 10-7

Joan Shin's video environment

Figure 10-8

Jered Borup's video products

10.4.1 What Not to Do

Before we talk about best practices, let's cover what not to do. The GIFs below are exaggerated for effect, but not by much. I think it's safe to say that we have all been guilty of at least some of the following what-not-to-dos.

The Silhouette

People commonly record videos while sitting in front of a window or a lamp. When you do that, others may only see your silhouette.

The Zebra

If natural light is available, it is best to sit facing that light—so long as the window blinds do not cast shadows on your face. Stripes look better on tigers and zebras.

The Haunting

At times we may want to record a video at night. However, be careful because the light from your screen can make it look like you're telling scary stories by the campfire.

The Hostage

Video can be a great opportunity for others to get a glimpse into where you live or work. Too often we don't take advantage of that opportunity and record videos in front of a blank wall. As Room Rater frequently points out, these recordings can feel like a hostage video, as if at any time the person is going to look if the coast is clear and then whisper, "Help me!"

The Nosey Professor

It's convenient to work with our laptops on…well, our laps. However, looking down at your laptop is a less-than-flattering angle, and you can even give students an unforgettable look up your nostrils.

The Toddler

Just as looking down on the webcam is less than flattering, looking up at the webcam looks like you need a booster seat.

The Close Talker

Some people are just close talkers. [An entire episode of Seinfeld](#) covered the topic. Just like in-person close talkers invade people's personal space, online close talkers can get too close for comfort.

The Social Distancer

If The Close Talker is on one end of the spectrum, The Social Distancer is on the other. Social distancing is important during a pandemic, but is unnecessary online.

The Reader

When we create a video we may feel tempted to watch ourselves or read a script on the screen rather than looking into the camera. This prevents us from creating eye contact and can make us look uninterested or inauthentic.

The Profiler

First-world problems, I know…but if you have two monitors you may find that you spend too much of your video looking at the monitor that is not recording the video. This will leave people staring at your profile. This is more common in live video calls but can still happen when recording videos.

The Needs a Trim

Once we've finished talking, our smiles often vanish as we look for the stop button. Some tools will allow you to trim the ends of the video, but if not, keep smiling until you actually stop the recording. Niccole Thurman perfectly highlighted this in her [tweet.](#)

10.4.2 What to Do

I went back to my YouTube channel and found my first webcam video (Aug. 31, 2010) and then compared it to a more recent video (June 20, 2020). It's not by accident that the newer video looks better than the older one (see Figure 10-9). In the first video, I failed to consider (or care) how I was going to appear to my students. I was backlit by the lamp behind me. I was looking down on the laptop. In fact, I didn't even bother holding my laptop level, which made the picture in the background appear tilted. I wasn't even really looking into the webcam, although there was so much glare on my glasses it's hard to tell.

Figure 10-9

Then and Now: How Small Changes Can Make Big Difference in Video

In the newer video I took just five minutes to prepare. You can see in Figure 10-10 that I put my laptop on a stack of my daughters' games, which raised the webcam to my eye level. I also used lamps specifically designed for recording webcam videos, though any lamp would work. Even better, you can sit facing a light-filled window. I also made sure that in the background there was a picture of my family, a small plant, and a few other little things.

Figure 10-10

My Home Video Setup

10.4.3 Keys to Quality Videos

The following simple keys can help you avoid these common pitfalls of amateur video production and create warm, engaging, effective footage that engages your students and communicates your interest them.

Key #1: Convey Your Voice

Looking good is important, but nothing is worse than bad audio. If the audio is distracting or unintelligible, your video will not be watched. If you are recording using your phone while outside, even a little breeze can be really distracting. If the built-in microphone is not great on your phone or computer, try using an external microphone. Most headphones now have pretty good microphones built in.

The audio doesn't need to be perfect, and most of the time, good audio is good enough. However, if you want to go the extra mile, relatively inexpensive high-quality external mics are available, such as the Blue Snowball. Furthermore, if you are hearing reverberations or echoes from where you are recording, you can improve the sound quality by placing pillows behind and to the sides of your computer, as shown in this NPR video.

Key #2: Find the Light

For lighting, the best arrangement is to sit facing the primary light source in your room rather than having the primary light source behind you. Often the best approach is to sit toward a sun-filled window (if the light isn't so bright it blinds you). If that isn't an option, then lamps will do. If a lamp's light is not strong enough, try removing the lamp shade. An additional lamp can also be helpful if you are sitting directly under a strong light that casts shadows on your face.

Key #3: Frame and Maintain Eye Contact

Sit a little less than arm's length from the camera. From there your eyes should be about one-third of the distance from the top of the screen, as seen in Figure 10-11. You should also position the camera so that it is at eye level (or slightly below). That will likely mean placing your laptop on something like a box or a stack of books.

Figure 10-11

Establishing an optimal vertical relationship of face and camera

Key #4: Stage

Before hitting the record button, take a few minutes to consider the surroundings that will be shown in your video. Personal items can be a good way for others to get to know you. Furthermore, plants, pictures, and bookshelves can add warmth to the video.

While working from home, it can be difficult to find a place to work and record videos. For instance, in this CNN article you can see people working everywhere from the closet to the bathtub. However, even Jessica Fleming, who was working in her walk-in closet, presented a professional background: "The best part? I've even hung a picture behind the desk so that my video conference calls don't look like I'm in my closet!" As a side note, a closet is a great place to record audio. Just don't get locked in.

Key #5: Be Prepared and Natural

Speak naturally, as if you were actually speaking to someone rather than a screen. If you are able to show that what you are saying is important and interesting to you, then others are more likely to feel the same way. You should know generally what you want to say before you start recording. However, in most cases it is not necessary or even recommended to write a script that you read. If you are reading from a script, it can be hard to sound natural and almost impossible to read while you are looking into the camera without a teleprompter. If you have ever taken a public speaking class, you know that a better approach is using notes to prompt you while speaking. If you are recording from a laptop or desktop, you can have the notes in a word processing document. However, even that will require you to look down frequently so try placing your notes as close to the top of the screen as possible. Another trick is to put your prompts on sticky notes that you then place right next to the webcam so you can glance over to them while still appearing to be looking into the webcam.

Key #6: Keep It Short

Unlike with in-person courses, online instructors do not have captive audiences. The entire internet is only a browser tab away, and there is very little stopping others from exploring. If you have mastered all five of the previous keys, you are more likely to keep others' attention, but even that attention will likely be limited to about six minutes for many of your students. This recommendation is based on Guo, Kim, and Rubin's research that examined nearly 7 million video views on 862 videos and found a steep drop in engagement after about six

minutes.[13] Obviously there will be important exceptions to this rule, but if you can keep it under six minutes—do it!

10.4.4 Conclusion

When creating a video, it is important to consider how you will look and sound to your students. Now that you've learned about the six keys to making quality videos, try making a video yourself or review a video that you've previously recorded. As you watch your video ask yourself these questions:

- **Key #1: Convey Your Voice**—Is the audio clear, or is there background noise or reverberations in the room that distract from your message?
- **Key #2: Find the Light**—Are you well lit with a light source in front of you, or are you backlit and/or have shadows on your face?
- **Key #3: Frame and Maintain Eye Contact**—Are you about at arm's length and eye level with the camera, or are you looking down or up at the camera?
- **Key #4: Stage**—Do you have personal and/or interesting things in the background, or are you recording in front of a blank wall?
- **Key #5: Be Prepared and Natural**—Are you speaking naturally in a way that conveys your interest in the topic, or do you sound somewhat robotic and/or scattered?
- **Key #6: Keep it Short**—Is the video under six minutes?

A little preparation can mean the difference between a video that students watch and one that students ignore.

Conclusion

In this chapter, we introduced strategies for using video in transitioning to asynchronous course facilitation, specifically for facilitating discussions and providing feedback. We then provided guidance on how to shoot good video that is helpful and not distracting, providing several keys for success. With these strategies and keys, you will be able to move forward in using video to facilitate learning with students asynchronously and to put your best digital self forward.

✎ Blueprint Challenge

Create your own YouTube playlist with at least three (3) videos, including one (1) original video, related to your course as follows:

Original Video

Create an original video following the guidelines above either (a) providing a course overview, (b) introducing yourself to students, (c) introducing a module or weekly

course assignment, or (d) covering an instructional objective. Post the video to YouTube or a similar video sharing site.

Playlist

Make a [YouTube playlist](#) (or equivalent video list) that includes your original video and at least two (2) other related videos. These may be original videos created by you or videos created by others.

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Footnotes

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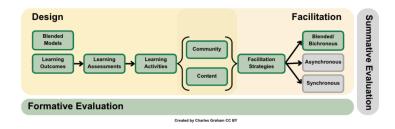
11

Blended and Bichronous Facilitation Contexts

Graham, C. R. , Slaugh, B. , McMurry, A. , Sorensen, S. D. , Arnesen, K. T. , Ventura, B. , & Kimmons, R.

Bichronous Facilitation   Blended Learning   Fidelity

Humanness   Modality   Place   Time

This chapter explores four dimensions of modality that shape course dynamics and inform facilitation methods: time, place, fidelity, and humanness. It discusses synchronous, asynchronous, and bichronous activities, highlighting the importance of understanding these modalities to facilitate effective interactions. The chapter also introduces strategies for facilitating group discussions in co-located and distributed settings, emphasizing the need for intentional planning and consideration of technological limitations.

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9.0 Introduction

In Chapter 2, we discussed the 3Ms (medium, modality, method), specifically talking about how modality can affect the methods designed into a course. In this chapter, we will go into more detail about how four different dimensions of modality can shape course dynamics and inform the facilitation methods that are used. We'll also discuss bichronous and blended modalities and connect the content between each. Recognizing and understanding the modalities you will use in your course are essential to identifying the areas where your learners will need support as you facilitate your course.

Learning Outcome

I can explore strategies for facilitating activities in different modalities using different dimensions of interaction.

- I can articulate how time, place, fidelity, and humanness in interactions affect my facilitation. (Section 9.1)
- I can help students see the connection between synchronous and asynchronous activities. (Section 9.2)
- I can help students see the connection between in-person and online activities. (Section 9.2)

✏️ Facilitation Challenge

You will use the skills presented in this chapter to facilitate a blended/bichronous activity.

Open the [Blended/Bichronous Lesson Plan Template](#) and save a copy. You can work on this as you read the chapter or wait until you have finished the reading.

You will plan, facilitate, and evaluate your blended teaching at the end of this chapter.
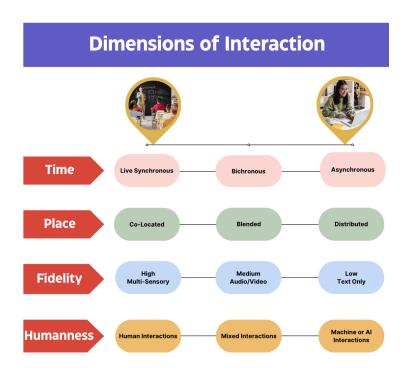
9.1 Dimensions of Interaction Affecting Blended Learning Facilitation

Learning Outcome: *I can articulate how time, place, fidelity, and humanness in interactions affect my facilitation.*

There are four dimensions of interaction that affect activities within your course and how you facilitate those activities. These dimensions include time, place, fidelity, and humanness (see Figure 9-1). We'll go more in depth for each in the following sections.

Figure 9-1

Dimensions of Interaction

Dimensions of Interaction

Time	Live Synchronous — Bichronous — Asynchronous
Place	Co-Located — Blended — Distributed
Fidelity	High Multi-Sensory — Medium Audio/Video — Low Text Only
Humanness	Human Interactions — Mixed Interactions — Machine or AI Interactions

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9.1.1. Time

In blended teaching, the time dimension plays a crucial role in shaping the dynamics of interactions. Understanding the distinctions between synchronous, asynchronous, and bichronous activities is essential for effective facilitation.

The two ends of the time dimension are **synchronous** (live synchronous) and **asynchronous**. Synchronous interactions have a short lag time between interactions, often just a few seconds. On the other hand, asynchronous interactions have longer lag times between interactions, ranging from minutes to days. **Bichronous** activities combine both synchronous and asynchronous components.

Facilitation practices differ based on the lag time between interactions. See Table 9-1 for a comparison of facilitation strategies for a synchronous discussion and an asynchronous discussion.

Table 9-1

Synchronous and Asynchronous Discussion Characteristics and Facilitation Strategies

Synchronous Discussion	Asynchronous Discussion
Only one person can speak at a time. • The facilitator should be aware of this and facilitate the discussion by indicating who can talk at a given time. • The facilitator may want to call on different people so the discussion is not dominated by one or two learners.	Everybody has the opportunity to participate. • If the class has a lot of students, there will likely be a lot of responses. It would be beneficial to split them up into smaller groups so it is easier for them to read (or watch) each others' responses.
The facilitator and the learners have a limited amount of time to craft a response and participate in the discussion. • The facilitator must determine how long the class or group will spend discussing each topic or question before moving on to the next. • To prepare learners for the discussion, before class, the facilitator may share the topics or questions they plan on addressing.	The facilitator and the learners have a longer amount of time to craft a response and participate in the discussion. • If a discussion is open for a long period of time, the facilitator may need to remind learners that the discussion is ongoing, especially if they are required to respond to peers. • The facilitator may want to suggest a maximum amount of time that learners should spend crafting their response before moving on to other content.
Everybody is present for discussion at the same time. • The facilitator may be spontaneous and pivot the discussion to address misconceptions or explore new ideas. • While discussing, the facilitator can take a quick poll of students' opinions or understanding (by raising of hands or other indicators) to see where everybody is at in the discussion.	Everybody is available for discussion at different times. • The facilitator cannot monitor responses at all times, so they establish community guidelines to help maintain respectful communication. • Responses may be slow between interactions, so the facilitator may suggest that students allow notifications for the discussion board (if possible) so they can see when others have replied to their post.

You should be intentional in the activities that you do facilitate synchronously, asynchronously, and bichronously. You may want consider some of the following questions as you create your facilitation plan:

- Could learners come across complex technological problems that will be difficult to diagnose asynchronously? How will you address those problems?
- How much will learners need to interact for this activity? How will the timing of the activity affect their level of interaction?
- What level of feedback will learners need from the instructor or TA?
- How often will you, as the facilitator, participate in the activity?
- When will you be available to answer learners' questions or clarify assignment instructions?
- Do you want everyone to participate? How will you encourage participation?

In the upcoming chapters, we will dive deeper into specific examples, tips, and platforms for synchronous and asynchronous activity facilitation.

9.1.2 Place

Place ➤ Co-Located — Blended — Distributed

"Co-located and distributed" are the two ends of the place dimension. **Co-located** means that learners are interacting from the same physical space, such as the classroom. **Distributed** means that people are engaging virtually with the content in different physical locations, such as one learner interacting from the library while another is working at home. **Blended** lies between the two, combining elements of both online and in-person modalities. So one class session may be in-person while another class session may be taught online using video-conferencing software. Or perhaps one class session is in-person and then the learners go through the rest of their materials asynchronously. See Table 9-2 for a comparison of co-located and distributed facilitation strategies for group discussions.

Table 9-2

Co-Located and Distributed Group Discussion Characteristics and Facilitation Strategies

	Co-Located	Distributed
Creating Discussion Groups	Learners can be grouped together by where they are sitting in a classroom or lecture hall (e.g. "this table will work together") or the order in which they are sitting (e.g. putting students into groups by "numbering them off").	Since learners aren't organized in a physical space, students might be grouped together by alphabetical order, randomizing groups, or having students self-select their groups.
Monitoring Group Interactions	The facilitator(s) can walk around and listen in on conversations casually. They can also see and hear other discussion groups, in case other groups have a problem or question.	Synchronous: Using a video-conferencing platform, the facilitator can move between breakout rooms and monitor conversations, or they can stay in the main meeting room so

	Co-Located	Distributed
		they are available to answer students' questions. Asynchronous: If students are interacting in something like a discussion board, the facilitator can read and respond to students' responses to create instructor presence.
Learning Tools or Resources	Facilitators may provide physical tools or resources (whiteboards, markers, butcher paper, manipulatives, etc.) for student use to support their discussion. If students have access to technology during class (laptops, tablets, cell phones), they can also utilize digital tools or resources.	Learners cannot easily share physical tools or resources when distributed, so they are limited to digital tools and resources. The facilitator may create a list of tools and resources that may be helpful during the discussion.

9.1.3 Fidelity

Fidelity describes the richness of communication cues in interactions. **High fidelity** interactions would allow participants to use all their senses, such as is found in an in-person environment. Further on the continuum is **medium fidelity**, which can include audio and video. This includes communication cues such as tone and facial expressions, while also losing cues such as body language. With **low fidelity**, interactions are typically text based, requiring only the ability to see text in a document (or sound for those using document readers).

Different levels of fidelity convey varying levels of information, both for learners and for the facilitator. The higher the fidelity, the easier it is to receive or convey affective information through body language, facial expressions, tone of voice, and intonation. Body language cues may include crossing arms, using hand gestures, nodding, tapping feet, or looking around the room. Facial expressions such as smiling, frowning, yawning, raising eyebrows, and using eye contact can provide insights into how the information is being received. When the facilitator and learners can hear tone of voice they can hear whether someone is being serious, cheerful, respectful, sarcastic, or assertive. Lastly, with intonation, listeners can understand where the speaker is placing emphasis within the sentence. The facilitator can use these cues to intuit learners' sentiments regarding a topic, assess their confusion, evaluate group dynamics, and adapt their facilitation approach to address specific needs or challenges. Additionally, the facilitator can give encouragement and show passion or excitement for the topic through their own body language and tone of voice.

However, sometimes it may be more efficient to give and receive written (low fidelity) feedback. Facilitators can use programs that comment directly on learners' work, edit their comments before they send it, and have a record of what feedback they have given to each learner. Also, learners can access the feedback when they are ready and can refer back to the feedback for future assignments.

No fidelity level is necessarily "better" than the others. Each has benefits and drawbacks that should be considered when designing and facilitating course activities. Table 9-3 describes some strengths and weaknesses of discussions at varying levels of fidelity.

Table 9-3

Strengths and Weaknesses of Group Discussions at Varying Levels of Fidelity

	Strengths	Weaknesses

High Fidelity, Multi-Sensory In-person	• Participants can see/hear:
	  ○ body language
	  ○ facial expressions
	  ○ tone of voice
	  ○ intonation
	• Participants can observe others' reactions to the speaker's comments and see what is happening in the broader classroom context.
		• Participants do not typically have a record of exactly what was said during the discussion.
		• Participants may have limited time to formulate their thoughts for the discussion and may use body language, facial expressions, tone of voice, or intonation that does not support what they were intending in their message.

Medium Fidelity Video (synchronous video conferencing or asynchronous video)	• Similar to in-person but with visual cues typically limited to head/face only. • Participants can look at others' reactions to the speaker's comments. • It is easy to record a synchronous session for reviewing if needed. • Asynchronous video can be re-recorded before posting to be	• Similar limitations to in-person. • Some students may become distracted by sights or sounds in the background environment they are participating from. • Some students may choose to turn off their video reducing fidelity to audio only.

	Strengths	Weaknesses
	more intentional with body language etc.	
Medium Fidelity Audio(synchronous audio conferencing or phone, asynchronous audio messaging)	• Participants can hear: ○ tone of voice ○ intonation • Participants have a record of exactly what was said during the discussion.	• Participants cannot see: ○ body language ○ facial expressions
Low Fidelity Text	• Participants have a record of exactly what was said during the discussion. • Often more time efficient to communicate and review interactions. • Often more accessible than other discussions for those who are hard of hearing.	• Participants cannot see/hear: ○ body language ○ facial expressions ○ tone of voice ○ intonation • Participants cannot hear tone of voice. • May be more prone to misinterpretation.

9.1.4 Humanness

The humanness dimension looks at who facilitates interactions: **human actors** or **machine/AI actors**. For example, consider a free response mathematics quiz in a learning management system. An instructor or TA (the human actor) could provide feedback on the learners' responses, indicating if each answer is correct, identifying areas in which they could improve, etc. Or instead, a software or AI actor could go through the same process, comparing learner responses to the correct answers. In most cases, a machine/AI actor would have feedback for the learner almost instantaneously, while learners would have to wait days or weeks for feedback from their instructor. However, human actors can typically provide more personalized feedback than a machine or AI. See Table 9-4 for a comparison of strengths and weaknesses of human and machine/AI driven interaction.

Table 9-4

Strengths and Weaknesses of Interaction from Human and Machine/AI Actors

	Human Actor	Machine/AI Actor
Strengths	- They can provide personalized feedback for each learner, small group, or class. - They can provide genuine encouragement and empathetic feedback. - They can respond to individual needs and challenges. - They can build trust and rapport with the learner.	- It can provide immediate feedback and support. - Feedback and support is consistent and unbiased for each learner. - It can easily provide support for a large group of learners, even at the same time.
Weaknesses	- They typically cannot provide immediate feedback. - Facilitation takes up the facilitator's time, and doesn't scale well with large classes. - Facilitation may be subject to biases of the facilitator.	- Limited emotional expressiveness - Does not adapt as well to individual needs and challenges. - For some content domains, it may have difficulty providing nuanced or content-specific feedback.

Note: Right now, many learners can tell when they are interacting with a real person and when they are interacting with an AI or machine. As technology continues to evolve, these differences may become less obvious.

Referencing these strengths and weaknesses, you can choose whether human or machine actors will best fit the needs of your learners for each activity in your course. See the example below.

Example of Human/AI Facilitation - Computer Science

Learning Objectives

- Learners will collaborate effectively in pair programming activities.
- Learners will design and implement a two-player Tic Tac Toe game using Python.

Project Instructions

In this collaborative pair programming project, you will create a Tic Tac Toe game in Python. You will create functions for displaying the game board, handling player moves, determining the winner, and handling invalid inputs. You will have two days in class to work on this project, and the rest will be done outside of class time. Each of you should submit the Tic Tac Toe game file and a 1 page (double spaced) reflection of your pair programming experience.

Human Facilitator	Machine/AI Facilitator
- They will organize students into pairs. - During the two in-class sessions, the facilitator will go around the room and see how each group is doing and provide encouragement or suggestions. - The facilitator can provide tips for collaboration, such as using one computer, one person touching the keyboard at a time, writing pseudo code to explain thought processes, etc. - They will answer student questions about assignment expectations or instructions.	- AI can redefine coding terms or principles if learners need another explanation. - If the instructor is not available, the learner can insert project instructions into an AI and have it simplify or restate the instructions. - An AI can provide guidance on Python syntax, debugging, and coding best practices.
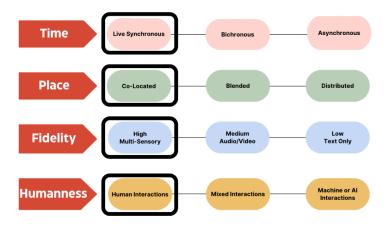
9.1.5 Putting the Dimensions of Interaction Together

Now that we've learned about the four dimensions of interaction individually, let's look at a few examples of course activities and determine where they align along the dimensions.

In a traditional in-person class, activities such as discussions are typically done synchronously, in the same high fidelity environment with human to human interactions. In Figure 9-2, you can see how this aligns all dimensions along the left.

Figure 9-2

Dimensions of Interaction for a Typical In-Person Discussion
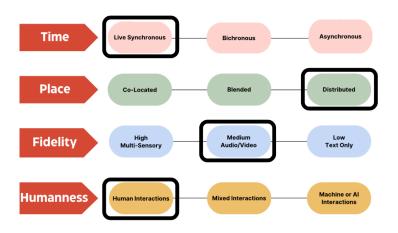
Created by Breanna Slaugh and Alison McMurry, 2023, CC-BY.

Now consider an online synchronous discussion over a video conferencing software. Participants can interact with each other synchronously though they are physically located in different environments. Since the discussion is done over video, the platform is of medium fidelity. And lastly, there is still human to human interaction, so there is high humanness. In Figure 9-3, you can see this aligns time and humanness along the left, but place and fidelity are in different places.

Figure 9-3

Dimensions of Interaction for an Online Synchronous Discussion
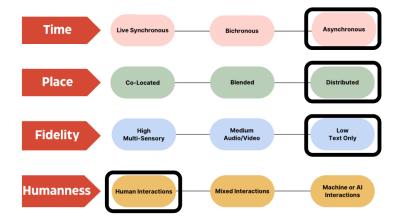
Created by Breanna Slaugh and Alison McMurry, 2023, CC-BY.

Many courses use text-based online discussions to foster student interaction. These activities are typically done asynchronously in distributed environments. Since they are text-based, they are low fidelity. As for humanness, students may have the opportunity to use AI, but for now, discussions mainly involve human-to-human interactions. Figure 9-4 shows time, place, and fidelity aligned to the right, with humanness aligned on the left.

Figure 9-4

Dimensions of Interaction for a Text-Based Discussion
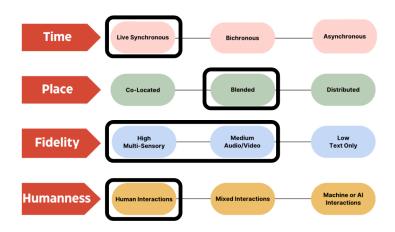
Lastly, let's now consider a discussion where some people participate online over video conferencing software and some participate in-person. In this scenario, students are participating synchronously. However, some are co-located and some are distributed, making it blended. The fidelity is high for those participating in the class together, but medium for those participating online. And students are still interacting with each other, so there is high humanness. Notice how Figure 9-5 looks like both Figure 9-2 and 9-3, since this scenario includes both in-person and online participants.

Figure 9-5

Dimensions of Interaction for a Blended Synchronous Discussion

By recognizing the dimensions of interactions involved with your course's activities, you can be more intentional with the facilitation strategies you use to support your learners.
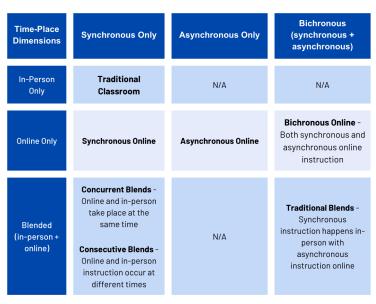
9.2 Connecting Bichronous and Blended Activities

It is important to recognize and understand the modalities that you will use in your course. Just as the design of your course is influenced by the modalities you'll be using, the facilitation strategies you will use throughout your course and your course activities are affected as well. See Figure 9-6 for a breakdown of online and blended learning modalities looking at the time and place dimensions of interaction.

Figure 9-6

Online/Blended Learning Modalities

ONLINE/BLENDED LEARNING MODALITIES

Time-Place Dimensions	Synchronous Only	Asynchronous Only	Bichronous (synchronous + asynchronous)
In-Person Only	**Traditional Classroom**	N/A	N/A
Online Only	**Synchronous Online**	**Asynchronous Online**	**Bichronous Online** – Both synchronous and asynchronous online instruction
Blended (in-person + online)	**Concurrent Blends** – Online and in-person take place at the same time **Consecutive Blends** – Online and in-person instruction occur at different times	N/A	**Traditional Blends** – Synchronous instruction happens in-person with asynchronous instruction online

Adapted from Greenhow, C., Graham, C. R., and Koehler, M. (2022). Foundations of online learning: Challenges and opportunities. Educational Psychologist, 57(3), 131–147.

Blended and bichronous modalities are becoming more and more common in higher education. With these combinations of synchronous and asynchronous (bichronous) and/or in-person and online (blended) courses, it is important to have continuity when moving between modalities. Activities in different modalities should connect to each other and those connections should be communicated to learners.

9.2.1 Bichronous

> **Learning Outcome**: I can help students see the connection between synchronous and asynchronous activities.

A bichronous course includes both synchronous and asynchronous elements for instruction. As shown in figure 9-2, bichronous modalities include bichronous online and traditional blends. In a bichronous online modality, both synchronous and asynchronous instruction

happen online with no in-person components. For example, a synchronous lecture using a conferencing tool and asynchronous group discussions in a learning management system.

In a traditional blend, synchronous instruction occurs in-person while asynchronous instruction is online. Asynchronous readings from an online resource and synchronous labs using shared tools and resources would be a traditional blend. In either modality, there can also be synchronous and asynchronous elements of the same activity, such as a discussion that starts in class and then continues asynchronously online. Course activities should not be isolated or disconnected from other activities. If activities are disconnected, students may feel like they are doing "busy work." Instead, activities in each modality should complement and support one another.

Here are some examples of facilitators connecting synchronous and asynchronous activities in a bichronous online or traditional blend context:

- Before class, students read a chapter in their textbook and take a reading quiz. The facilitator looks at the data from the reading quiz to go over questions that students had difficulty with.
- During class, students listen to a guest speaker present and then participate in a Q&A session. After class, in a journal entry, students reflect on their experience with the guest speaker's presentation and write down any questions they still have.
- Before class, students participate in an asynchronous discussion. Then in class, the facilitator summarizes key points from the discussion and addresses any questions or misconceptions they saw in learners' responses.

To help students see connections between synchronous and asynchronous activities, you may want to explicitly talk about what you will do in each modality and how they will impact each other. For example, "For your online activity due Thursday, you will submit a reflection on what you learned from our presenter today. So make sure to take good notes!"

You could also remind students of activities. While synchronous, you may remind students about upcoming asynchronous activities. And while working asynchronously, you may send out an announcement of what you will be working on in the next synchronous meeting.

9.2.2 Blended

> **Learning Outcome:** *I can help students see the connection between in-person and online activities.*

Similar to synchronous and asynchronous activities in a bichronous context, effective facilitators can help learners transition between in-person and online activities in a blended course. As shown in figure 9-2, blended modalities may include concurrent blends, consecutive blends, and traditional blends.

In a concurrent blend, all instruction is synchronous, but some learners are participating online while others are in-person. Often, facilitators focus on the participants that are in-person and are not aware of any questions or comments from the online group. To address this, a facilitator may have a TA or another student log into the conferencing platform and

act as an advocate for the online participants. They might read aloud any questions or comments that are in the platform's chat feature or help direct the camera to point the audience toward those that are speaking. If you plan on having learners work together in groups, make sure you have a plan for how the groups can work together. Will you put those online into their own groups? Will those online be mixed in with those in-person? If so, how will the in-person groups interact with those online?

In a consecutive blend, all instruction is synchronous, but online and in-person modalities occur at different times. For example, an online session on Tuesdays and an in-person session on Thursdays. As a facilitator, make sure it is clear to your learners which days will be in-person and which days will be online.

Conclusion

Knowing your course's modalities and where activities lie on the dimensions of interaction can greatly influence how you facilitate your course. You should recognize the affordances of each modality and adjust your facilitation to support your learners. Effective facilitators should also be able to help learners transition between synchronous and asynchronous activities or in-person and online activities. In the upcoming chapters, we will discuss specific tips and facilitation strategies you may consider for synchronous and asynchronous activities.

This content was previously published as follows:

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https://edtechbooks.org/he_blended/chapter_9_bl
ended_and_bichronous_facilitation_contexts

Appendix I

Self-Assessments

Design Competency

Assessment Planning   Blended Course Design

Communication with Students   Community-Centered Learning

Content-Centered Learning   Instructional Design

learning outcomes

This self-assessment tool is designed to help educators evaluate their competency in designing blended courses. The 10 questions assess the educator's understanding of theory and methods for designing blended courses, ability to create learning outcomes and an assessment plan that aligns with them, design and development of content-centered and community-centered learning activities, and communication with students. The tool provides a framework for educators to reflect on their current abilities and identify areas where

they may need support or professional development.

1. Identify your current understanding of theory and methods for designing blended courses.

	No, not at all.	Some of the time, but with mistakes, and I need help from a mentor.	Yes, I can, and I can mentor others.
1. I can select the right blended learning model for my course.	○ No, not at all.	○ Some of the time, but with mistakes, and I need help from a mentor.	○ Yes, I can, and I can mentor others.
2. I can articulate when it is better to use in-person or online activities to improve student learning.	○ No, not at all.	○ Some of the time, but with mistakes, and I need help from a mentor.	○ Yes, I can, and I can mentor others.
3. I can carry out formative evaluation of my blended course and make appropriate changes to my course design.	○ No, not at all.	○ Some of the time, but with mistakes, and I need help from a mentor.	○ Yes, I can, and I can mentor others.

2. Identify your current ability to create learning outcomes and an assessment plan that are in alignment.

	No, not at all.	Some of the time, but with mistakes, and I need help from a mentor.	Yes, I can, and I can mentor others.
4. I can create effective learning outcomes that define expectations for student achievement in my course.	○ No, not at all.	○ Some of the time, but with mistakes, and I need help from a mentor.	○ Yes, I can, and I can mentor others.
5. I can develop an assessment plan that aligns with my learning outcomes.	○ No, not at all.	○ Some of the time, but with mistakes, and I need help from a mentor.	○ Yes, I can, and I can mentor others.

3. Identify your current abilities to design and develop content-centered learning activities.

	No, not at all.	Some of the time, but with mistakes, and I need help from a mentor.	Yes, I can, and I can mentor others.
6. I can plan effective content-based activities for my blended course.	○ No, not at all.	○ Some of the time, but with mistakes, and I need help from a mentor.	○ Yes, I can, and I can mentor others.
7. I can develop clear instructions for how students should complete assignments.	○ No, not at all.	○ Some of the time, but with mistakes, and I need help from a mentor.	○ Yes, I can, and I can mentor others.

4. Identify your current abilities to design and develop community-centered learning activities.

	No, not at all.	Some of the time, but with mistakes, and I need help from a mentor.	Yes, I can, and I can mentor others.
8. I can plan effective community-based activities for my blended course.	○ No, not at all.	○ Some of the time, but with mistakes, and I need help from a mentor.	○ Yes, I can, and I can mentor others.
9. I can help students develop a community of belonging through the learning activities and learner-learner interactions.	○ No, not at all.	○ Some of the time, but with mistakes, and I need help from a mentor.	○ Yes, I can, and I can mentor others.
10. I can communicate clearly and regularly with students building a professional, supportive learner-instructor relationship.	○ No, not at all.	○ Some of the time, but with mistakes, and I need help from a mentor.	○ Yes, I can, and I can mentor others.

Total: 0 out of 20

Facilitation Competency

Blended Learning   Facilitation Competency

Online Instructional Strategies   Student Data Analysis

Summative Evaluation

This self-assessment survey focuses on theory and methods for facilitating blended courses, utilizing student data, planning and teaching various blended learning activities, and carrying out summative evaluation.

1: Identify your current understanding of theory and methods for facilitating blended courses.

	No, not at all.	Some of the time, but with mistakes, and I need help from a mentor.	Yes, I can, and I can mentor others.
1. I can use terminology from various frameworks to describe my online facilitation strategies.	○	○	○
2. I can explain how instructor facilitation influences student learning.	○	○	○

2: Identify your current ability to manage student workload and utilize student data.

	No, not at all.	Some of the time, but with mistakes, and I need help from a mentor.	Yes, I can, and I can mentor others.
3. I can develop steps to manage student work online (a realistic number of projects, reports, and assignments, etc.).	○	○	○
4. I can use technology tools to check student participation in online activities (attendance, time on task, etc.).	○	○	○

	No, not at all.	Some of the time, but with mistakes, and I need help from a mentor.	Yes, I can, and I can mentor others.
5. I can help students see their learning progress using online and offline assessment results.	○	○	○

3: Identify your current abilities to plan and teach various blended learning activities.

	No, not at all.	Some of the time, but with mistakes, and I need help from a mentor.	Yes, I can, and I can mentor others.
6. I can plan and practice a blended or bichronous learning activity.	○	○	○
7. I can plan and practice an asynchronous learning activity.	○	○	○
8. I can plan and practice a synchronous learning activity.	○	○	○

4: Identify your current abilities to carry out summative evaluation.

	No, not at all.	Some of the time, but with mistakes, and I need help from a mentor.	Yes, I can, and I can mentor others.
9. I can evaluate* my facilitation of learning activities and use feedback to improve my teaching strategies and practices. (*Both formative and summative evaluation.)	○	○	○
10. I can perform summative evaluation of my blended course and make changes to better meet student needs.	○	○	○

Total: 0 out of 20

Appendix II

Challenges

Blended Model
Learning Outcomes Map
Digital Assessment Plan
Community Activities Plan
Content Activities Plan
Accessibility Audit
Fair Use Checklist
Copyright Audit
Blended-Bichronous Lesson Plan

This work is released under a CC BY license, which means that you are free to do with it as you please as long as you properly attribute it.

Blended Model

In this challenge, you will adopt a blended model for your course and plan how it will be implemented. As you progress through the book, you should update the template to show how you will implement what you are learning.

[ ] Create a Copy of the Blended Model Template

✏️ Chapter 2 Blueprint Challenge: Blended Model Template

Learning Outcome: I can choose a model for my blended course. *Bloom's Taxonomy - Evaluate.*

Blueprint Challenge: I will outline a model for my blended course. *Bloom's Taxonomy - Create.*

Part 1 Reasons for Creating my Blended Course

This part of the blueprint challenge will help you identify why you are creating a blended course.

Learning Outcome: I can identify my reasons for creating a blended course.

Course Description: Provide a detailed description of the course you will design. Include a title for the course, its context (population, course level, etc.) and give a brief overview of the course content (like a catalog description that might appear in a university catalog).

Learning Outcomes Map

[ ] Create a Copy of the Learning Outcome Map Template

✏️ **Chapter 3 Blueprint Challenge: Learning Outcomes Map Template**
Learning Outcome: I can create learning outcomes that define expectations for student achievement in my blended course. *Bloom's Taxonomy - Create.* **Blueprint Challenge:** I will develop a learning outcome map for my blended course. *Bloom's Taxonomy - Create.*

Part 1 Course-Level Outcomes

This part of the blueprint challenge will help you create course-level learning outcomes.

Part 1A: Learner Analysis
After reading 3.1.1, complete the **first two columns** of this table (Before & After).
- The first column addresses what your future students already know and do before they take your course. What background knowledge and skills should they already have?
- The second column addresses what the students should be able to do after they have completed your course. What will they need to be able to do in future coursework or careers?
Review the example, then delete the **red** text, then fill in the table with your ideas.

Digital Assessment Plan

☐ Create a Copy of the Digital Assessment Plan Template

✏️ **Chapter 4 Blueprint Challenge: Digital Assessment Plan Template**

Learning Outcome: I can develop an assessment plan that aligns with my learning outcomes. *Bloom's Taxonomy - Create.*

Blueprint Challenge: I will design an assessment plan that aligns with my learning outcomes. *Bloom's Taxonomy - Create.*

Part 1: Assessment Brainstorming Table

Complete the first column after studying section 4.1. Consider various ideas that you could use for assessment and rubrics. Review the example, then delete the red text from the first column and fill in the column with your ideas.
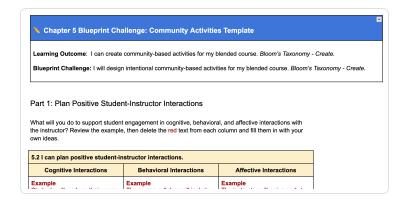
Complete the second column after studying section 4.2. Evaluate your options. Review the example, then delete the red text in the second column, then fill in the column with your ideas.

Complete the third column after studying section 4.3. Address problems with academic integrity. Review the example, then delete the **red** text in the third column, then fill in the column with your ideas.

Community Activities Plan
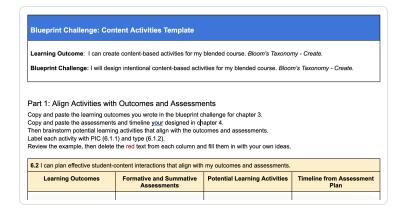
Create a Copy of the Community Activities Plan Template

✏️ **Chapter 5 Blueprint Challenge: Community Activities Template**

Learning Outcome: I can create community-based activities for my blended course. *Bloom's Taxonomy - Create.*

Blueprint Challenge: I will design intentional community-based activities for my blended course. *Bloom's Taxonomy - Create.*

Part 1: Plan Positive Student-Instructor Interactions

What will you do to support student engagement in cognitive, behavioral, and affective interactions with the instructor? Review the example, then delete the red text from each column and fill them in with your own ideas.

5.2 I can plan positive student-instructor interactions.		
Cognitive Interactions	**Behavioral Interactions**	**Affective Interactions**
Example	**Example**	**Example**

Content Activities Plan

[Create a Copy of the Content Activities Plan Template]

Blueprint Challenge: Content Activities Template

Learning Outcome: I can create content-based activities for my blended course. *Bloom's Taxonomy - Create.*

Blueprint Challenge: I will design intentional content-based activities for my blended course. *Bloom's Taxonomy - Create.*

Part 1: Align Activities with Outcomes and Assessments

Copy and paste the learning outcomes you wrote in the blueprint challenge for chapter 3.
Copy and paste the assessments and timeline your designed in chapter 4.
Then brainstorm potential learning activities that align with the outcomes and assessments.
Label each activity with PIC (6.1.1) and type (6.1.2).
Review the example, then delete the red text from each column and fill them in with your own ideas.

6.2 I can plan effective student-content interactions that align with my outcomes and assessments.			
Learning Outcomes	**Formative and Summative Assessments**	**Potential Learning Activities**	**Timeline from Assessment Plan**

Accessibility Audit

[Make a Copy of the Accessibility Audit Template]
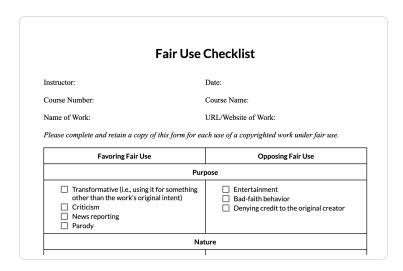
Fair Use Checklist

Kimmons, R.

checklist   Copyright   Fair Use

This checklist provides a positive defense against copyright infringement claims by showing that you have considered how your use is fair and that you have justification for making the claim. Generally, you should complete a checklist like this and keep it on file for any uses of copyrighted material in your course that you are claiming to be legal under fair use.

☐ Make a Copy of the Fair Use Checklist

Fair Use Checklist

Instructor: Date:

Course Number: Course Name:

Name of Work: URL/Website of Work:

Please complete and retain a copy of this form for each use of a copyrighted work under fair use.

Favoring Fair Use	Opposing Fair Use
Purpose	
☐ Transformative (i.e., using it for something other than the work's original intent) ☐ Criticism ☐ News reporting ☐ Parody	☐ Entertainment ☐ Bad-faith behavior ☐ Denying credit to the original creator
Nature	

Copyright Audit

Kimmons, R.

Copyright

A copyright audit helps to ensure that creative works you are using in your course are being used legally. Completing a copyright audit is required by many institutions and helps to provide a positive defense against copyright infringement claims.

Make a Copy of the Copyright Audit Template

	A	B	C	D	E
1	Creative Work Name / Title	Usage URL / Website	Source URL / Website	License	If copyrighted, is a Fair Use Checklist completed?
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Blended-Bichronous Lesson Plan

Create a Copy of the Facilitation Challenge Template

Blueprint Challenge: Content Activities Template

Learning Outcome: I can create content-based activities for my blended course. *Bloom's Taxonomy - Create.*

Blueprint Challenge: I will design intentional content-based activities for my blended course. *Bloom's Taxonomy - Create.*

Part 1: Align Activities with Outcomes and Assessments

Copy and paste the learning outcomes you wrote in the blueprint challenge for chapter 3.
Copy and paste the assessments and timeline your designed in chapter 4.
Then brainstorm potential learning activities that align with the outcomes and assessments.
Label each activity with PIC (6.1.1) and type (6.1.2).
Review the example, then delete the red text from each column and fill them in with your own ideas.

6.2 I can plan effective student-content interactions that align with my outcomes and assessments.			
Learning Outcomes	**Formative and Summative Assessments**	**Potential Learning Activities**	**Timeline from Assessment Plan**