Online Teaching Essentials

Prepared by the Digital Learning Hub at the Teaching + Learning Commons

The Online Teaching Essentials series provides an introductory toolkit for those who are beginning their journey of teaching online. This series is specifically designed and developed for instructors to gain research-based knowledge related to the fundamentals of online teaching. The essentials include a variety of topics spanning from engagement, to academic integrity, to equity and inclusion. As this series is dynamic and therefore being continually updated, please check back often to review and learn new information that will enhance your online teaching design and delivery.

After completing the Online Teaching Essentials series, instructors will be able to:

- Design opportunities for varied types of engagement and assessment
- Create online discussions that foster a sense of community using different prompt types to push the conversation forward
- Establish practices that promote academic integrity
- Design meaningful and effective multimedia aligned to course content and materials
- Apply the principles of accessibility and Universal Design for Learning to course materials and activities
- Establish course EDI guidelines to ensure content is continually evolving and all students feel represented

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Terminology

This glossary describes some of the most commonly used terms in teaching modalities; however, before proceeding it is essential to distinguish between face-to-face, remote, and fully online education. Though all three methodologies share much in common, face-2-face instruction occurs in-person while remote and fully online instruction deliver learning digitally.

It is not always possible to employ learning activities interchangeably between on-ground and online classrooms. Remote is delivered remotely without being intentionally designed for the online classrooms. On the other hand, “fully online” courses make most or all of the course content is designed intentionally for digital delivery.

At UC San Diego, courses are considered Distance Education if (for some or all students) ≤50% of student-instructor instructional time is designed to occur face-to-face.

Glossary of Terms

Asynchronous

Asynchronous learning does not take place at the same time. In this context, students engage with course content (e.g., assessments, pre-recorded lectures) at times that best fit their schedules.

Distance Education

In the distance education classroom, instructors and students use software platforms (e.g., LMSs, video chats, discussion forums, blogs, email, etc.) to facilitate learning activities. At UC San Diego, courses are considered Distance Education if (for some or all students) ≤50% of student-instructor instructional time is designed to occur face-to-face. Distance Education courses must be approved by the Academic Senate and require an equivalent amount of rigor and effort as face-to-face courses. Once approved, the course code is appended with an "R" to indicate the remote/online modality of delivery. See Remote & Fully Online Instruction.

R-Course Requirements

1. Submission of an R-Proposal to the Academic Senate
   - R-Proposal Information
2. A required consultation with the Teaching + Learning Commons to ensure that the proposed Distance Education course meets the standards outlined by the Quality Matters Rubric. Generally, courses given the r-designation more often align with the “fully online,” than the “remote,” definition. ~See Remote Instruction & Fully Online Instruction definitions

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Face-to-Face (Classroom Based) Education

In the face-to-face classroom, instructors and students meet in the same physical location, participating simultaneously in learning activities.

Flipped Instruction

Flipped is an organizational approach to instructional content, balancing didactic and active learning modalities. Students review information-rich materials (e.g., lectures, reading, etc.) in advance, and use class time for active application of concepts and creative engagement with the subject matter. Flipped instruction commonly employs a hybrid (blended) approach, providing information-rich materials to learners online.

Fully Online Instruction

Fully Online is a mode of instruction in which most or all of the course content is designed intentionally for digital delivery. An online course encompasses the thoughtful design of instruction, assignments, engagements, and interactions that promote successful learning in a fully online environment.

Hybrid (Blended) Instruction

In the hybrid classroom, learning activities are split between online and face-to-face environments. Importantly, hybrid instructors consciously tailor learning activities to the appropriate context.

Hy-Flex

A variety of hybrid instruction, and perhaps the most challenging methodology to employ, hy-flex classrooms meet simultaneously in both online and physical environments. Remote students watch a live stream of the physical class, participating through facilitators, chat, and audio.

There are three significant points to consider when adopting the hy-flex methodology:

1. As with the hybrid model, instructors consciously tailor learning activities to the appropriate context. Hy-flex's simultaneous nature can therefore double the required preparation time.
2. Communication between students attending remotely and the instructor is often not as rich as the interactions between physical participants.

3. Streaming face-to-face classrooms can require significant technological resources. Without proper planning and monitoring, online learners often have trouble seeing, hearing, and participating fully in class.

LMS

LMSs or Learning Management Systems are centralized software platforms that facilitate online learning activities. LMSs generally includes software for creating and editing course content, communication tools, assessment tools, student data tracking, and other course management features. Both face-to-face and Distance Education courses often use aspects provided by LMSs; however, for the effective facilitation of learning in Distance Education, a carefully considered full use of all LMSs features is required. Canvas is the supported LMS for credit-bearing courses at UC San Diego.

Remote Instruction

Remote is a mode of instruction in which course content is delivered remotely without being intentionally designed for fully online classrooms.

Quality Matters Standards

Quality Matters (QM) is a nationally recognized, faculty-driven peer-review process used to ensure the quality of online and blended course design. The Quality Matters Higher Education Rubric is a set of standards used to evaluate the design of online and blended courses.

These standards were developed and revised based on research and established standards in the fields of instructional design and online learning. At UC San Diego, we strive to meet Quality Matters standards for our “R” designated fully online and remote courses.

Synchronous

Synchronous learning takes place at the same time. Faculty and students participate simultaneously in learning activities in face-to-face classrooms or via a video conferencing platform such as Zoom.

Engagement in the Online Classroom

Student engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education.

Some strategies that have demonstrated effectiveness in promoting student engagement are:

- Connect learning to the real world (or the students' world view).
- Encourage students to present and share work regularly.
- Promote group work and collaboration.
- Active learning: A focus on getting students to "do" something, rather than "learn" something.
- Scaffold tasks with checkpoints.
- Emphasize discovery and inquiry.

Types of Engagement

Student to Instructor

The connection to influence of a subject matter expert to student achievement. Some strategies may include access to informal or one-on-one communication, ability to make continuous improvements on content and instruction. The presence of the instructor includes facilitation, and direction of cognitive and social processes for the realization of meaningful learning. This involves instructional design, facilitation, and direct instruction.

Examples of student to instructor engagement:

- Video lectures and tutorials.
- Access to instructor (office hours).
- Live and asynchronous demonstrations and simulations.
- Instructor-led discussion forums.
- Synchronous zoom sessions.
- Video, audio, or written feedback.

Student to Student

The promotion of student autonomy with less instructor control. Leverages the *learner among other learners* model and the social component of learning. This also promotes social presence, or the ability to perceive others in an online environment as “real” and the projection of oneself as a real person. This involves open communication, affective expression, and group cohesion.

Examples of student to student engagement:

- Discussion forums.
- Group projects/collaboration using Google docs/sheets.
- Backchannel communication, (digital conversation that runs concurrently with another activity).
- Peer review activities.

Student to Content

Addressing diversity of learning styles through instructional delivery. Promotes a community of Inquiry by placing content within the world view of learners. This level of engagement also promotes cognitive presence, or the extent to which students can construct and confirm meaning through sustained reflection and discourse.

Examples of student to content engagement:

- Subject matter or knowledge to be learned.
- Instructional delivery in the form of reading assignments.
- Video lectures and resources.
- Media that provides more than one way to access/interpret learning content.

Engagement through Low-Stakes Activities

- **Think Pair Share:** students reflect on something, discuss with a partner, and then share with the rest of the class once everyone is ready
- **Quickwrite:** write down three questions or points that have been raised by the lesson so far
- **What I know already:** if you're just about to dive into new content, ask students to identify three things they already know about the subject and jot them down as bullet points.

Discussions in Online Learning

Social presence is critical in the online classroom. During discussions, instructors and learners want to be perceived as “real people.” Instructors can create presence through open “safe” communication, productive (i.e., unforced) group collaborations, and emotional expression (e.g., humor). Establishing social presence creates a productive cognitive space where learners can explore, digest, reconnect and apply course concepts to real-world problems.

For social and cognitive presence to flourish, “teaching presence” is needed. Teaching presence takes the form of clear organization, defined procedures, regular faculty interactions/feedback, and established evaluation criteria. Let’s look at a few strategies for stimulating an online learning community.

Establishing Community

General Suggestions

1. **Require Participation:** If discussions are not required, students will not participate. Studies suggest that discussions should be worth between 10%-20% of the overall course grade.
2. **Social Presence Cues:** Model sound social cues by addressing everyone by name, describing personal/professional experiences, encouraging participation, and by being funny where appropriate. Building a safe social environment goes a long way towards encouraging participation.
3. **Feedback:** Respond promptly to your students, but don’t overwhelm them. You are there to facilitate/focus the conversation, not to become its center.
4. **Question:** It is not enough to simply allow learners to present concepts or factoids. If the learner proposes a solution to a problem, one technique would be to ask for more details about their plan’s implementation. The important thing is to get the learner to reexamine and re-conceptualize the content they are presenting.
    - Make it clear in advance that you will be asking these types of questions. Students do not like to feel singled out.
5. **Audio & Video Feedback:** Remember that you can respond to audio and/or video feedback to students. Audio and video feedback is a great way to create presence, clarify intentions, and make sure your remarks’ emotional “tone” is understood.

Prompt Types

1. **Problem-based Prompts:** Write questions focusing on problems related to essential course topics. Ask students to discuss and propose solutions to these problems.

Problem-based prompts work well in group discussions. Ideally, there should be several ways of “correctly” solving each problem.

2. **Project-based Prompts:** These are similar to problem-based prompts, but in this instance, learners are asked to research and prototype a plan for addressing conceptual problems. Several guidelines are suggested:
    - Allow for multiple iterations throughout a module or course.
    - Set up clear milestones for development.
    - Ask learners to reflect on their undertakings.
    - Provide increased support as learners reach the end of the process. Be sure to outline your evaluation strategy for this activity carefully.
3. **Debate Prompts:** Ask students to research and debate a contentious topic. Learners do not need to be assigned based on preference and should understand that it is their responsibility to articulate their side’s position clearly. Beyond simply outlining their position, learners should challenge opponents, formulate arguments, examine preconceptions and work through areas of disagreement. Lastly, students should attempt to persuade others of their assigned position.
    - In this type of discussion, it is vital for the instructor to model and enforce respectful and productive forms of communication.
4. **Challenge Prompts:** Play the “devil’s advocate” and provide alternate solutions and/or evidence. Ask learners to respond to these different viewpoints. Alternatively, assign students the role of “devil’s advocate” or ask them to “challenge” their colleagues with requests for clarification.
    - Use this technique in moderation. It’s easy to take over a conversation accidentally.

Considerations

Remember that online discussions are not autonomous. In the online classroom, substantive and meaningful communication requires careful consideration. Plan three steps of back-and-forth participant interactions by asking yourself the following:

1. **Is the initial prompt nuanced enough to produce a diversity of perspectives?**
    - A class of students writing 500 words on the same article will not result in a variety of opinions.
2. **Are response prompts framed in a way that will empower students to deepen the conversation?**
    - Simply asking learners to respond to their peers rarely pushes the conversation forward. Plan a response prompt that encourages students to reflect on, question, and critique each other’s posts.

3. **Do I provide a way to create closure or a link to other activities?**

    - If your discussion is moving along well, feel free to ask follow-up questions; however, plan a wrap-up activity. A discussion “warp-up” might include an instructor summary statement, group reports for participants engaged in a challenging topic, or individual reflections. Simultaneous class sessions are a great way to “put a bow” on a valuable discussion and tie it to your course’s learning goals.

Online Assessments

Assessment is an important part of teaching and learning. It helps both students and instructors evaluate both learning achievement and the learning process. Assessments provide a means for instructors to see (or evaluate) how much students are actually grasping the presented material and when it's time to move on. Two types of assessment, formative and summative, come into play within instruction, and each type has its place in the online as well as the physical classroom. Both types of assessments are necessary for any successful course, and the proper balance of these two assessment types will maximize student learning.

Assessment Types

Formative Assessments

Formative assessments are assessments for learning—the results can help teachers plan instruction to meet their students' current needs. These kinds of assessments are typically low stakes (or no stakes) assessments that are not intended to measure learning achievement for purposes of grading. Formative assessments inform the learning process by providing a two-way exchange of information. For the student, this provides information on the student's progress in the course or unit of instruction. For the instructor, this provides information on the effectiveness of instruction, materials, or educational technology. The primary goal with formative assessments is feedback rather than scoring or calculating a grade. This type of assessment may require evaluation of student learning outcomes several times during the term and facilitates the evaluation of different content areas, skills, and the progress of learning within specific knowledge domains. Formative assessment could occur with repeated use of the same assessment form (e.g., a quiz four times in a semester) or with the use of multiple assessment forms (e.g., a quiz, an essay, and an experiential activity).

Summative Assessments

Summative assessments are assessments of learning—the results are for evaluation of student achievement. These kinds of assessments are typically higher stakes measurements of student learning at the end of an instructional unit, which may quantify and compare it against some standard or benchmark. Summative assessments can sometimes occur at the beginning of the course or instructional unit to ensure students are at the appropriate level for the course. They also play a role periodically throughout the course and at the course's end to both test student knowledge and create a body of work on which to base students' final grades. Summative assessment is a measure of an end product (Perera-Diltz, 2009), and at best represents a holistic and qualitative appraisal of student achievement of specific learning outcomes. Measures such as a capstone final project or a comprehensive final exam are examples of common summative assessment tools. However, there are times that formative assessment could serve summative purposes (Gikandi, Morrow, & Davis, 2011) when it informs stakeholders regarding a student's progress (Smith, 2007). Similarly, summative assessment can serve in a formative role when results are used for learning in subsequent units (Gikandi et al., 2011).

Assessment Examples

FORMATIVE ASSESSMENTS

Formative assessments may include exit tickets, comprehension checks, running records, short-cycle or just-in-time evaluation of student work, measurements for checks for understanding during instruction, or non-evaluative interim tests that cover recently taught material that can align with unit or module level learning outcomes/objectives.

According to Gikandi et al. (2011), characteristics of validity in formative assessments include:

- Authenticity of assessment activity (i.e, engage students in decision making and problem-solving relevant to real-world situations).
- Effective formative feedback (i.e., useful, timely, ongoing, and easy to understand feedback to student).
- Multidimensional perspectives (i.e., diverse opportunities for the student).
- Student support (i.e., the mentoring role of the teacher).

SUMMATIVE ASSESSMENTS

Summative assessments in online education need to be based on facilitating and documenting the learner's abilities to synthesize his or her own perspective and personal experiences with knowledge artifacts. They should map to course level learning outcomes.

Some summative assessment examples may include:

- Unit tests.
- Midterms or final exams.
- Capstone projects.
- Final papers, or final presentations representing scholarly work covering the entire course.

Academic Integrity in Online Classrooms

> *"No matter how one looks at the data, the prevalence of self-reported cheating is high enough for all of us—students, faculty, and administrators—to be seriously concerned. When more than two-thirds of college students are reporting that they have cheated, we need to pay attention."*
>
> *- Trevino et. al, Cheating in College: Why Students Do It and What Educators Can Do About It*

Assessments That Promote Integrity

The strongest way to deter academic integrity violations is a well-designed assessment. Proctoring cannot prevent students from making bad decisions under stress and pressure environments. Proctors also do not ask students to think critically, reflect on their learning, and demonstrate their skills to the best of their ability. A well-designed assessment will probe students to use their acquired knowledge, apply their understanding, and use their analytical skills to find a solution.

Characteristics of a well-designed assessment:

- **Perspective:** Assignments that require students to read, interpret, and respond to scenarios, a unique problem set, or provide a different perspective.
- **Scaffolded:** Assignments that build on existing work and demonstrate improvement over time.
- **Choice:** Questions that allow students to choose between several options.
- **Authentic:** Questions that allow students to reflect on their process, a personal challenge, or an interest in a specific topic.
- **Creative:** Assignments that allow students to express themselves using video, a teaching method, original artwork, or an oral presentation.
- **Integrity Reminders:** A requirement to sign academic integrity pledges, which remind students of the implications of cheating.

> *Students are less likely to cheat if the assessment has meaning, that is, it is individualized, interesting, unique, current, and engaging; it is not easily copied from a solutions manual or from the Internet.*
>
> *- UC San Diego Academic Integrity Office*

Enhancing Integrity with Technology

People routinely assume that significantly more academic dishonesty occurs in online courses. In reality, research suggests that the causes which tend to lead to dishonest action are common in all learning environments. Luckily, technology may make it easier to identify and address academic integrity issues.

1. **Skepticism & Tracking**

    a. Canvas contains several tools for tracking student activity. If a student insists that they submitted a missing assignment, visited a lesson page, or watched a required video, check the canvas access logs. While systematically spying on students is not encouraged, insisting that learners speak truthfully is ultimately beneficial to all. If a student asks for more time or further explanation but has never engaged with the activity, ask them to go back and do the work. For more information, see:

        i. Tracking Activity in Canvas

        ii. Tracking Activity in Kaltura

2. **Plagiarism**

    a. Activate TurnItIn in Canvas assignments that require writing. TurnItIn, a plagiarism checker, compares student submissions with an archive of internet documents, internet data, a repository of previously submitted papers, and subscription repositories of periodicals, journals, and publications.

        i. To activate TurnItIn for a Canvas assignment, under “submission type,” choose “external tool.” Then under “external tool options,” “find” the TurnItIn option (not Turnitin Framework). See TurnItIn Instructions for more.

        ii. In Canvas, TurnItIn only works with assignments, not quizzes or discussions. If encountered, paste suspicious examination or discussion text into a Google search.

    b. Microsoft Office retains information about each file’s creator and the last person who saved the file. If a file seems suspicious or multiple submissions seem similar, check the file’s properties (located in the “File” menu).

3. **Quiz & Exam Security**
   The Canvas quiz tool allows instructors to create exams and quizzes that vary for every student. Randomization makes it harder for students to share information.

    a. **Timed:** Either in the form of a strict time limit or tight submission windows. See Canvas Quiz Options for more.

    b. **Quiz Banks** allow instructors to create more questions than will appear. Only a randomized subset of quiz bank questions will load for each student.

i. Quiz banks can be shared between courses and updated easily. Consider regularly adding additional questions to your established banks. See Canvas Quiz Banks.

c. **Quiz Groups** allow instructors to randomize the order of questions on entire exams or just for subsections. See Canvas Quiz Groups.

d. Under a quiz's settings, choose the **"shuffling choices"** option to randomize the order of each question's answer options. If you shuffle choices, remember to remove option letters (i.e., a, b, c, all of the above) before pasting them into a quiz. See Canvas Shuffle Answers.

e. Under a quiz's settings, choose the **"show one question at a time"** option to make it more challenging to share quiz information. This setting is significant if your learners are taking exams in a face-to-face environment.

f. Set a date to **"show correct answers"** that is after the exam closes. "Hide correct answers" after a discrete interval of time.

4. **Proctoring**

a. Proctoring tools can add an additional layer of security for high-stakes exams, but are not always correct for every situation. When deciding whether or not to proctor an exam, you are balancing three key considerations:

i. **Academic Integrity:** Ensuring submissions represent students' original thought, and are made by individuals who are who they say they are.

ii. **Privacy:** Protecting the students' digital footprint, so their likeness, environment, and mannerisms are not digitally distributed.

iii. **Equity:** Facilitating access to the course for students who might not have a clean testing environment, strong internet access, camera, or, in some cases, administrative access to their device.

b. To read more details about these proctoring options and how to implement them in your course, visit the Digital Learning Hub's Proctoring Options for Assessments page.

Encouraging Integrity

1. **Set the Standard**

a. Beyond a policy statement in your syllabus, let students know what your AI expectations are. Studies have shown that student ethical institutions concerning AI infractions are flexible *(e.g., cheating on an exam is wrong, but triggering an absent friend's iClicker isn't a big deal)*.

b. Early in your course, discuss your (and UC San Diego's) perspective on the importance of AI. Remembering that ethical intuitions vary, so clearly detail what is acceptable and unacceptable in your class space.

2. **Include Academic Integrity Pledges**

    a. Consider creating an AI pledge. In Canvas, create a quiz that asks students to accept or reject your course's AI policies (or any other important class policy). Place this AI policy quiz in an Introduction Module. Edit this module's completion requirements to require a score of 100% on the AI policy quiz.

    b. Edit all other modules to require completion of the "Introduction Module" as a prerequisite to entry. These prerequisites will lock learners out of the course until they certify that they have read and agree to your course's AI policies. See Locking a Canvas Module for more information.

3. **Build Opportunities for Interaction**

    a. Often overlooked, direct interaction is one of the best ways to ensure AI. Having learners present projects or engage in discussions synchronously allows instructors to gauge learner understanding directly. It is hard to hire a third party to fake direct interaction.

4. **Update Assessments**

    a. Periodically update quizzes, exams, discussion prompts, and paper prompts. Assignment updates discourage students from sharing work between quarters and years.

5. **Speak Out**

    a. Studies show that academic dishonesty can become habitual. Though individual instructors often identify AI issues, most handle problems internally, and few report the infractions. Beyond the ethical obligation to report violations, filing a report is usually in the student's best interest. Early intervention allows learners to adjust their ethical intuitions before more severe violations occur.

        i. UCSD Academic Integrity Reporting

Instructional Multimedia

> *People learn more deeply from words and graphics than from words alone. This assertion can be called the multimedia principle, and it forms the basis for using multimedia instruction—that is, instruction containing words (such as spoken text or printed text) and graphics (such as illustrations, charts, photos, animation, or video) that is intended to foster learning*
>
> *- Mayer, Multimedia Learning*

When planning for the curation or creation of multimedia, an online instructor should consider the auditory, visual, and interactive ways that students will receive, process, and engage with the content and how the media will help learners transfer and apply their learning. Instructional multimedia includes all materials that an instructor may create or use to facilitate this learning in an online or digital format. Instructional multimedia includes, but is not limited to digital texts, slide presentations, audio clips, videos, graphics, and images.

When designing multimedia for learning, there are several key principles that maximize learning opportunities while minimizing cognitive load.

Effective Instructional Multimedia

Principles and Tips

1. **Segmenting Principle:** People learn better when a multimedia lesson is presented in user-paced segments rather than as a continuous unit.
    - Chunk information into smaller, more digestible units
    - Record shorter, focused videos that allow users to manage the flow of information
    - Create chapters or markers indicating sections in the video, document, or digital media
2. **Signaling Principle:** People learn better when cues that highlight the organization of the essential material are added.
    - Highlight important information with visual cues
    - Organize the hierarchy of information on the screen
    - Explain the purpose and context of the information presented
    - Use guiding questions
3. **Personalization Principle:** People learn better from multimedia lessons when words are in a conversational style rather than a formal style.

- Encourage connection to the information by speaking in a conversational tone
- Speak with enthusiasm and energy
- Make the content relevant to the students in the current class

4. **Coherence Principle:** People learn better when extraneous words, pictures, and sounds are excluded rather than included.
    - Avoid busy images and lots of text that distract the learner from the content at hand
    - Remove distracting sounds and unnecessary background music
5. **Spatial Contiguity Principle:** People learn better when corresponding words and pictures are presented near rather than far from each other on the page or screen.
    - Present relevant information in close proximity to one another, which prevents the extraneous processing of gaps.

These five principles are part of Meyer's Cognitive Theory of Multimedia Learning, describing the ways in which learners receive, process, and transfer information through auditory and visual channels. Effective multimedia for learning can be optimized when learners can truly focus on the content at hand without extraneous overload. Amaka and Goeman (2017) also identify these considerations when designing and choosing media for online learning: "interactivity, navigability, (a)synchronicity, flexibility, media richness, ease of use, individualization, mobility, proximity and responsiveness." In essence, taking a student-centered approach to designing multimedia for learning involves consideration for the various attributes of media as well as designing for optimal multimedia learning.

Universal Design for Learning

Universal Design for Learning (UDL) is an applied framework established by the Center for Applied Special Technology (CAST) for expanding learning opportunities and reducing barriers in education.

Burgstahler describes UDL as a “paradigm for higher education that would simultaneously address issues of equality, accessibility, social integrity, and communication” (Burgstahler, 2008). Universal Design for Learning (UDL) is now a widely recognized framework that provides guidelines for reaching students with a broad spectrum of ability. The spectrum of ability can range from physical to cognitive and permanent to situational, all of which can impact the learner’s ability to effectively learn and participate in an online classroom.

Spectrum of ability:

- **Visual:** blind, low-vision, color-blind, forgotten reading glasses, no screen
- **Hearing:** deafness, hard-of-hearing, limited range hearing, no earbuds, no speakers
- **Motor:** response time, limited fine motor control, on a bumpy bus, hands are full
- **Cognitive:** learning disabilities, distractibility, tired, high functioning, low functioning

  (UCSF Digital Accessibility)

The principles of UDL help reduce and eliminate barriers from the onset and provide options for all learners. In addition to encouraging digital accessibility, UDL principles also ensure that courses are designed for learners with various cognitive abilities and various motivational orientations. By accounting for learner variability and reducing barriers at the onset, course designers and instructors can minimize the need for accommodations and make learning truly universal.

Principles And Tips

1. **Multiple Means of Representation:** Learners differ in the ways that they perceive and comprehend information that is presented to them. Learning, and transfer of learning, occurs when multiple representations are used, because they allow students to make connections within, as well as between, concepts (CAST).
    - Provide examples that are culturally relevant to a broad audience.
    - Ensure all resources and digital texts are inclusive and digitally accessible to all learners by providing choice to read, watch, or listen.
    - Provide captions for all audio and descriptive captions for video.

- Provide educationally relevant descriptions for images and graphics.

2. **Multiple Means of Expression:** Learners differ in the ways that they can navigate a learning environment and express what they know. It should also be recognized that action and expression require a great deal of strategy, practice, and organization, and this is another area in which learners can differ (CAST).

    - Use multiple, accessible assessments such as oral presentations, demonstrations, written work, exams that allow students choice of expression.
    - Ensure adequate time to complete assignments.
    - Provide multiple opportunities for students to practice and improve their work and demonstrate their knowledge.
    - Keep expectations high and communicate clear learning objectives and criteria.

3. **Multiple Means of Engagement:** There are a variety of sources that can influence individual variation in affect including neurology, culture, personal relevance, subjectivity, and background knowledge, along with a variety of other factors (CAST).

    - Ensure communication avenues are inclusive and digitally accessible to all learners including language learners and learners with sensory impairments by providing multiple ways to participate.
    - Provide clear guidance and background information needed for participation.
    - Facilitate the exchange of ideas and sharing of perspectives between learners.
    - Include a statement inviting learners to meet and discuss with the instructional team.

UDL Principles guide the instructional design of courses for variability and inclusivity, in which all learners can have the opportunity to participate, engage, and learn effectively. By providing multiple avenues and options for learners to reach the same goal, instructors can help reduce barriers to learning and develop learners who are motivated, resourceful, and goal-directed.

Accessibility in the Online Classroom

Enabling digital access means ensuring that software, applications, digital text, and digital media are **P**erceivable, **O**perable, **U**nderstandable, and **R**obust (POUR).

Perceivable: essential information is unobstructed, easily detected, and effectively presented.

Operable: interface is easy to navigate, able to control and operate via keyboard.

Understandable: information is intuitive and instructions are clear, free of jargon.

Robust: compatible with assistive technology.

Regarding instruction, course content should be designed to provide equal access to all learners, including learners with disabilities, learners who utilize assistive technology, underrepresented learners, and language learners. Ensuring that digital course content and multimedia are accessible reduces barriers to learning and provides equal opportunity for all students.

Digital Accessibility

1. **Text & Documents:**
    - **Accessible Text:** Ensure the document has accessible text that can be selected and read by a screen reader. Avoid saving text documents as images or pdf image files, which cannot be deciphered by text-to-speech screen readers. Convert PDFs into accessible text by utilizing the Optical Character Recognition (OCR) tool (for Adobe Acrobat).
    - **Heading structure:** Use the built-in text formatting structures to identify the hierarchical order for each header (H1, H2, etc.). Headings are used by screen readers to determine key topics and allow quick jumps to important information.
    - **Descriptive Links:** Use descriptive language for hyperlinks that inform the user where the link directs them to do or to view.
    - **Do not use color alone:** Do not use color alone to emphasize key terms or important information. Bolded or underlined text can be distinguished by screen readers while color cannot.
2. **Images**
    - **Alternative Text:** Provide meaningful text equivalent for images via the alt-text attribute or via an image caption.

- **Decorative images:** Indicate when images are purely decorative and don't carry meaning for learning.

3. **Videos**
    - **Captions and Transcripts**: Provide accurate captions or the text equivalent transcript for all audio.
    - **Presentation Transcripts and Subtitles:** Describe all relevant visual content in the presentation or recorded video.

4. **Audio**
    - **Music:** Describe the mood of the music. For background music that is not essential to the content, indicate with a music note.
    - **Lyrics:** if music contains lyrics, provide accurate captions for the lyrics.

5. **Interface**
    - **Keyboard Accessible:** Design websites, software, digital documents, and digital content. to operate and navigate by keyboard.
    - **Color Contrast:** Use color combinations that are high in contrast. To verify contrast, utilize WebAim's Color Contrast checker

Designing for effective and inclusive learning in the online environment includes taking into account the perceivable, operable, understandable, and robust nature of course content. Enabling these accessible features within the materials and applications that are required for learning will help to reduce barriers and enable access for learners with disabilities and universally for all learners. Students who utilize assistive technology to read and understand material, as well as students who are temporarily affected by situational challenges, will benefit from digitally accessible materials.

Equity & Inclusion in the Online Classroom

> *The only way to undo racism is to consistently identify and describe it - and then dismantle it.*
>
> *- Ibram X. Kendi, How to be an Antiracist*

We live in a racialized society. Students and instructors carry their lived racial experiences with them into the classroom, but historically, the American higher education system has privileged the experiences of White individuals over those of Black, Indigenous, Latinx, AAPI, and other minoritized people. An integral part of creating equity in the classroom is actively fostering spaces where students feel safe enough to bring their whole selves to class. Although this section focuses on practical steps for fostering this kind of environment, the steps outlined here are just a starting point. Addressing and working towards dismantling this historical inequity is an institutional and personal responsibility. Only through continual investigation and internal interrogation can we begin to make meaningful impacts in the spaces we inhabit.

Build Equity Into The Course: First Steps

Treat EDI as a Working Concept

1. **Include an EDI Statement in your syllabus**. Be authentic. What does EDI mean in your classroom and in your material? Take a look at the sample syllabus statement as a starting point. Remember, it's crucial that you tailor this language to your course so that students understand what equity means to you. Take a look at a sample statement from the Dartmouth Center for the Advancement of Learning.

2. **Build in content that addresses EDI** issues in your field, and articulate how your course learning objectives align with your EDI statement and goals.

3. **Include culturally relevant materials** in your course content. Consider what material you are already using, and who it represents. Be reflective of your own cultural frames of reference, and acknowledge what perspectives they exclude. The course content, including images, reading material, and examples, should represent our diverse student cohort. (Ladson-Billings, 1995).

Additional Resource:

The Social Justice Syllabus Design Tool: A First Step in Doing Social Justice Pedagogy (Taylor et al, 2019)

The Social Justice Syllabus Design Tool (SJSDT) is an assessment tool and framework that walks you through designing an inclusive syllabus and other course strategies to help improve the success of underrepresented students and create a greater emphasis on social justice in the classroom.

Be Responsive to Current Events

> *Racial Microaggressions are brief and commonplace daily verbal, behavioral, or environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative racial slights and insults towards people of color*
>
> *- Sue et al. 2007*

In the online learning space, microaggressions can manifest in forms of digital communication and non-text behaviors. Doing nothing when racial bias manifests in the classroom, or in the world, does not foster spaces where students feel that their experiences are valued or heard. In fact, not acknowledging racist acts and microaggressions may create a hostile environment where students of color feel invalidated (Solórzano, Ceja, & Yasso, 2000).

1. **Acknowledge how these events impact our communities** and acknowledge that students carry these issues with them into the classroom. Sending out a class-wide announcement or email acknowledging events when they occur, and inviting students to share their experiences with you, is a great starting point.
2. **Step in when students make racist, hurtful, or insensitive comments**, and acknowledge the harm they cause. Do not allow problematic behaviors to continue unchecked, and make it clear that the problematic behavior does not align with the expectations and values of UC San Diego.
3. **Reach out to support on campus** if you need guidance for addressing issues in class. The EDI Office on campus can help facilitate how to address these issues, and The Office of Student Conduct can support in instances where individual students need to be reported.

Additional Resource:

Responding to Racial Bias and Microaggressions in Online Environments, CORA Learning
Responding to Racial Microagressions (Handout), Engaged Teaching Hub

This one-hour webinar utilizes common definitions, as well as scenarios, to help participants recognize and respond to racial bias and microaggressions in the online environment. The handout, developed by the Engaged Teaching Hub at UC San Diego, adapts the webinar into a resource for addressing racial microaggressions in the classroom.

Consider Digital Equity

1. **Utilize Open Educational Resources** and library reserves for low to no-cost options for students who may experience financial barriers to course materials.
2. **Be intentional when integrating high-resource technologies** into the curriculum. Technology that requires the use of webcams, microphones, high-performance computers, etc may present barriers to students accessing course materials.
3. **Provide frequent opportunities for students to become familiar** with new technologies before high-stakes assessments. Participation only or other low stakes

activities can help students identify any potential pain points in advance of critical assessment events.

Additional Resource:

Peralta Online Equity Rubric

The Peralta Equity Rubric is a research-based course (re)design evaluation instrument to help teachers make online course experiences more equitable for all students.

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