Michael V. Drake Institute for Teaching and Learning

Course Design Institute Workbook

This workbook provides a step-by-step process for either creating or redesigning a course based on the backward design process described by Wiggins and McTighe (2005) and informed by the ideas proposed by Ambrose (2010) in *How Learning Works*. It has been infused with ideas for designing or redesigning instructional materials for teaching and learning with AI (Bowen and Watson, 2023). The purpose of backward design and this Course Design Institute (CDI) is to support the development of courses that encourage significant learning (Fink, L.D., 2003).

The appendix at the end of this workbook comprises a CDI portfolio. The CDI portfolio provides a template for completing the activities without the use of AI. We will also provide options for completing most assignments with AI during the CDI.

Contents

Precourse Reading

What is a Course | Design | Institute

The Course Design Institute (CDI) is a signature program providing instructors the opportunity to learn or review the **three stages of backward design** and its value for developing a course by first considering desired results, then designing the course to achieve those results. Each of the stages of backward design, 1) identifying desired results, 2) determining acceptable evidence, and 3) planning learning experiences and instruction, can be influenced by AI. Strategies for exploring and reflecting on the influence of AI on the backward design process will also be explored.

An institute-based approach – typified by a strategically paced and deep engagement -- ensures the process focuses on **evidence-based instructional practices**, student **inclusion**, learning, and **assessment of learning** -- and facilitates **collaboration with colleagues from across the university.**

CDI Learning Goals
- Understand the course design process
- Appreciate the value of evidence-based inclusive teaching strategies
- Know how to access teaching and learning resources

CDI Outcomes
Following completion of this CDI, participants will
- Describe the stages of backward design
- Articulate course learning goals
- Develop course learning outcomes
- Establish course structure and critical components/assignments
- Integrate evidence-based instructional practices into course components
- Identify strategies for assessing student learning

CDI Agenda

Backward Design Stage	Course Design Institute Topics

STAGE 1: Identify Desired Results	• Design Frameworks
	   • Backward Design
	   • Significant Learning
	   • Universal Design for Learning
	• Prompting GenAI
	• Learning Goals & Outcomes

STAGE 2: Determine Acceptable Evidence	• Developing Expertise • Evidence of Competency/Proficiency
STAGE 3: Plan Learning Experiences and Instruction	• Experiential Learning • Course Organization • Parallel Content • Integrated Course Plan (ICP) • Transparency in Learning and Teaching (TILT) framework • Evidence for Active Learning • Active Learning Strategies

The CDI Backward Design Process

The CDI process encourages educators to think first about the purpose of instruction then align assessment and instruction in order to achieve desired learning results (outcomes). Here are the steps in the backward design process:

- **Answer Design Questions** -- What is the purpose of this course? Where does it reside in the program curriculum? Under what contexts is it taught? What modalities are used? How do the answers to these questions influence design decisions?
- **Identify the Big Rocks** -- What matters most about this course? In what ways should students "be" different at the end of the course? What makes this course "your" course?
- **Articulate Learning Goals** -- What should students know or care about? What should students hear, read, view, explore, or encounter? What are the big ideas and important understandings students should retain? Learning goals contain general verbs like "understand" or "appreciate."
- **Articulate Learning Outcomes** – What are students expected to know or formally do? What can be observed and measured? Learning outcomes are clear, written with student-focused language, begin with an action verb, and end with a statement and provide the observable and measurable element. Bloom's Revised Taxonomy may be consulted for further details.
- **Identify Appropriate Assessment Techniques or Practices** – What evidence will show students have met the identified course outcomes?

- **Identify Effective Evidence-based Instructional Methods** -- What teaching and learning strategies will you use? What makes these most appropriate or effective?
- **Consider Course Assessment and Evaluation** – What evidence is there to tell you about students' achievement of course goals and outcomes? What do these measures of student learning identified tell you about the course? Are students learning? Where are they facing challenges to learning? What changes to course design or instruction might improve student learning or experience

PICRAT: Thinking about integrating AI in Your Course

As you consider the backward design process above, note that AI can impact each step of the process. For example, considering the impact of AI on future jobs or academic careers, learning goals, outcomes, assessment methods, and instructional strategies may all be influenced by AI. The PICRAT model provides a way of evaluating new tools and guidance for a pedagogically-sound integration into a course or curriculum.

Using the PICRAT model, educators consider two questions: 'how are students engaging with the technology?' and 'how does the use of technology change the current pedagogical approach?' 'PIC' refers to the three options associated with the first question regarding learner behaviors (Passive, Interactive, and Creative) while 'RAT' represents the three options for the second question regarding pedagogy (Replacement, Amplification, and Transformation). The mapping of pedagogical implementation of the technology with learning behaviors results in the PICRAT matrix. The matrix provides a lens through which educators can methodically approach the implementation of a new technology so that it achieves the desired learning outcomes. While it can be helpful to consider the PICRAT model when planning to integrate and technology into a course, there is not necessarily any merit in the creative engagement or enabling transformation. The use of technology should be aligned with your learning goals.

The PICRAT Model

E N G A G E				
	C-Creative	CR	CA	CT
	I-Interactive	IR	IA	IT
	P-Passive	PR	PA	PT
		R-Replicate	A-Augment	T-Transform
		ENABLE		

PICRAT model and an AI example

E N G A G E	C-Creative	Students use AI to draft essays on course topics, which they then refine.	AI helps students brainstorm and outline projects on geographic issues.	Students use AI to collaboratively research and create multimedia presentations on geographic phenomena.
	I-Interactive	Students use AI to ask questions about lecture content and receive instant answers.	AI generates discussion questions based on readings, which students use in group discussions.	Students use AI to create interactive maps based on geographic data provided in lectures.
	P-Passive	Lecture Summaries: AI generates summaries of lecture notes which students read after class.	Copilot creates summaries of readings, enhancing students' understanding before class discussions.	AI generates podcasts from readings for students to listen to before class.
		Replication	Amplification	Transformation
		ENABLE $\longrightarrow$		

Innovation, Learning Goals and AI

While the PICRAT Model can be useful for reflecting on how to integrate technology into a course, AI is not strictly and educational technology. As you reflect on your course goals, it may be useful to think about AI as an innovation being adopted on the career paths your students will take as well as where future employers are in the process of adoption.

Diffusion of Innovation
Diffusion of Innovation (DOI) aims to explain how, why, and the rate at which new ideas and technology spread. The characteristics of an innovation, as perceived by the members of a

social system, determine its rate of adoption. The four main elements in the diffusion of new ideas are: (1) the innovation; (2) communication channels; (3) time; and (4) the social system or context. You are probably familiar with the categories of groups within the social system adopting an innovation, 1) innovators, 2) early adopters, 3) early majority, 4) late majority, and 5) laggards (see the diagram below for percentages of a population in each category):
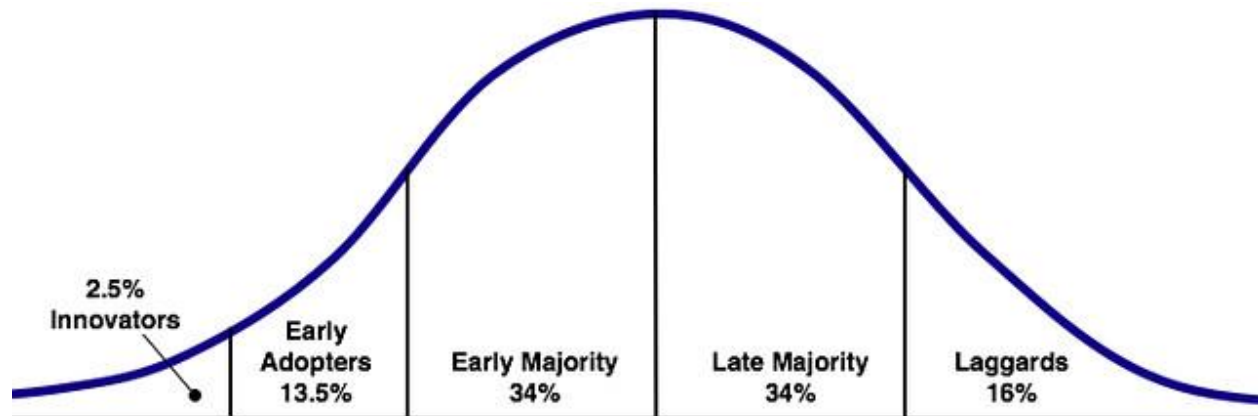
Reflection Questions
1. As you consider the use of GenAI in your course, where are your implementation strategies on the PICRAT model?
2. How are the careers and programs your students will pursue adopting AI?

Universal Design for Learning

As you begin to reflect on the design of your course consider Universal Design for Learning (UDL). UDL is a framework to improve and optimize teaching and learning for all people based on scientific insights with equal learning opportunities, regardless of (dis)ability, gender, age, or cultural background. It encourages educators to undertake the design process assuming diverse learners with varying abilities and skills. The following table aligns the backward design process with practical UDL strategies drawn from Luke, (2021).

Instructional Design	Universal Design for Learning strategies
Design Questions	• Embed inclusive design from the start • Diversify the curriculum • Co-design with learners
Learning Outcomes	• Define clear/achievable learning outcomes
Assessment Methods	• Provide flexible opportunities for assessment and feedback
Instructional Methods	• Consider effective teaching strategies • Present diverse voices and perspectives • Offer multiple strategies to present information • Design opportunities for cooperative learning • Review the timetable and delivery • Use technology appropriately
Evaluation Methods	• Evaluate course using an inclusive design checklist

Luke K. (2021). Twelve tips for designing an inclusive curriculum in medical education using Universal Design for Learning (UDL) principles. MedEdPublish, 10(1), 118. https://doi.org/10.15694/mep.2021.000118.1

Reflection Questions:

1. Which strategies have you already tried?
2. Which strategies seem challenging in your context?
3. About which strategies do you have more questions?

Big Rocks: The most important things

Imagine you need to fill a jar with some big rocks, pebbles, and sand. What do you put in the jar first?

This is a commonly used metaphor that has been in a variety of contexts.
If you start filling the jar by first adding sand, then pebbles, you will not have room for rocks.

The space in the jar represents the amount of time you have to spend on a variety of tasks during the session or semester. The big rocks represent the aspects of the course that are the most important.

The pebbles represent everything of medium importance.

And, finally, the sand represents all the smaller items that are less important.

The lesson? if you don't put the big rocks in the jar first, they won't fit in later.

The big rocks analogy is a reminder, that when you are designing your course, **PUT THE IMPORTANT THINGS IN FIRST.**

Activity 1

Go to Carmen and find the Big Rock activity and respond to questions. There is also a description of the activity in the CDI portfolio.

Session 1

Prompting GenAI

As Albert Einstein said, "If I were given one hour to save the planet, I would spend 59 minutes defining the problem and one minute resolving it."

Two tools that can help as you leverage GenAI as a partner in your course design project are the SPARC model and the TRACI prompting framework.

SPARC is an acronym designed to help you remember the components of an experiential iterative prompting cycle. The components are listed below:

Before prompting:
S-Self reflect on your teaching and yourself as an educator. What is important to you as an instructor and the designer of the course? What is your teaching philosophy, who are your learners and what is the context.

While prompting include
P- Prompt using a framework like TRACI.
>T- Task you want AI to do
>R- Role AI should take on
>A- Audience it is written to
>C- Create, response format
>I- Intent of the response: Include academic and pedagogical considerations

A-Academic requirements such as accreditation standards or discipline-based education research should inform the response to your prompt.
R-Research on pedagogy like Bloom's Taxonomy, Universal Design for learning, or Finks Significant Learning, should inform the response to your prompt.

After prompting
Critique the response to determine if it is suitable for you and your course.

The SPARC model is iterative so your critique informs the next prompt. Visit https:go.osu.edu/ai-start to learn more about prompting, SPARC and TRACI.

Learning Goals

Activity 2: Significant Learning
To begin thinking about course goals, Go to your CDI portfolio and complete the following reflection:

Think of one of the most significant learning experiences you have ever had.
- What Happened?
- Who was involved?
- Why was it significant?

According to Fink (2013), significant learning is
- learning that lasts beyond the end of the course (retention)
- learning that has been personally or professionally transformative (changes how students think, feel, or act in their lives)

Proximity Taxonomy

Fink (2013) proposes that significant learning is more likely to occur when the instructor has clearly articulated goals in the following domains.
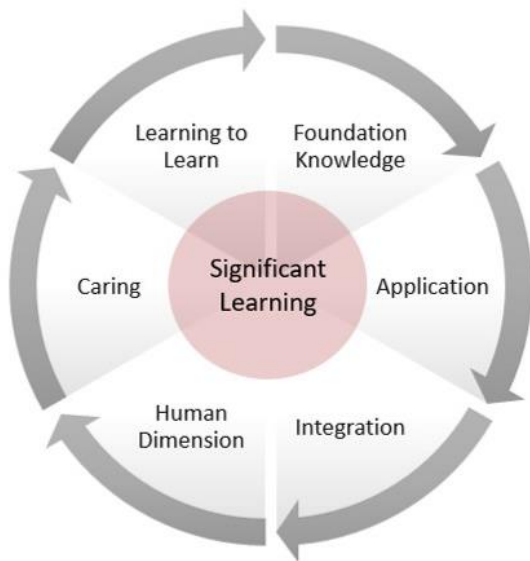
Foundational Knowledge
What key information (facts, terms, formulae, concepts, principles, relationships, etc.) is/are important for students to understand and remember in the future? What key ideas (or perspectives) are important for students to understand in this course?

Application
What kinds of thinking are important for students to learn? Critical thinking, in which students analyze and evaluate? Creative thinking, in which students imagine and create? Practical thinking, in which students solve problems and make decisions? What important skills do students need to gain? Do students need to learn how to manage complex projects?

Integration
What connections (similarities and interactions) should students recognize and make among ideas within this course? Among the information, ideas, and perspectives in this course and those in other courses or areas? Among material in this course and the students' own personal, social and/or work life?

Human Dimension

What could or should students learn about themselves? What could or should students learn about understanding others and/or interacting with them? What can you take forward with you from the course?

Caring

What changes/values do you hope students will adopt? Feelings? Interests? Ideas?

Learning How to Learn

What would you like for students to learn about learning? How to be successful students in a course like this? How to learn about this subject or discipline? How to become a self-directed learner of this subject? How to build a learning agenda of what they need/want to learn and a plan for learning it?

Course Goals

Now that you have articulated your big rocks, articulating the most important things a successful student will know or care about after your course, and reflected on one of your significant learning experiences, you are ready to start the process of planning a course by articulating course goals and aligning them to learning outcomes.

> *Note: You may be familiar with these concepts by other names. During the CDI, labels are consistent with language used in Ohio State course approval processes.*

When writing course goals, verbs should be broad and describe the internal change that happens in the student as a result of learning. Attaining the learning goal may require achievement of a variety of learning outcomes.

Some good verbs for goals are know, understand, grasp, appreciate, value. For example

Students will…
- know how to make decisions about…
- understand a variety of…
- grasp or value an appreciation for the complexity of…
- appreciate the real-world issues relating to…
- value how to ask good questions about…

Below is a table listing Fink's significant learning domains and examples of verbs to use when writing learning goals.

Significant Learning Domain	Learning Goals
Foundational Knowledge	Understand and remember
Application	Know how to
Integration	Connect
Human Dimension	Know themselves Understand others
Caring	Appreciate
Learning to Learn	Grasp

Consider which domains are common to your discipline and which might be more difficult to incorporate.

Activity 3

Go to your CDI portfolio and write course goals that articulate what you want students to know, understand, grasp, appreciate, or value after taking your course.

Expected Learning Outcomes

The goals you have just written guide the design of everything else in the course: assignments, assessments, content, course schedule, etc.

Expected Learning Outcomes (ELOs) are clear statements of the essential knowledge or skills students are expected to demonstrate by the end of a program, course, module, or assignment. ELOs help instructors make decisions about what and how to teach as well as how to assess learning. ELOs help learners understand why that knowledge and those skills will be useful to them.

Session 2

Writing ELOs

ELOs are learner-centered and address four components: the ABCs (and a D).

Audience: To develop learner centered ELOs, start with the phrase "Students will be able to" (SWBAT). In some cases, it is useful to describe the audience. For example, if you have learning goals that are recursive, or you are teaching a group of interdisciplinary learners, it may be useful to describe the audience. (For example, graduating student in the Bachelor of Fine Arts program will be able to... or first year nurse practitioner and third year medical students will be able to....)

Behavior: Follow the SWBAT phrase with an observable and measurable behavior or verb. You can find example verbs in the Bloom's Taxonomy Table below.

Context: Next provide the context for the assessment (a recital, reflective essay, case study, or exam, for example).

Degree: Finally describe the degree of proficiency associated with meeting the ELO.

SMART ELOs

Another way of approaching ELO construction is to use the SMART acronym, which was developed in the 1980s as a way to write management goals and objectives.

S	Specific to what the learner will be able to do
M	Measurable and can be observed by the end of the course
A	Attainable for the learner within specified contexts
R	Relevant to the needs of the learner
T	Time framed and achievable by the end of the course

As an aside, the acronym has also expanded to incorporate additional areas of focus for goal-setters. SMARTER, for example, includes two additional criteria:

- **Evaluated:** Assessing the extent to which an outcome has been achieved.
- **Reviewed:** Reflecting and adjusting behaviors.

Finally, ELOs must be aligned with a larger goal. The following is an example of alignment.

Goal: By the end of this course, students will understand that societal institutions are sites of power, organized via intersections of identity.

ELOs:
    • SWBAT identify the inequities of certain social institutions (e.g., media)
    • SWBAT describe how the injustices of these social institutions affect the lives of women
    • SWBAT analyze social institutions and social relationships

Learners who meet the set of defined outcomes should attain the learning goal. In the above example, the suggestion is that if a student is able to do the activities described in each of those three listed outcomes, the instructor could have confidence that the same student now understands that societal institutions are sites of power, organized via intersections of identity (the goal).

Bloom's Taxonomy Verbs

Below is a table with suggestions for the behaviors (verbs) that align with various domains of Bloom's Taxonomy, a framework for categorizing educational goals. Using tables like this can support designing instruction with a wider variety of assessment and teaching methods that are constructively aligned with learning goals and outcomes.

Verbs for Learning Outcomes

Cognitive

Remember	Understand	Apply	Analyze	Evaluate	Create
Define	Classify	Choose	Question	Arrange	Assemble
Duplicate	Describe	Use	Appraise	Assemble	Construct
List	Explain	Demonstrate	Test	Collect	Create
Memorize	Express	Dramatize	Examine	Combine	Write
Recall	Identify	Employ	Compare	Compose	Formulate
Repeat	Locate	Illustrate	Contrast	Conclude	Develop
Reproduce	Recognize	Interpret	Criticize	Construct	Design
State	Report	Operate	Debate	Create	
	Select	Solve	Discriminate	Design	
	Paraphrase	Schedule	Differentiate	Determine	
	Discuss	Shop	Distinguish	Diagnose	
	Translate	Sketch		Differentiate	

Affective

Receiving	Responding	Valuing	Organizing	Characterizing
Listen To	Reply	Attain	Organize	Believe
Perceive	Answer	Assume	Select	Practice
Be Alert To	Follow Along	Support	Judge	Continue To
Show Tolerance of	Approve	Participate	Decide	Carry Out
Obey	Continue		Identify With	

Psychomotor

Imitation	Manipulation	Precision	Articulation	Naturalization
Assemble	Acquire	Achieve	Adapt	Arrange
Attach	Build	Accomplish	Alter	Compose
Attempt	Conduct	Automatize	Change	Create
Bundle	Dismantle	Calibrate	Combine	Initiate
Construct	Execute	Control	Coordinate	Design
Calibrate	Fix	Direct	Develop	Initiate
Care For	Harvest	Differentiate	Express	Invent
Feel	Implement	Edit	Formulate	Manage
Dissect	Improve	Grade	Integrate	Originate
Duplicate	Maintain	Inspect	Modify	Process
Follow	Make	Measure	Rearrange	Refine
Mimic	Manipulate	Prune	Revise	Select
Notice	Operate	Regulate	Simplify	Separate
Reproduce	Produce	Sharpen	Solve	Verify
Sketch	Harvest	Operate	Raise	Simplify
Try	Highlight	Organize	Recheck	Simulate

Finally, it is important to note that Bloom's Taxonomy was revised in 2001. In the revised taxonomy, a separate taxonomy of the types of knowledge used in cognition was introduced.

- Factual Knowledge
    - Knowledge of terminology
    - Knowledge of specific details and elements
- Conceptual Knowledge
    - Knowledge of classifications and categories
    - Knowledge of principles and generalizations
    - Knowledge of theories, models, and structures
- Procedural Knowledge
    - Knowledge of subject-specific skills and algorithms
    - Knowledge of subject-specific techniques and methods
    - Knowledge of criteria for determining when to use appropriate procedures
- Metacognitive Knowledge

- Strategic Knowledge
- Knowledge about cognitive tasks, including appropriate contextual and conditional knowledge
- Self-knowledge

Aligning Goals and Outcomes

The table below includes the significant learning domains and is included to help you see the connection between learning goals outcomes and the significant learning proximity taxonomy.

Significant Learning Domain	Learning Goals	Blooms Taxonomy Domains
Foundational Knowledge	Understand and remember	Cognitive
Application	Know how to	Cognitive, Psychomotor
Integration	Connect	Cognitive, Psychomotor
Human Dimension	Know themselves Understand others	Cognitive, Affective
Caring	Appreciate	Cognitive, Affective
Learning to Learn	Grasp	Cognitive

Activity 4

Go to your CDI portfolio and the page titled "Learning Outcomes." Write learning outcomes for each of your goals.

Assessment

Now that you have drafted your learning goals and outcomes, it is time to determine appropriate evidence that students have achieved the outcome and begin thinking about the sequence of your course.

Here is a description of the iterative process the CDI follows.
- Selection of assessments that are aligned with specific ELOs.
- Scaffolding assignments to support experiential learning.
- Consideration of ways to organize a course and draft a course skeleton.
- Close examination of how to create transparent assignments, including grading and rubrics.

The following table provides a variety of learning activities organized by their alignment to Bloom's Taxonomy verbs used to write ELOs. This is a helpful framework for creating assignments.

Aligning Assessments with ELOs

Bloom's	Action Verbs	Assessment	Learning Activities

Knowledge
 	
Recall or recognition of specific information
	• Describing
	• Finding
	• Identifying
	• Listing
	• Locating
	• Naming
	• Recognizing
	• Retrieving
		• Definition
		• Fact
		• Label
		• List
		• Quiz/Test
		• Reproduction
		• Test
		• Workbook
		• Worksheet
			• Objective test items that require students to recall or recognize information:
			  o Fill-in the blank
			  o Multiple choice items with question stems such as "what is a…" or "which of the following is the definition of"
			  o Labeling diagrams
			  o Reciting (orally, musically, or in writing)

Comprehension Understanding of given information	• Classifying • Comparing • Exemplifying • Explaining • Inferring • Interpreting • Paraphrasing	• Collection • Example • Explanation • Label • List • Outline • Quiz/Test	• Papers, oral/written exam questions, problems, class discussions, concept maps, or other homework assignments that require (oral or written):

Bloom's	Action Verbs	Assessment	Learning Activities
	• Summarizing	• Recitation • Show/tell • Summary	○ Summarizing readings, films, speeches, etc. ○ Comparing and/or contrasting two or more theories, events, processes, etc. ○ Classifying or categorizing cases, elements, events, etc., using established criteria ○ Paraphrasing documents or speeches ○ Finding or identifying examples or illustrations of a concept, principle
Application	• Carrying out • Executing • Implementing • Using	• Demonstration • Diary • Illustration • Interview • Journal • Performance • Presentation • Quiz/Test • Sculpture	• Activities that require students to use procedures to solve or complete familiar or unfamiliar tasks and/or determine which procedure(s) are most appropriate for a given task. Activities include: ○ Problem sets, ○ Performances ○ Labs ○ Prototyping ○ Simulations ○ Clinical skills demonstration
Analysis Breaking information down into its	• Attributing • Comparing • Deconstructing • Integrating	• Abstract • Chart • Checklist • Database • Graph	• Activities that require students to discriminate or select relevant from irrelevant parts, determine how elements function

Bloom's	Action Verbs	Assessment	Learning Activities

component elements	• Organizing
	• Outlining
	• Structuring
		• Mobile
		• Outline
		• Quiz/Test
		• Report
		• Spreadsheet
		• Survey
			together, or determine bias, values or underlying intent in presented materials. These might include:
			  o Case studies
			  o Critiques
			  o Labs
			  o Papers
			  o Projects
			  o Debates
			  o Concept maps
			  o Differential Diagnosis

Evaluation
 	
Judging the value of ideas, materials and methods by developing and applying standards and criteria
	• Checking
	• Critiquing
	• Detecting
	• Experimenting
	• Hypothesizing
	• Judging
	• Monitoring
	• Testing
		• Conclusion
		• Debate
		• Investigation
		• Panel
		• Speech
		• Quiz/Test
		• Report
		• Portfolio
			• A range of activities that require students to test, monitor, judge or critique readings, performances, or products against established criteria or standards.
			Activities might include:
			  o Journals
			  o Diaries
			  o Critiques
			  o Problem Sets
			  o Product Reviews
			  o Case Studies
			  o Developing a treatment plan

Create Putting together ideas or elements to develop an original idea or engage in creative thinking	• Constructing • Designing • Devising • Inventing • Making • Planning • Producing	• Advertisement • Film • Media product • New game • Painting • Portfolio • Project • Song • Story	• Research projects • Musical compositions • Performances • Essays • Business plans • Website designs • Prototyping • Set designs • Lesson plans • Caring for patients with multiple chronic diseases

Assignments should be varied, meaningful, purposeful, relevant, and authentic. One of the ways that assignments can be made more authentic is to consider audiences that extend beyond the classroom and thinking about how to scaffold assignments to support experiential learning and preparing students to interact with authentic audiences.

Experiential Learning

Learning that is considered "experiential" contain all the following elements:
- Reflection, critical analysis and synthesis.
- Opportunities for students to take initiative, make decisions, and be accountable for the results.
- Opportunities for students to engage intellectually, creatively, emotionally, socially, or physically.
- A designed learning experience that includes the possibility to learn from natural consequences, mistakes, and successes.

How does it work?
Kolb's (1984) cycle of learning depicts the experiential learning process (see figure below). This process includes the integration of: knowledge—the concepts, facts, and information acquired through formal learning and past experience; activity—the application of knowledge to a "real world" setting; and reflection—the analysis and synthesis of knowledge and activity to create new knowledge"

Concrete Experience → Reflective Observation → Abstract Conceptualization → Active Experimentation
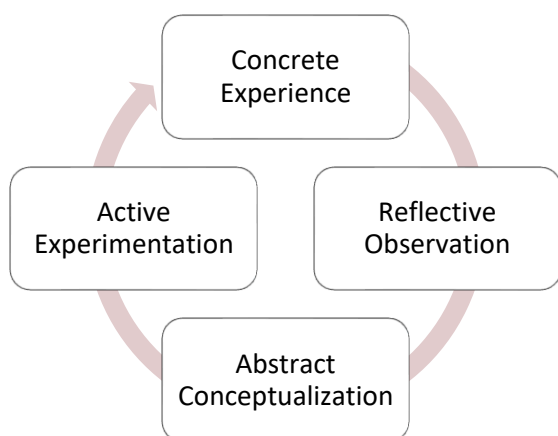
The table below provides an example of scaffolding assignments and considering audience to prepare learners for an authentic task. Across the top of the table are four categories of

audience: the teacher, the student (self/reflection), an anticipated local audience (your students may or may not show their work to this audience, but they have those persons in mind when creating the work), and an authentic audience (people who will actually see the students' work).

Example ELO: Students will be able to write a journal article.

Week and Emphasis	Audience			
	Teacher Only	Self/Reflection	Local Audience	Authentic Audience
(1) Knowledge		Literature		
(2) Apply	Create an outline		Research	
(3) Analysis		Modify outline based on feedback		
(4) Evaluate			Develop a poster for a student show case	
(5) Create		Revise based on feedback		Submit an article to a journal

Activity 5

Go to your CDI portfolio and the page titled "Scaffolding Meaningful Assignments." Brainstorm a series of assignments, considering the scaffolding of assignments to prepare learners for an authentic task.

Organizing Course Content

Now it's time to think about how a course is organized. Below are some reflection questions to help you begin thinking about your course organization.

How is content (both writing and thematic) usually structured in your discipline? In your courses?

Ways to organize content

- Chronologically
- Simple to complex
- Concrete to abstract
- Macro/micro
- distal/proximal
- How students learn
- Theory to applications
- Disciplinary classifications

- How students will use the information in social/personal/career
- How major concepts and relationships are organized in discipline
- How knowledge has been created in the field
- around a set of questions/problems/case studies
- How relationships occur in the real world

Reflection Questions:

- Why is content structured this way?
- What are the benefits and/or limitations of the above structure of course content?
- How can you incorporate input from learners and colleagues in your choices?
- What are some possible new ways of structuring the content of this course?
- Why would this be most beneficial?

Activity 6

Go to your CDI portfolio and the page titled "Complete a Course Skeleton." Develop an initial course skeleton by adding your ELOs and Assessments to the Integrated Course Plan (ICP).

Session 3

Mapping Your Course

Course skeletons or outlines are the basis for an ICP (Wiggins and McTighe, 2005). During this step your will make discipline specific decisions regarding which content to include in a course, focusing on major content topics/themes/theories etc. that will be covered. This content should be organized to help students meet designated learning outcomes.

Parallel content

If course goals and learning outcomes require students to master or have mastered other foundational skills or abilities first, then instructors may have to plan for what is known as "parallel content." Simply put, parallel content is "stuff students need to know in order to do something else." These skills, abilities, and foundational content pieces are often crucial components of our disciplinary work but are overlooked as course content.

Because parallel content includes skills that must be developed by students who successfully complete a course, it is important to give them the opportunity to develop and practice these skills or abilities.

During the content organization process, instructors should look for assignments where parallel content already exists but hasn't yet been made explicit. Sometimes a new assignment may need to be developed to facilitate this parallel content development (for example, a library assignment building up to a research paper or a low stakes homework using a Carmen feature before a high stakes assessment with the same tool).

Occasionally parallel content needs to be added to the course learning outcomes, particularly if it relates to a broader skills we expect students to build over several courses. Parallel content skills might include the following:

- communication skills
- rhetorical skills
- collaborative skills
- technological skills

- research skills
- analytical skills
- critical thinking skills
- problem-solving skills

- cognitive skills
- creativity
- professional dispositions

ICP Development

An Integrated Course Plan will include learning outcomes, assignments, course/disciplinary content, and parallel content. It will also articulate teaching strategies associated with these elements. The table below supports alignment and identification of these elements.

Week	ELOs	Assessment	Assignment	Content	Parallel Content	Teaching Strategies
1						Ignore for now
2						Ignore for now
3						Ignore for now
4						Ignore for now
5						Ignore for now

Activity 7

Go to your CDI portfolio and the page titled "Integrated Course Plan." Develop content for your Integrated Course Plan.

Rubric Development

A rubric is a grading guide that makes explicit the criteria for evaluating students' work. Rubrics inform students of expectations while they are learning. These tools also enable teachers to grade efficiently, judge student work against a standard, and communicate readily with each student. Three common examples are holistic, analytic, and single point.

- **A holistic rubric** breaks an assignment down into general levels at which a student can perform, assigning an overall grade for each level. For example, a holistic rubric might describe an "A" essay using the following criteria: "The essay has a clear, creative thesis statement and a consistent overall argument. The essay is 2–3 pages long, demonstrates correct MLA formatting and grammar, and provides a complete works cited page." Then the holistic rubric would list the criteria for a B, a C, etc.
- **An analytic rubric** breaks down general levels even further to include multiple categories, each with its own scale of success. Using the example above, the analytic rubric might have four grade levels, with corresponding descriptions, for each of the following criteria points: thesis, argument, length, and grammar and formatting.
- Like holistic and analytic rubrics, **the single-point rubric** breaks the aspects of an assignment into categories, clarifying to students what is expect of them in their work. Unlike other rubrics, the single-point rubric includes only guidance on and descriptions of successful work without listing a grade. It might look like the description of an A essay in the holistic rubric with space for the teacher to explain how learners have met the criteria or how can still improve.

Creating a Rubric

1. Write a brief description of the assignment at the top of the rubric.
2. Brainstorm a list of qualities or criteria you expect students to demonstrate? Ask yourself what is evidence of learning?
3. Review your list. Choose 4-5 primary criteria. List these criteria in the left column of the rubric.
4. Describe what top-level student work might look like for these 4-5 criteria. Write these descriptions in the "A" column.
5. Use examples of student work to refine the rubric (and the assignment).
6. Try it out in a course. Refine the rubric based on your evaluation of effectiveness and student feedback.

Activity 8

Go to your CDI portfolio and the page titled "Rubric Development." Draft a rubric for the transparent assignment you developed in the last activity.

Session 4

Transparency in Learning and Teaching (TILT) Framework

Studies have identified that providing greater transparency about academic work results in increases in areas that are established predictors of student success: their academic confidence, sense of belonging, and awareness of their improved mastery of the skills that employers value most when hiring (Winkelmes et al. 2015).

Instructors creating assignments using the TILT framework noticed increases in students' motivation in class, higher-level class discussions with sharper focus, more on-time completion of assignments, and fewer disputes about grades.

Transparent assignments communicate clearly to students the task, its purpose, and the criteria for task evaluation before they begin work.

Purpose: Explain how the assignment links to one or more course learning outcomes. Understanding why the assignment matters and how it supports their learning can increase student motivation and investment in the work.

Task: Outline steps of the task in the assignment prompt. Clear directions help students structure their time and effort. This is also a chance to call out disciplinary standards with which students are not yet familiar or guide them to focus on steps of the process they often neglect, such as initial research.

Criteria: Provide a rubric with straightforward evaluation criteria. Rubrics make clear parts of an assignment you care most about. Sharing clear criteria sets students up for success by giving them the tools to self-evaluate and revise their work before submitting it. Be sure to explain your rubric, specifically unpacking new or vague terms (Language like "argue," "close reading," "list significant findings," and "document" can mean different things in different disciplines.) It is helpful to show exemplars and non-exemplars along with your rubric to highlight differences in unacceptable, acceptable, and exceptional work. Engage students in reflection or discussion to increase assignment transparency. Have them consider how assignment outcomes connect to their personal lives or future careers. In-class activities that ask them to grade or compare sample assignments and discuss the criteria they used, engage in self- or peer-evaluation, or complete steps of the assignment when you are present to give feedback can all support student success.

Activity 9

Go to your CDI portfolio and the page titled "Transparent Assignments." Develop an assignment using the TILT framework.

Teaching Strategies

An Integrated Course Plan also includes teaching strategies to support learners as they attain the course learning outcomes.

When considering evidence-based instructional strategies to support learning, you might consider how to provide opportunities for students to interact with
- Course content
- Themselves/reflection
- The instructor
- Their classmates
- Anticipated Audiences
- Authentic Audiences

Additionally, consider what activities are useful for students to do with you (and with each other) in class (or online), as well as how you might structure student learning outside of class? What can students do on their own to practice the skills (while using the content) necessary for successful completion of assignments?

Studies have demonstrated that active learning benefits all students and can reduce or eliminate achievement gaps in STEM courses and promote equity in higher education. Below is a list of some active learning strategies and links to resources for learning more.

- Peer Instruction (see it https://www.youtube.com/watch?v=wont2v_LZ1E)
- Jigsaw (hear about it https://www.youtube.com/watch?v=Nrylh_-40ng)
- Think-Pair-Share (hear about it https://www.youtube.com/watch?v=bYoZLcfMHC4)
- Debate (hear about it https://www.youtube.com/watch?v=I1IeF7D7kkY)
- Case Studies (hear about it https://www.youtube.com/watch?v=kwjx1PV9RjI)
- Fishbowl Strategy (learn about it https://www.youtube.com/watch?v=p1q7WbWc8dE +-)
- Lightening Round
  (hear about it https://www.youtube.com/watch?v=I7_PfCBBcFI)
- Analogy (read about it https://www.tandfonline.com/doi/full/10.1080/10691898.2003.11910705)
- Discussion Boards (read about it https://teaching.resources.osu.edu/examples/effective-online-discussion)

- Polling (see it https://www.polleverywhere.com/videos/in-the-wild/poll-everywhere-at-university-of-westminister)
- Gallery Walk (see it https://www.youtube.com/watch?v=dPLk_aVhYwg)
- Simulations/Simulated Discussions (explore it https://www.kent.edu/ctl/simulation-teaching-strategy)

- Classroom Assessment Techniques (CATs)
  - Muddiest Point
  - Minute Paper
  - Entry/Exit Tickets
  - Concept Mapping

Activity 10

Choose an active learning strategy to use in your course. Go to your CDI portfolio and the page titled "Active Learning Planning Table." Draft a plan for implementing an active learning strategy.

Planning Course and Instructional Assessment and Evaluation

As is the case with courses, a backward design approach considering multiple domains of learning, as well as situational factors, should be adopted in planning the assessment and evaluation of the course and instruction.

Desired Outcomes for Instruction

In consideration of Bloom's Taxonomy, you may have outcomes that are strictly course content/skills-focused (Knowledge, Comprehension, Application), but you may also have one or more outcomes that fall into the Fink's significant learning domains (Human Dimension, Caring, Learning to Learn). Those alternative domains may not have direct forms of assessment that occur as part of the course. In those cases, it may be important to consider other forms of assessment that can provide evidence of and insights into achievement.

Aligned Assessment to Measure Impact of Instruction

Below is a list of methods to collect data and information aligned to desired outcomes of instruction.

- Direct student performance measures (for example, assessment scores, rubric-based metrics)
- Student perceptions of learning (via custom surveys)
- Student perceptions of experiences in the course (via custom surveys)
- Student reflections (learning journals, portfolios)
- Personal (instructor) reflections on teaching
- Mid-term feedback (for example, Small Group Instructional Diagnosis or via custom surveys)
- Observations of Instruction

Activity 11

Go to the "Planning Evaluation of Instruction" page in your CDI portfolio. Draft an evaluation plan including course outcomes, sources or data, and alignment rationale.

Selected References

Ambrose, S.A., Bridges, M.W., Lovett, M.C., DiPietro, M., & Norman, M.K.. (2010). How learning works: 7 research-based principles for smart teaching. San Francisco, CA: Jossey-Bass

Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing, Abridged Edition. Boston, MA: Allyn and Bacon.

Brown, P., Roediger III, H., & McDaniel, M. (2014). Make It Stick: The Science of Successful Learning. Boston, Massachusetts: Belknap Press. Retrieved from http://www.hup.harvard.edu/catalog.php?isbn=9780674729018

Designing Assessments of Student Learning https://teaching.resources.osu.edu/teaching-topics/designing-assessments-student

Fink, L.D. (2003). Creating significant learning experiences: An integrated approaches to designing college courses. San Francisco, CA: Jossey-Bass

Hurtubise, L., & Roman, B. (2014). Competency-based curricular design to encourage significant learning. Current Problems in Pediatric and Adolescent Health Care, 44(6), 164–169. https://doi.org/10.1016/j.cppeds.2014.01.005

Luke K., (2021). Twelve tips for designing an inclusive curriculum in medical education using Universal Design for Learning (UDL) principles ', MedEdPublish, 10, [1], 118, https://doi.org/10.15694/mep.2021.000118.1 How Learning Works

Reynolds and Kearns (2017). A Planning Tool for Incorporating Backward Design, Active Learning, and Authentic Assessment in the College Classroom. *College Teaching, 65(1), 17-27.*

TILT Higher Ed Examples and Resources https://tilthighered.com/tiltexamplesandresources

What is Experiential Learning https://experientiallearninginstitute.org/resources/what-is-experiential-learning/

Wiggins, G., & McTighe, J. (2005). Understanding by Design: Vol. Expanded 2nd ed. ASCD.

Appendix I: Course Design Institute Portfolio

This CDI portfolio can be used during the institute, as well as anytime you plan a course in the future.

Activity 1 Big Rocks: The most important things

Purpose: The big rocks analogy is a reminder to put the important things in your course first. Reflecting on your big rocks helps you to articulate the purpose of your course holistically. Writing them down will help colleagues understand your purpose as they provide input on your course design.
Task: Reflect on what is most important to you. Consider the questions below and which ones resonate with you most. Write your reflections in response to the questions prompts below.
Criteria for success: Your reflections should help you align your course design with your values and help others provide you with more meaningful feedback.

Question 1: What things about the course and/or your teaching matter most to you? What would you be unwilling to give up?

Question 2: How do you want your students to be different after taking your course? What would you hope they would say about the course 5 years later?

Question 3: What must happen for you to feel that the course has been successful?

Question 4: What is it about this course that makes it your course?

Question 5: What is the heart and soul of this course?

Question 6: How will integrating GenAI impact the things that matter to you most?

Activity 2 Significant Learning

Think of one of the most significant learning experiences you have ever had.

- What Happened?
- Who was involved?
- Why was it significant?

Activity 3 Course Goals

Purpose: Well written course goals provide the foundation for course mapping and the constructive alignment informs the design of teaching and assessment that supports student learning.

Task: Write down possible course goals. There is no perfect number of goals, but you likely will have 3-7 goals for each course you design.

Criteria for success: (Self and Facilitator)
Learning Goal Rubric
- Are verbs broad and do they describe the internal change that happens in the student as a result of learning?
- Are they written from the student point of view?
- Do they assume successful completion of the course?
- Do they align with multiple dimensions from Fink's significant learning?

Reflection: How can you examine your assumptions about learners and co-design with learners?

Goal A:

Goal B:

Goal C:

Goal D:

Goal E:

Goal F:

Goal G:

Activity 4 Learning Outcomes (ELOs)

Purpose: ELOs help instructors make decisions about what and how to teach as well as how to assess learning. They help learners understand why that knowledge and those skills will be useful to them.

Task: For each goal, write corresponding learning outcomes. You have space to get started; add or delete as you need for your course planning. You will likely need more space. Each goal will have 1-3 learning outcomes. If there are many outcomes for one goal, or you find that you have outcomes that don't fit with your goals, there may be another unarticulated goal for this course.

Criteria for Success: (Self, Peer, Facilitator) Use the ELO Writing Checklist:
- Uses student-centered language (Students will be able to … SWBAT)
- Includes one observable verb. (see Appendix Bloom's Taxonomy)
- Is clear and achievable (SMART)
- Focuses on one goal at a time
- Reflects the highest level of achievement expected in the course

Goal	Learning Outcomes
(A)	1. 2. 3.
(B)	1. 2. 3.
(C)	1. 2. 3.
(D)	1. 2. 3.
(E)	1. 2. 3.
(F)	1. 2. 3.
(G)	1. 2. 3.

Activity 5 Scaffolding Meaningful Assignments

Purpose: Scaffolding assignments can support experiential learning experience that provide opportunities for students to:
- Reflect, critically analyze, and synthesize
- Take initiative, make decisions, and be accountable for the results.
- Engage intellectually, creatively, emotionally, socially, or physically.
- Learn from natural consequences, mistakes, and successes

Considering how you will scaffold assignments can inform how you will organize your course.

Task: Choose one of your more complex learning outcomes (Analyze/ Evaluate or Create) and use the blank table below to brainstorm how you might scaffold assignments to support experiential learning. The columns in the table are a reminder of other audiences who might assess the learner's performance and provide feedback.

Criteria for Success: (Self and peers)
- Do assignments build from simple to more complex?
- Is student learning and success in the completing the complex assignment supported?
- Are multiple audiences involved during the semester?

Audience Emphasis	Teacher Only	Self/Reflection	Local Audience	Authentic Audience
Knowledge				
Comprehension				
Analyze				
Evaluate				
Create				

Activity 6 Complete a Course Skeleton

Purpose: Creating a course skeleton should help you draft the structure of the entire course.

Task: Think back through the previous modules, your notes, and the work that you've done so far. Create a course skeleton by adding the ELOs and assessment to the first two columns of the integrated course plan (below) with potential types of assessments.

Ways to organize content:
- Chronologically
- Simple to complex
- Concrete to abstract
- Macro/micro
- distal/proximal
- How students learn
- Theory to applications
- How students will use the information in social/personal/career
- How major concepts and relationships are organized in discipline
- How knowledge has been created in the field
- around a set of questions/problems/case studies
- Disciplinary classifications
- How relationships occur in the real world

Criteria for Success: (Self, Peer, Facilitator) Each assessment should align with at least one outcome, and all of your outcomes should be met by what you assign students to do in the course. Ask yourself the following:

- How have you considered student learning in developing the timetable and delivery?
- Are there flexible opportunities for assessment and feedback?

Activity 7 Integrated Course Plan

Purpose: The table below will ultimately inform the development of your syllabus. An integrated course plan (ICP) encourages constructive alignment of all elements of your course.

Task: Begin to complete this table by transferring the elements of your course skeleton. As you do, consider any changes in the order you would like to make. Add in the content and parallel content aligned with the assignments. Don't complete the teaching method column on this iteration.

You may want to make an entry for every major topic first and then fill in what you can fit, or each big question or theory you'll explore, and then see which smaller content topics are needed to support those larger blocks.

There is no "right" final integrated course plan look. Remember that the goal is to first CHOOSE which content structure best serves the course, and then to communicate that in a way that will support students.

Criteria for Success: (Self, Peers, Facilitator)

Questions to consider:
- Does the organization match your big rocks and goals?
- Do all the elements of the course align?
- Are assessment scaffolded?
- What parallel content is necessary?

Integrated Course Plan

Week	ELOs	Assessments	Content	Parallel Content	Assignments	Teaching Strategies
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
Finals						

Notes:

Activity 8 Rubric Development

Purpose: Rubrics make it clear to learners how assignments will be evaluated. Effective rubrics can take a variety of forms. Creating a clear rubric is a great way to begin the process of clarifying the task and can also help as you begin thinking about how to share effective examples of the criteria for success.

Task: Consider the assignment you have selected to create or improve through application of the TILT framework. Decide what type of rubric would be most useful to you and to your students and begin drafting using the rubric templates found below.

Criteria for Success: (Self, Facilitator)
- Is the type of rubric selected appropriate for the assignment?
- Does it clarify expectations for learners?
- How will you gather data to evaluate and revise the rubric?

Analytic Rubric Example:
https://cft.vanderbilt.edu/wp-content/uploads/sites/59/Rubric-Opinion-Paper-DB.pdf

Holistic Rubric Example:
https://cft.vanderbilt.edu/wp-content/uploads/sites/59/Rubric-Research-Paper-Winona-State.pdf

Single Point Rubric Example:
https://www.cultofpedagogy.com/single-point-rubric/

Holistic Rubric Template

Level	Rating scale value/metric
A level	Describe appropriate performance indicator
B level	Describe appropriate performance indicator
C level	Describe appropriate performance indicator
D Level	Describe appropriate performance indicator

Analytical Rubric Template

Criterion	Insert first rating scale value/metric	Insert second rating scale value/metric	Insert third rating scale value/metric
Insert first rubric criterion/attribute	Describe appropriate performance indicator	Describe appropriate performance indicator	Describe appropriate performance indicator
Insert second rubric criterion/attribute	Describe appropriate performance indicator	Describe appropriate performance indicator	Describe appropriate performance indicator
Insert third rubric criterion/attribute	Describe appropriate performance indicator	Describe appropriate performance indicator	Describe appropriate performance indicator
Insert fourth rubric criterion/attribute	Describe appropriate performance indicator	Describe appropriate performance indicator	Describe appropriate performance indicator

Single Point Rubric Template

Criterion	Things to improve	Rating scale value/metric	Things that are amazing
Insert first rubric criterion/attribute		Describe appropriate performance indicator	
Insert second rubric criterion/attribute		Describe appropriate performance indicator	
Insert third rubric criterion/attribute		Describe appropriate performance indicator	
Insert fourth rubric criterion/attribute		Describe appropriate performance indicator	

Activity 9 Transparent Assignments

Purpose: The Transparency in Learning and Teaching (TILT) Framework provides instructors with a practical way to develop and implement transparent assignments.

Task: Choose an assignment to develop or revise using the TILT Framework. Complete the table below by briefly describing the assignment at the top. Then list the learning outcomes from the course that align to this assignment. Continue to fill in rows 2, 3, and 4 as you describe the Purpose, Task, and Criteria for Success, and Examples.

Criteria for Success: (Self, Peer, Facilitator) Refer to the Transparent Assignment Template and Checklist.

Assignment Description

Component	
Aligned ELO(s)	
Purpose	*Skills* *Knowledge*
Task	
Criteria for Success	
Examples	

Activity 10 Active Learning Planning Table

Purpose: Studies have demonstrated that active learning benefits all students and can reduce or eliminate achievement gaps in STEM courses and promote equity in higher education. The table below will help you plan instruction that supports active learning.

Task: Begin to complete the Active Learning Planning Tool* by considering your ELOs and choosing an active learning strategy that aligns with your ELOs and assessment methods. Develop your daily plan by developing descriptions of the activities, student work, location, media, and materials

Space is available for you to plan three days of activities. However, you may need to plan activities that take more of less time.

Criteria for Success: (Self, Peer, Facilitator)

Do all the elements of the activity align? Is any parallel content necessary?

*Table modified from Reynolds, H. and Kearns, K. D. (2016). A Planning Tool for Incorporating Backward Design, Active Learning, and Authentic Assessment in the College Classroom. College Teaching, 65:1, 17-27, DOI: 10.1080/87567555.2016.1222575 (http://dx.doi.org/10.1080/87567555.2016.1222575)

Active Learning Planning Tool

Design Step	Elements	Description			
Identify desired results	Learning Goals/ Outcomes	Specify the knowledge, skills, and/or values that students will acquire.	Knowledge, Skill		Value
Determine acceptable evidence	Assessment	Specify how students will demonstrate their learning, considering formative vs. summative assessment and authentic context.			
Plan learning experiences and instruction	First Exposure	Identify pre-class homework to introduce basics & prep students for more sophisticated & active learning in class			
			Hook Specify an engaging entry point into the unit or class period	Day or Time 1	Day or Time 2	Day or Time 3
	Activities	Building from the first exposure homework, identify teaching & learning activities to promote the learning goals and enable authentic assessment			
	Student Work	Describe active vs. passive work that students will do			
	Location	Specify where each activity will take place			
	Media and Materials	Specify the types of teaching aids needed for each activity			

Reflection	Critique the learning experiences and instruction in light of the actual results. What worked well versus what would you do differently next time, in terms of student preparation, classroom activities and student work, media and materials, and time management.

Activity 11 Planning Evaluation of Instruction

Reflect on the Big Rocks, Goals and ELOs defined earlier. Identify which of these are to be used for evaluation of your course design/redesign effort. You may choose to focus on a single element/domain or to evaluate all of the outcomes defined. Remember that for every outcome selected for evaluation, one or more aligned opportunities for assessment should be identified. As a reminder, examples include, but are in no way limited to, the following:

As a result of the instruction provided,
1. Students are able to demonstrate learning effectively on assessments aligned to course learning outcomes.
2. Students report motivation to engage and to learn.
3. An environment of inclusion and equity is created for all learners.
4. Members of student groups communicate consistently and effectively.

List each of the selected outcomes for evaluation of instruction in the first column of the table below. In the second column, list sources of data that align to each selected outcome. In the third column, briefly state a justification for how the suggested measure works to assess achievement of the aligned outcome. Be sure to include at least one source of data for each selected outcome. Multiple data sources are desirable to allow for potential triangulation.

Data Sources and Outcome Alignment Table

Outcomes for Instruction	Aligned Data Sources	Justification of Alignment

Appendix II: CDI GenAI prompts

There are a variety of strategies for GenAI prompting including natural language, structured, and prompt chains. Natural language prompts use conversational language in a conversation with AI. Adding phrases like "go step by step", "go slow", and "ask me questions before you start so that your response will be more helpful" can help improve the prompting conversation with AI. The TRACI framework provides guidelines for what is included in a prompt and comprises the components T-Task, R-Role, A-Audience, C-Criteria, and I-Intent. Structured prompts use a precise format that can include a description and rules for each component. Prompt chaining is a process of iterative prompting to take advantage of the context and conversation in previous prompts.

Examples of CDI prompts can be found at https://go.osu.edu/ai-prompts .

Appendix III Blooms Taxonomy

The table below provides examples at various levels of Blooms Taxonomy of information used to complete an integrated course plan including:

- Verbs used for creating ELOs
- Types of assessments used that provide evidence that is appropriate for demonstrating attainment of the learning outcomes
- Sample assignments.

Bloom's	Action Verbs	Assessments	Assignments

Knowledge
 	
Recall or recognition of specific information
	• Describing
	• Finding
	• Identifying
	• Listing
	• Locating
	• Naming
	• Recognizing
	• Retrieving
		• Definition
		• Fact
		• Label
		• List
		• Quiz/Test
		• Reproduction
		• Test
		• Workbook
		• Worksheet
			• Objective test items that require students to recall or recognize information:
			  o Fill-in the blank
			  o Multiple choice items with question stems such as "what is a..." or "which of the following is the definition of"
			  o Labeling diagrams
			  o Reciting (orally, musically, or in writing)

Comprehension
 	
Understanding of given information
	• Classifying
	• Comparing
	• Exemplifying
	• Explaining
	• Inferring
	• Interpreting
	• Paraphrasing
	• Summarizing
		• Collection
		• Example
		• Explanation
		• Label
		• List
		• Outline
		• Quiz/Test
		• Recitation
		• Show/tell
		• Summary
			• Papers, oral/written exam questions, problems, class discussions, concept maps, or other homework assignments that require (oral or written):
			  o Summarizing readings, films, speeches, etc.
			  o Comparing and/or contrasting two or more theories, events, processes, etc.
			  o Classifying or categorizing cases, elements, events, etc., using established criteria

Bloom's	Action Verbs	Assessments	Assignments
			o Paraphrasing documents or speeches o Finding or identifying examples or illustrations of a concept, principle

Application	• Carrying out
	• Executing
	• Implementing
	• Using
		• Demonstratio n
		• Diary
		• Illustration
		• Interview
		• Journal
		• Performance
		• Presentation
		• Quiz/Test
		• Sculpture
			• Activities that require students to use procedures to solve or complete familiar or unfamiliar tasks and/or determine which procedure(s) are most appropriate for a given task. Activities include:
			  o Problem sets,
			  o Performances
			  o Labs
			  o Prototyping
			  o Simulations
			  o Clinical skills demonstration

Analysis
 	
Breaking information down into its component elements
	• Attributing
	• Comparing
	• Deconstructin g
	• Integrating
	• Organizing
	• Outlining
	• Structuring
		• Abstract
		• Chart
		• Checklist
		• Database
		• Graph
		• Mobile
		• Outline
		• Quiz/Test
		• Report
		• Spreadsheet
		• Survey
			• Activities that require students to discriminate or select relevant from irrelevant parts, determine how elements function together, or determine bias, values or underlying intent in presented materials. These might include:
			  o Case studies
			  o Critiques
			  o Labs
			  o Papers
			  o Projects
			  o Debates
			  o Concept maps
			  o Differential Diagnosis

Bloom's	Action Verbs	Assessments	Assignments

Evaluation
 	
Judging the value of ideas, materials and methods by developing and applying standards and criteria
	• Checking
	• Critiquing
	• Detecting
	• Experimenting
	• Hypothesizing
	• Judging
	• Monitoring
	• Testing
		• Conclusion
		• Debate
		• Investigation
		• Panel
		• Speech
		• Quiz/Test
		• Report
		• Portfolio
			• A range of activities that require students to test, monitor, judge or critique readings, performances, or products against established criteria or standards. Activities might include:
			  ○ Journals
			  ○ Diaries
			  ○ Critiques
			  ○ Problem Sets
			  ○ Product Reviews
			  ○ Case Studies
			  ○ Developing a treatment plan

Create Putting together ideas or elements to develop an original idea or engage in creative thinking	• Constructing • Designing • Devising • Inventing • Making • Planning • Producing	• Advertisement • Film • Media product • New game • Painting • Portfolio • Project • Song • Story	• Research projects • Musical compositions • Performances • Essays • Business plans • Website designs • Prototyping • Set designs • Lesson plans • Caring for patients with multiple chronic diseases