

Principles of Good Course Design

Introduction: The Value of Backwards Design

“Our lessons, units, and courses should be logically inferred from the results sought, not derived from the methods, books, and activities with which we are most comfortable. Curriculum should lay out the most effective ways of achieving specific results... in short, the best designs derive backward from the learnings sought.”¹

“Backwards design” is a framework where goals are established before selecting topics, activities, and content. It helps academic programs align courses directly to the program’s overarching goals, and focus instructors on student outcomes. This approach has several benefits:

- Streamlines courses by removing material that does not directly relate to program goals
- Ensures that students will be taught what we promised them
- Makes accreditation easier, because the program can clearly show when and how each of the program outcomes is achieved



As an instructor, you may begin the course design process with several assessments, activities, readings, videos, etc. in mind. Pausing course development to clarify goals and align outcomes may feel like a step backward. However, aligning all activities, assessments, and content to the course and program goals will help keep the course design focused on the specific skills students need to achieve in the limited timeline of the course. Your existing materials may help you articulate these outcomes.

¹. Wiggins, G., & McTighe, J. (2005). *Understanding by Design*, 2nd Ed. (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Step 1: Align to Program Goals

We align each course to program goals to be sure each course stays focused on topics directly related to the overarching goals of the program. This alignment is important for several reasons: it ensures our courses are supporting our stated expectations for student learning, helps faculty select the most relevant topics to include in a course, and supports accreditation efforts.

The program’s goals may have been articulated in relevant accreditation documents. If these goals do not yet exist, Noodle Partners would be pleased to help the program faculty determine what these goals should be.

Step 2: Set your Course Objectives

Course objectives are broad statements of what we expect students to be able to do after the completion of the course. Ideally, they also motivate students by connecting the course to their own goals and expectations. Good course goals:

- Clearly and succinctly explain the main topics or themes of the course
- Answer the question “why should you care about this course material?”
- Connect this course to overall program goals, job functions, or applications beyond the classroom.

	Example	Why?
Good Objective:	Design a crisis response that anticipates the perspectives and interests of various business stakeholder groups.	The objective connects to a student’s motivations, and connects to future job functions. Clearly states what will be measured.
Poor Objective:	Understand the practices of good leaders in crisis situations	Vague and not actionable for professionals; ultimately demotivating, as it can never be achieved. Consider why the student needs to understand these practices -- they probably need them so that they can apply the principles in practice. The successful application of some specific knowledge would make a better course objective.

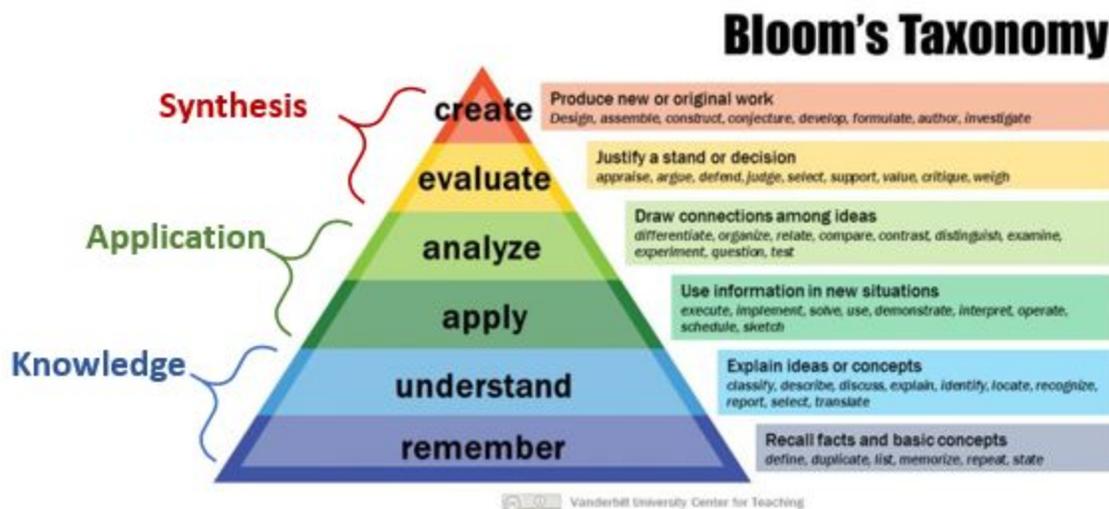
Step 3: Define your Learning Outcomes

Courses are divided into modules, or units of instruction. Module-level learning outcomes are the specific skills we expect students to be able to do successfully upon completion of the unit. Taken together, module outcomes let us know whether students have achieved the overarching course goals. Good learning outcomes:

- Support the course goals
- Are measurable by direct observation of student performance
- State what students will be able to *do* by the end of the course, not what they will *know*
- Ideally, addresses the level (depth/complexity) of learning expected

Knowledge, Application, and Synthesis

Good learning outcomes can be classified at increasing levels of complexity and specificity on Benjamin Bloom’s Taxonomy of Learning. We use a simplified form of this taxonomy, comprised of Knowledge, Application, and Synthesis.



Mcdaniel, R. (2018, August 13). Bloom's Taxonomy. Retrieved and adapted from <https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>

Learning outcomes leverage active language that drives student performance up the taxonomy. [Read more about constructing good learning outcomes](#) at the Iowa State Center for Excellence in Teaching and Learning.

	Example	Why?
Good Outcome:	Students will assess at a basic level the misalignment of the structure of a firm's operations	Aligns to course objective. Tells what students will specific skills students will be able to do (assess misalignment of firm’s structure with its

	with its customer value proposition	customer value proposition) at what level (basic).
Poor Outcome:	Students will understand operations and customer value proposition	Does not give details about <i>how</i> we will know whether students understand operations and customer value proposition, or what the students should be able to do with that understanding.

Step 4: Plan Authentic Assessment

Authentic assessments replicate the challenges and standards of performance typically faced by professionals in the field.² Authentic assessments align with the [type of knowledge being learned](#). For example, many instructors attempt to assess procedural knowledge through an exam. While good exam questions can reveal if a student knows the steps in the process (factual knowledge), they cannot reveal if a student can perform the process successfully (procedural knowledge). A better, authentic assessment of procedural knowledge involves having the student demonstrate the process. In the context of backward design, authentic assessments replicate or simulate professional tasks that reflect the course objectives and outcomes. When designing assessments, work to provide students with tasks related to their future professional challenges.

Examples:

- Cases, prepared in writing or presented verbally, completed individually or in groups
- Written exams which include complex problem-solving, case-based questions, and other proofs of complex thought
- Project plans and presentations
- Role-playing exercises

Note that most of the assessments created for face-to-face teaching can be ported to an online format by using the correct technology. Learn more about authentic assessments at the [University of Indiana Center for Innovative Teaching and Learning](#). Although the above examples reflect common methods of authentic assessment, creating an authentic assessment is more about capturing the feel of a real professional challenge. As such, an authentic assessment can take any form so long as it achieves this goal. The table below³ further outlines the qualities that distinguish an authentic assessment from a traditional (e.g. exam, problem set) assessment.

² Wiggins, G. (1989). *A true test: Toward more authentic and equitable assessment*. Phi Delta Kappan, 70(9), 703–713. Retrieved January 16, 2019 from <https://grantwiggins.files.wordpress.com/2014/01/wiggins-atruetest-kappan89.pdf>

³ Mueller, J. (2018). Authentic assessment toolbox. Retrieved from <http://jfmueeller.faculty.noctrl.edu/toolbox/whatisit.htm>

Traditional Assessments	Authentic Assessments
Selecting a response	Performing a task
Contrived	Real-life
Recall/Recognition	Construction/Application
Teacher-structured	Student-structured
Indirect evidence	Direct evidence

Step 5: Design Active and Social Learning Experiences

Active Learning

“Active learning is generally defined as any instructional method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing.”⁶ Stellar online education can match, or even surpass, the quality of face-to-face learning if students are actively engaged in creating and integrating knowledge, rather than passively absorbing it.⁵

Examples of active learning

- Phased cases, in which partial information is distributed to students with question prompts. Students are led to “discover” key principles as additional material and concepts are shared.
- Frequent knowledge checks during delivery of course material
- Computer-based simulations and interactive tools

Learn more about [active learning online](#) from the University of Florida.

Social Learning

Learning occurs best in a social context (Vygotsky, 1978). We learn best when we can discuss and explore the things we are learning with others.⁶ Although online courses may lack the amount of face-to-face time as full-time in person courses, there are ample opportunities to create a positive social environment in an online setting where students can interact with and learn from one another. As an instructor, you can lay the groundwork for these social environments, and then step back to let the

⁴Prince, M. (2004). [Does Active Learning Work? A Review of the Research](https://umich.box.com/s/rjt2ihap60cbr7w189ztx1kadjeihq). Journal of engineering education, 93(3), 223-231.

⁵Dixon, M.D. (2010) [Creating effective student engagement in online courses:What do students find engaging?](#) Journal of the Scholarship of Teaching and Learning, Vol. 10, No. 2, June 2010.

⁶ Vygotsky, L.S. (1978) *Mind in Society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

environment evolve organically. It is important to check in regularly to ensure that students are respecting course rules and that they are not perpetuating misconceptions about course content⁷.

Examples of social learning

- Student-to-student comments over a text or video
- Peer review and peer teaching
- Cooperative group work
- Threaded discussions
- Live class sessions through Zoom or other video conference tools

Step 6: Select and/or Develop Content

It's common to think that the first step in course design is to decide what content needs to be delivered to students. However, especially when dealing with a new course format, a compressed schedule, or a brand new course, it can be difficult to sort the “need to know” topics from the “nice to know” topics. Putting content creation last helps ensure that all the content created for the course does, in fact, serve the learning objectives of the course.

Content can be selected from pre-existing sources or created de novo by the instructor and media development team.

Curated content

Pre-existing sources, such as journal articles, textbooks web pages, news outlets textbooks, or well-produced online videos, can be used. Be sure to follow copyright and fair use guidelines. If existing sources present content in large blocks, they can often be trimmed or broken up with opportunities for active learning and assessment.

Before adding additional content, ask:

1. Will the content speak to the outcomes and objectives?
2. Will students already know this?
3. Is the content selection focused, without too many “nice to have” pieces? Often, a chapter is better than a book; a video excerpt is better than a full video.

Original Content

New content can be created in a number of ways:

- Text- and image-based explainers - often with embedded student interactions
- Animations of concepts
- Videos of instructor-led teaching

⁷Rovai, A. P. (2007). Facilitating online discussions effectively. *Internet and Higher Education*, 10(1), 77–88.

While many instructors assume that video is the preferred modality for content delivery, course topic and instructor preference determine which media are used to deliver course content. Noodle Partners discourages including more than 1-3 original videos in any module, and many effective modules can be created without any original video.

If a video is chosen, production will be much more involved than simply recording a person teaching a course in a classroom. Good video is:

- Broken into short clips or chapters
- Tightly focused on one topic
- Visually interesting beyond a “talking head and PowerPoint slide,” such as lightboard annotations, dynamic acting, intercuts of video, animated examples, etc.
- An alignment of the audio message with the visual images such that the two are facilitating and not competing for the student’s attention.

Works cited and more information

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