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Collaborating with Faculty to Compose Exemplary Learning Objectives

Matthew M. Acevedo^A

Inclusion of well-written, measureable, and student-centered learning objectives represents a major component in the Quality Matters (QM) higher education rubric. However, when an instructor-expert and instructional designer collaborate to create an e-learning product, oftentimes the instructor-expert either comes to the table with course and/or unit learning objectives that are already prepared, but are not measurable, student-centered, or aligned with planned instructional materials and strategies; or has no learning objectives at all. The responsibility then falls on the instructional designer to not only explain the importance of properly written learning objectives, but also to guide and support the instructor-expert through the process of composing learning objectives that are measureable and appropriate for the e-learning product. This paper discusses the purpose and importance of learning objectives and suggests several strategies for instructional designers, faculty trainers, and others who work with instructor-experts to compose learning objectives. These strategies are based on commonly encountered scenarios and are framed around a discussion of terminal and enabling objectives. These strategies also represent an alternative to the common practice of providing an instructor-expert with a list of Bloom's Taxonomy-aligned verbs, and can aid in successful collaboration leading to compliance with learning objective-related QM standards.

Keywords: learning objectives, faculty collaboration, higher education instructional design, Quality Matters

The collaborative process that takes place as a catalyst for the creation of an e-learning product, whether it is a higher education course, a corporate training module, or some other type of instructional digital object, is a unique one. Very often, two individuals – an instructor-expert and an instructional designer – are responsible for working together to design and develop the end product (Aleckson & Ralston-Berg, 2013), and e-learning courses in the higher education space are no exception. The relationship is unique as a result of the wildly varying backgrounds of the two parties – the instructor-expert is typically a scholar in a field unrelated to education, and a competent instructional designer is well versed in learning theories, instructional strategies, design thinking, instructional design process models, and uses of technology to promote learning.

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Further adding to the unique dynamic of this relationship is the idea that everyone, innately, is a teacher. In a recent webinar, well-known instructional design scholar M. David Merrill recounts a story in which he silently and patiently listened to his brother-in-law, a nuclear physicist, describe advanced and complicated mathematical derivations related to particle physics. Afterward, when Merrill began discussing his own work related to instructional design theory, his brother-in-law interrupted him and argued his points, feeling qualified to do so since “everyone is a teacher” (Merrill, 2013). The point is valid: parents and family members instinctively teach children basic skills and manners; friends may naturally teach other friends hobbies and games. Teaching and learning are part of the human experience.

A natural extension of this is the idea that faculty members may feel completely prepared to teach subjects in which they are experts or scholars. As a result, these instructor-experts may come to the drawing board early in the e-learning design process with learning objectives prepared, and, oftentimes, these learning objectives are not measureable, student-centered, realistic, or aligned with the planned assessment strategy. The responsibility then falls on the instructional designer to not only explain the importance of properly written learning objectives, but also to guide and support the instructor-expert through the process of composing appropriate learning objectives.

Learning Objectives and the Quality Matters Program

The Quality Matters Program is an organization dedicated to the promotion of quality assurance in online courses in the higher education and K–12 arenas through an iterative, faculty-centered peer review process. Quality Matters (QM) also emphasizes inter-institutional collaboration, faculty training, and implementation of research-based best practices in online course design. Courses that undergo the QM review process are evaluated based on a detailed rubric with standards for the course’s learning objectives, assessment strategy, instructional materials, learner engagement, use of technology, learner support, and accessibility.

In a session at the Quality Matters’ 5th Annual Conference on Quality Assurance in Online Learning, an audience of approximately ninety – mostly instructional designers – were asked to submit to a live poll via text message (see Figure 1 below); the prompt was “Working with faculty to compose learning objectives can often be...,” and responses were enlightening. Typical replies included “frustrating,” “maddening,” “an uphill battle,” “a challenge,” and even “painful” (Acevedo, 2013).

Clearly, working with faculty to compose objectives represents a challenge for instructional designers, faculty leaders, faculty trainers, and others who work with instructor-experts in higher education environments. In this article, I will provide a framework, based on common scenarios, for collaborating with faculty members during the process of either composing new, or rewriting ineffective learning objectives. Additionally, I will include discussion as to how this process relates to the QM review process, since learning objec-



Figure 1. Sample responses from the text message poll.

tives represent a significant portion of the QM rubric.

The Importance of Learning Objectives

Robert Mager, likely the foremost classical authority on learning objectives, describes a learning objective as “an intent communicated by a statement describing a proposed change in a learner – a statement of what the learner is to be like when he has successfully completed a learning experience. It is a description of a pattern of behavior (performance) we want the learner to be able to demonstrate” (1962, p. 2). According to Mager, “When clearly defined goals are lacking, it is impossible to evaluate a course or program efficiently, and there is no sound basis for selecting appropriate materials, content, or instructional methods” (p. 2).

Learning objectives, derived from an appropriate needs analysis, serve as the underpinning to all well-known instructional design process models. According to Dick, Carey, and Carey, learning objectives “are an integral part of the design process [...] Objectives serve as the input documentation for the designer or test construction specialist as they prepare the test and the instructional strategy” (2009, pp. 113–114). Furthermore, “objectives are used to communicate to both the instructor and learners what may be learned from the materials” (p. 114). Renowned educational psychologist Robert Gagné further elaborates on the importance of informing learners of the objectives in his classic text, *The Conditions of Learning*:

[T]he learner must be informed of the nature of the achievement expected as an outcome of learning. [...] The purpose of such a communication to the learner is to establish an expectancy of the performance to be achieved as a result of learning. [...] The primary effect of providing learners with an expectancy of the learning outcome is to enable them to match their own performances with a class of performance they expect to be “correct” (Gagné, 1977, p. 291).

Lastly, learning objectives are invaluable instruments in a climate increasingly focused on outcomes assessment and alignment with institutional, regional, and national standards.

Some, however, have expressed skepticism or disillusionment with the use of learning objectives. Rosenberg (2012), for example, questions the value of presenting learning objectives to students:

[D]o objectives truly help the learners? [...] We’ve all been there; sitting in class while the instructor reads (or we view online) any number of statements, sometimes dozens of them, for each lesson or module, that often begin, “at the conclusion of this course, the student will be able to...” Each objective focuses on a specific skill or knowledge taught in the course, but may be too much in the weeds to answer students’ bigger questions like, “Why am I taking this course?” “What’s in it for me?” and “How will this help me down the road?” (para. 5)

Rosenberg offers that learning objectives don’t offer students a sense of value in the course, and should be replaced (or supplemented with) a list of statements of expectations to “truly broadcast the value and worthiness of your training efforts” (para. 10). Rossett (2012) counters Rosenberg directly: “Marc, you urge us to add expectations to [learning objectives], ex-

pectations that assure links to work and results. I say that good [learning] objectives are themselves that statement of expectations” (para. 11).

Keeping in mind a terminal goal of a successful QM review, it will be assumed the learning objectives are, indeed, vital and foundational to the design of effective and quality instruction.

It should be emphasized that, despite their importance, learning objectives are of little value if not constructed properly. The most detailed, comprehensive learning objectives are framed using the “ABCD” model: audience, behavior, conditions, and degree. Audience refers to the targeted learners, behavior refers to what the learner is expected to be able to do after instruction, conditions refer to any setting or circumstance in which the behavior should occur, and degree refers to the acceptable standard of performance of the stated behavior. An example of an ABCD objective is “Given a right triangle with stated lengths of each leg, eighth-grade students will be able to use the Pythagorean Theorem to determine the length of the triangle’s hypotenuse with 90% accuracy.” In this example, the audience is “eighth-grade students,” the behavior is “determine the length of the triangle’s hypotenuse,” the condition is “given a right triangle with stated lengths of each leg,” and the degree is “with 90% accuracy.”

In higher education environments, including e-learning, the ABCD framework might be overkill. The audience (“college students” or similar) is implied by the context of the institution or course and stating it would be redundant. The condition is typically also implied by the provided instructional materials and sequence. Including the degree element in higher education environments has the downside of declaring a less than optimal expectation (why

not expect 100%?). Mastery of the objective in college courses is typically assessed on a sliding scale (A through F). The behavior, then, is the most essential element of the learning objective. This is the element that is evaluated during a QM review, and it is also the most misunderstood and most misrepresented aspect.

QM Standard 2 requires learning objectives at both the course level and module or unit level that are student-centered (“The student will...” as opposed to “This course will...”) and measurable. This measurable quality is the one with which faculty members often seem to have the most trouble. There are certain words and phrases that come up time and time again that are vague and immeasurable (see Table 1). The problem is not that instructors (and instructional designers) don’t want students to accomplish these objectives; rather, these objectives cannot be assessed, because they are too open to interpretation, they are internal processes, or they are, by their nature, entirely subjective. Sound learning objectives should reflect measurable, observable, external behaviors that can be evaluated and assessed.

Working with Faculty

A common practice among instructional designers, faculty trainers, and others who are working with instructor-experts to compose learning objectives, oftentimes in preparation for QM review, is to hand over a sheet of paper with Bloom’s Taxonomy and a list of measurable verbs that correspond to each level of the hierarchy. These lists are common on the internet and found easily with a basic search engine query. The designer or trainer informs the instructor-expert to reframe his or her objectives with these terms with no further explanation or conversation.

Understand	Learn	Know
Become acquainted with	Realize	Recognize
Internalize	Appreciate	Believe

Table 1. Commonly Seen Immeasurable Objective Roots

This practice (of which I'm guilty) presents a number of problems. First, without additional guidance, the list of objectives that is returned often doesn't mirror the planned (or existing) assessment instruments. For example, "Describe how controversies over constitutional issues shape much of the content of American politics" cannot be assessed using a multiple choice exam. Second, the level of cognitive complexity implied by the objective doesn't match the complexity of instructional content itself ("Evaluate the 50 state capitals" is an example). In some cases, verbs from these lists are chosen seemingly randomly.

Clearly, another approach – one that involves a more meaningful collaborative conversation – is necessary. This alternative approach excludes Bloom's Taxonomy altogether and starts with a conversation about the goals of the course and also provides a clear connection to the standards set forth by the QM rubric. Dick, Carey, and Carey (2009) describe two types of objectives: terminal objectives and enabling objectives. Terminal objectives are those skills that a learner will be able to perform once an entire unit or course is complete. Enabling objectives are subordinate to the terminal objectives; that is, achievement of a terminal objective is impossible without achievement of the enabling objectives.

In QM language, the terminal objectives translate to the course-level objectives, and the enabling objectives translate to the module- or unit-level objectives. An example may assist in illustration. Let us consider an overly simple course: "Foundations of Peanut Butter and Jelly Sandwiches." The terminal objectives of this course are:

Upon completion of this course, students will be able to:

- Select appropriate ingredients for a peanut butter and jelly sandwich.
- Assemble a peanut butter and jelly sandwich.
- Consume a peanut butter and jelly sandwich.
- Properly dispose of sandwich remains.

These terminal objectives, for the sake of QM compliance, become the course-level objectives. Each of these objectives have enabling objectives, or module/unit-level objectives. For example, the enabling objectives for the first terminal objective ("select appropriate ingredients") are as follows:

- Differentiate between different types of breads.
- Identify types of jellies and jams, including flavors appropriate for PB&J sandwiches.
- List the features of the different varieties of peanut butter.
- Describe accommodations for those with dietary preferences and/or restrictions.

It is also possible (and likely) that enabling objectives will have their own subordinate enabling objectives. For example, in order to "Describe accommodations for those with dietary preferences and/or restrictions," students must be able to:

- Explain the purpose of gluten-free bread.
- Explain the purpose of low-sugar jelly.

All of these enabling objectives become the module- or unit-level objectives, and can also aid in informing the organization of instructional content within a course. Skills that are necessary to perform the enabling objectives but will not

be included in the instructional sequence or materials of the course are referred to as entry skills or prerequisite skills; these are requirements for learners before they begin the course of study. Refer to Figure 2 for a visual breakdown of these objectives and entry skills in the “Foundations of Peanut Butter Jelly Sandwiches” course.

Put simply, the conversation that needs to take place with the instructor-expert involves asking what, broadly, learners should be able to accomplish once they finish the course, as well as what learners need to be able to do, specifically, to accomplish those behaviors, including what will and will not be taught in the course. Based on this conversation, course and module objectives can be determined without bringing Bloom’s Taxonomy into the conversation.

Practical Application

An analysis of terminal (course) objectives, enabling (unit/module) objectives, and prerequisite skills is a useful tool in working with faculty, but a QM review looks at courses, not at objective analysis in the wild. What does this breakdown translate to in “real life”? Figure 3 depicts a unit of the “Peanut Butter and Jelly Sandwich” course deployed in the Blackboard Learning Management system. This unit is framed around the first terminal objective (“select appropriate ingredients”) and is called “Module 1: Selecting Your Ingredients.” After a brief introduction to the module, the course objective addressed in this module is listed, followed by a list of that module’s specific objectives. This layout is sufficient to satisfy QM Standards.

Common Scenarios

The typical scenarios faced by instructional designers and faculty trainers who work with instructor-experts to compose learning objectives can be categorized into five types. Each of these scenarios has a recommended course of action based on the terminal/enabling objective breakdown.

Scenario 1: Faculty member already has well-written, measureable objectives.

Given a scenario in which a faculty member or instructor-expert comes to the table with well-written, measureable, and appropriate objectives, the job of the instructional designer or faculty trainer is simple: commend the instructor-expert on the achievement, and provide any further support as needed. This scenario, however rare, does exist, typically with faculty who either have a background in education or have attended an *Applying the QM Rubric* training.

The remaining scenarios are more common.

Scenario 2: Faculty member needs help writing new course objectives.

In this scenario, perhaps the faculty member is preparing a new course or a currently running course doesn’t already have objectives (obviously the latter is not the most ideal scenario given good instructional design practice). In either case, the recommended action is to ask the instructor-expert, “What can students do, after taking your course, that they couldn’t do before?” The answer to this question leads to a discussion of the terminal or course-level objectives.

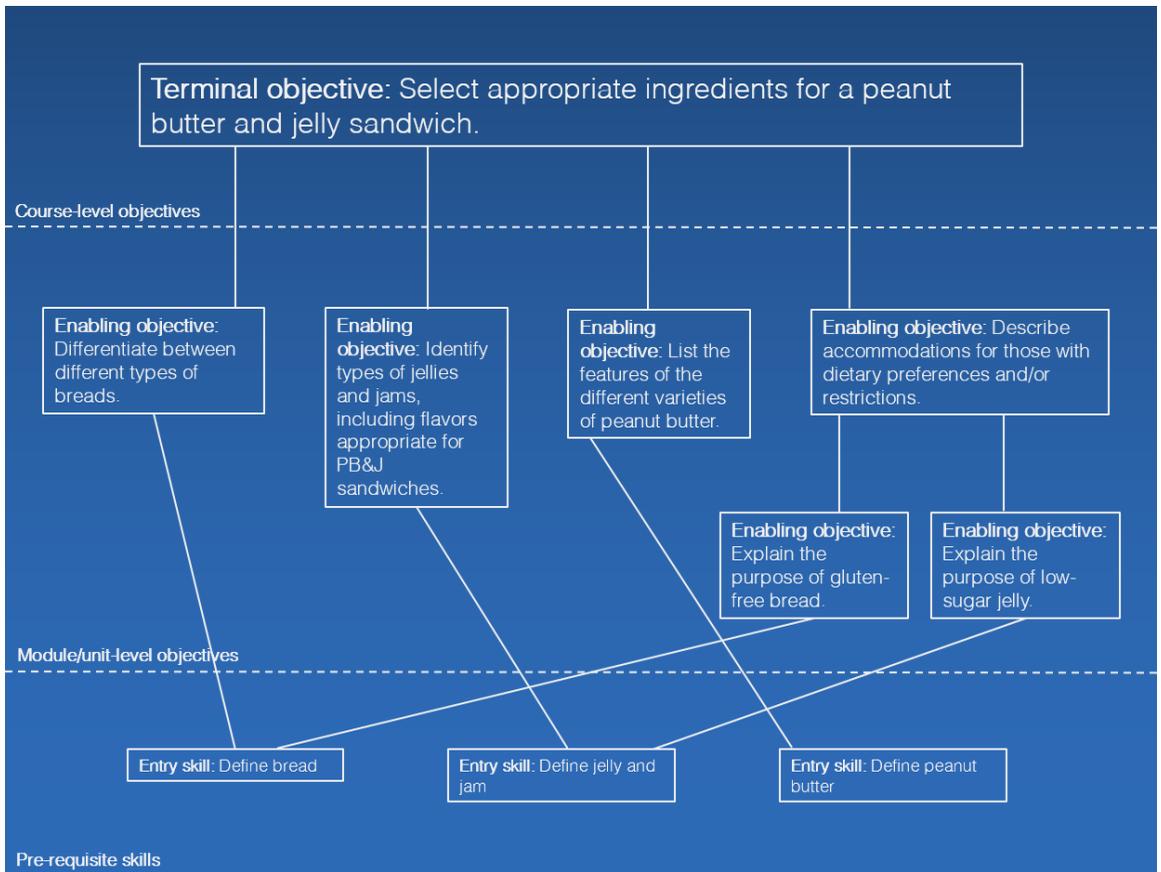


Figure 2. A visual breakdown of learning objectives in the PB&J course.

Module 1: Selecting Your Ingredients



Introduction

Welcome to the first module of Foundations of Peanut Butter and Jelly Sandwiches. I'm Prof. Acevedo and I'm excited to be your instructor for this delicious fully-online course. In this module, we're going to explore the different options that can go into your peanut butter and jelly sandwich. You might be surprised how many options you have! We'll also take a look at some options for those with dietary considerations, such as those who prefer a gluten-free or low-sugar diets.



Learning Objectives

Course Objectives Addressed in This Module

- Select appropriate ingredients for a peanut butter and jelly sandwich.

This Module's Learning Objectives

After completing this module, you will be able to:

- Differentiate between different types of bread.
- Identify types of jellies and jams, including flavors appropriate for PB&J sandwiches.
- List the features of the different varieties of peanut butter.
- Describe accommodations for those with dietary preferences and/or restrictions.
- Explain the purpose of gluten-free bread.
- Explain the purpose of low-sugar jelly.



Directions

1. Watch the video from CHOW about choosing PB&J ingredients.
2. Complete Assignment 1: Grocery Store Visit
3. Proceed to the Discussion Board to complete this module's discussion question: "Crunchy vs. Smooth"
4. Take the Module 1 Quiz.



CHOW video: Choosing Ingredients



Figure 3. Course and module objectives used practically in the LMS.

Scenario 3: Faculty member has course objectives but doesn't have module/unit objectives.

In this scenario, perhaps the faculty member or instructor-expert has course objectives that are mandated by a department or program, or it's possible that the collaboration team has just graduated from Scenario 2. The recommended course of action is to ask the question, "What must students be able to do before accomplishing the course objectives?" The answer to this question will provide the team with the enabling or module/unit-level objectives. However, be sure to differentiate between enabling objectives and entry/prerequisite skills.

Scenario 4: Faculty member has some or all objectives that are immeasurable, vague, or "fuzzy."

This scenario is arguably the most common. Instructor-experts, as described earlier, often feel equipped to provide their own learning objectives with little or no background in education or sound instructional design practice. When an instructor-expert comes to the table with learning objectives that don't meet QM Standards, the recommended action is to inquire as to how that particular objective will be assessed in the course. If the answer is a multiple choice exam, chances are good that an appropriate verb for the learning objective is "identify." If the answer is fill-in-the-blank questions, more appropriate verbs include "recall," "name," and "recite." If the assessment instrument is an essay or a project, the prompt or instructions become the objectives themselves, although they may have to be generalized. For example, an essay prompt of "Compare and contrast the propaganda techniques of the Black Pan-

ther Party and the Socialist Workers Party" lends itself to an objective of "Students will be able to evaluate propaganda techniques of 20th-century revolutionary movements."

Scenario 5: Nothing else has worked. You've reached a "brick wall."

Some instructor-experts remain absolutely convinced that either their subjects are too abstract to warrant measurable objectives or that their immeasurable objectives are already suitable with no revision necessary. The recommended action in this case is to present the following situation: "Your student is going to work at an entry-level job in the area of this course. What is he/she going to do at work? What earns him/her a paycheck?" This doesn't necessarily give the collaboration team any direct answers, especially in liberal arts-type subject areas, but it can provide a jumping-off point or conversation starter to get on a productive and positive path.

Summary

The interaction and collaboration that take place between an instructional designer and instructor-expert tend to be unique, partially as a result of the widely varying backgrounds of the two parties, and can be somewhat complicated by the notion that part of an instructional designer's skill set is innate and can be performed solely by the instructor-expert. Part of this collaborative process can include the composition of course- and module/unit-level learning objectives, either (ideally) during the design phase or (less ideally) retroactively after the course has been developed. In either case, properly written, measurable, and appropriate learning objectives are vitally important because they provide students clear expectations, they inform

the selection of instructional materials and instructional strategy, and they are used to develop assessment instruments.

When instructor-experts approach the collaborative environment without learning objectives or with learning objectives that are not measureable or well written, a discussion of terminal and enabling objectives is an effective tool for beginning the process or revising existing objectives. This approach is clearer and more direct than other methods, such as providing framed statements using Bloom's Taxonomy-aligned verbs.

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