Design for Learning 2 - Foundation

Step 4 of the 7-Step Instructional Design Process (Week 3 Lesson)

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Welcome to Week 3!

This lesson includes:

- Advance Organizer for Week 3 (video)
- Step 4 - Learning Outcomes Part 1 (video, with challenge question)
- Selected Vocabulary (list)
- Write a Learning Outcome (activity with debriefing)
- Step 4 - Learning Outcomes Part 2 (video)
- An Interactive Resource (activity link)
- Reflection (activity)
- Summing Up Week 3 (video)
- Additional Resources (list)

Advance Organizer for Week 3

Video Transcript:
“Foundation Module Week 3: Advance Organizer”
https://youtu.be/7SxJ6GNflHA

Hello everyone, and welcome to Week #3 of the Foundation Module. I’m Marilyn Arnone, your guide through the Foundation Module. At this point, you’ve already done your needs assessment and established your broad instructional goals.

You’ve also completed an instructional analysis and so you should know what steps and possibly substeps are involved in teaching the content that you will deliver. Given that you’ve accomplished these first three steps, you are now ready for Step 4 of the 7 Step instructional design process for online learning, writing your learning outcomes. Learning outcomes are what the learner will be able to know or do as a result of your instruction. This could be a change in knowledge, or skills, or attitudes, or a combination.

This week, as a result of completing the instruction on learning outcomes, you will be able to write good learning outcomes. And you will be able to align a learning outcome with an appropriate learning assessment. We’ll just touch on assessment this week while next week, our whole focus will be on assessment. This week, you will also be able to use Bloom’s Digital Taxonomy to help you select the action verbs that best represent the level of thinking skills from lower order to higher order that you want to invoke through your instruction. Let’s get ready to work on learning outcomes.
Step 4: Learning Outcomes (Part 1)

Video Transcript:
“Foundation Module Week 3: Learning Outcomes Lecture #1”
https://youtu.be/KZgIyFupqwA

This brief lecture is all about learning outcomes. Here is an example of one:
On completion of the D4L learning modules, you will be able to use the 7 step instructional design strategy to design a course or unit of instruction. It’s helps to start with an example. Here we go.

DEFINITION

Learning outcomes describe what students are able to demonstrate in terms of knowledge, skills, and attitudes upon completion of a course or unit of instruction. They must be clear and transparent. They focus on student behavior and include specific student performance and success criteria.

EXAMPLES AND NONEXAMPLES

Learning outcomes, then, are not about what you are going to do as the instructor. For example, this is not a learning outcome:

“I plan to cover needs assessment.” That statement is a nonexample of a learning outcome. Why? Because what you are going to do and how you are going to do that relates to your goals and the instructional strategies you will employ. Rather, the student outcome would be stated as: At the end of the instruction, learners will be able to conduct a needs assessment.”

Learning outcomes are also NOT:

a list of topics to be covered. A list does not indicate what the learner will be able to know or do as a result of learning.

They should support the overarching goal of the course or unit of instruction.

You are in the Foundation Module which takes place over a specified period of time, six weeks, to be exact. Here is an example of a learning outcome for this module:

By the end of the Foundation Module, learners will be able to develop learning assessments that align with their specified learning outcomes for a unit of instruction.

It tells what you as a learner will be able to do (develop assessments) as a result of completing a unit of instruction, in this case, the Foundation module.
Sometimes, learning outcomes are stated as SLOs which stands for student learning outcomes. I’ll break down the components of a learning outcome later, but first let’s consider the characteristics of a good learning outcome.

**CHARACTERISTICS OF GOOD LEARNING OUTCOMES**

Learning outcomes should:

- Reflect the knowledge, skills, and attitudes you intend for your learners to acquire.
- Represent the end learning, the culminating learning performance. They should not be how you are going to get there, that is, the means or the process. We’ll talk about those things in Weeks 5 and 6 of this module.
- Be stated in terms of results, sometimes called products of learning:
- Set clear expectations – Having clear expectations for learners builds confidence and allows learners to know what they have to do to demonstrate that they have achieved the learning outcome.
- They should be specific and represent one small aspect of learning or behavior that is essential to success in the course or your unit of instruction.
- They need to be measurable. When creating learning outcomes, you need to ask yourself, how will I assess whether a student has achieved this learning outcome. It is critical that your assessments align with your learning outcomes. Assessment is such an important topic that we dedicate all of Week 4 to it.
- One performance per outcome, preferably. Stating too many performances in one outcome will make it difficult for the learner and you want to make sure that the outcome is achievable.
- Represent clear criteria for success.
- LO should also align with your program’s goals and outcomes. Ask yourself, “How does my course stated learning outcomes support, for example, the outcomes of the library and information science program at my school?”

An easy to remember mnemonic acronym, for writing learning outcomes is SMART. SMART stands for SPECIFIC, MEASURABLE, ACHIEVABLE, REALISTIC and RELEVANT, AND TIMEBOUND.

**WHY ARE LO’S IMPORTANT**

They are important because clearly defined learning outcomes form the foundation for planning pre-instructional and instructional activities, for planning motivational strategies, and for creating assessments. Good learning outcomes also enable students to articulate what they are learning. And once again, having clear expectations builds confidence in your learners.

**COMPONENTS OF LEARNING OUTCOMES OR SLOs**
In a nutshell, there are three main components of a learning outcome. They are the Action Verb, the Learning Statement, and the Criterion (or the conditions for the performance demonstration). Sometimes, they also include the degree or standard for the minimum acceptable performance such as the percent of accuracy that would be acceptable for a particular knowledge test.

Let's take a look at the components of a learning outcome for students being trained to utilize technology to demonstrate the use of databases. The action word here is produces, the learning statement is “tutorial on searching a database” and the criterion is that the student must use screencasting software to produce the tutorial. Now that we have the basic components, let’s make it a really SMART outcome by adding the time element: At the end of the technology unit, students will be able to produce a tutorial on searching a database using screencasting software.

**NEED FOR LEARNING TARGETS**

Often outcomes are not specific enough without performance elements or learning targets. That means drilling down and developing learning targets that are even more specific and indicative of moving towards the intended learning outcome and may happen in a single instructional session as opposed to a longer period of instruction. These targets or indicators can be tied to the activities you have the learners engage in on the route to achieving the learning outcomes. Let’s look at some characteristics of learning targets:

Learning Targets (taken from slide):

- Are derived from learning outcomes
- Frame a lesson from the student point of view
- Are student friendly statements (developmentally appropriate)
- Are shared with students
- Are used by students to articulate their understanding
- Improve understanding of a particular’s lesson’s purpose and its relationship to a larger learning segment or unit
- Often presented as I CAN statements

In this section, I’ll focus more on K-12 examples for learning targets although you may need to establish learning targets for older learners, too.

Standards such as the Common Core help us when creating learning outcomes for our students in grades K-12.

Here is an example of a ninth grade Language Arts common core standard for Reading: Literature.
Determine a theme or central idea of a text and analyze in detail its development over the course of the text including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.

You’d need to take the standard and develop several learning outcomes from it. More importantly, you will need to develop learning targets that can be readily understood by your K-12 students. Learning outcomes written in instructor language don’t communicate well to your K-12 students.

It takes three learning targets to address that standard and they are expressed as I CAN statements:

1. I can determine the theme or central idea of a literary text,
2. I can analyze the development of the theme or central idea over the course of the text (how it emerges and is shaped and refined by details), and
3. I can objectively summarize a literary text.

Let’s try one more example, this time for younger learners. This is one of the reading literature standards for grade 2:

Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.

One of the learning targets for this standard would be: I can tell the central message of a story. That would not be the only learning target. There would be others.

This standard relates to the corresponding college career readiness anchor standard: determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

Learning taxonomies are helpful in creating learning outcomes. Bloom’s taxonomy of the Cognitive Domain is the best known of these. In the second part of this week’s instruction, we will explore how this taxonomy can help you as you create learning outcomes and assessments. But first, check your understanding with a couple of Challenge Yourself questions.

**Challenge Yourself!**

**Pick the Term!**

1. Which of the two terms below are statements written in student friendly language as opposed to instructor language and help the student understand the aim of a lesson?
A. Learning Outcomes
B. Learning Targets

Selected Vocabulary

<table>
<thead>
<tr>
<th>Selected Vocabulary</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Outcomes</td>
<td>Statements that refer to what the learner will know or be able to do as a result of instruction.</td>
</tr>
<tr>
<td>Learning Targets</td>
<td>Statements that break down learning outcomes or standards into smaller bite sized chunks. They are in student friendly language, often starting with I can . . .</td>
</tr>
<tr>
<td>SMART Outcomes</td>
<td>A mnemonic acronym that is helpful in recalling the attributes of good learning outcomes. It stands for SPECIFIC, MEASURABLE, ACHIEVABLE, REALISTIC AND RELEVANT, AND TIMEBOUND.</td>
</tr>
<tr>
<td>Bloom's Taxonomy of the Cognitive Domain</td>
<td>A hierarchical classification of educational objectives by Benjamin Bloom and associates into six levels of thinking skills from lower to higher order.</td>
</tr>
<tr>
<td>Bloom's Digital Taxonomy</td>
<td>Bloom's revised taxonomy but more aligned with 21st century learning. Includes skills related to each level that relate to digital activities such as vlogging, blogging, coding, etc.</td>
</tr>
</tbody>
</table>

Activity - Try Writing a Learning Outcome

Think about the lesson you have been working on in Steps 1 through 3. How many learning outcomes do you think you will need to achieve your instructional goals? To get started, please go to the section in your workbook for Week 3, and practice writing one of your learning outcomes there. After you finish, go to the next page and we will debrief.

Debriefing the Activity
Recall the learning outcome that you just wrote as practice for the lesson you are planning. Use this checklist to answer the questions and adjust the learning outcome, if necessary. This is also in your workbook, and there's a link to a printable version below if you want a separate copy.

You'll get more practice in this week's assignment! You may even find that you will revise again after you watch and listen to Part 2 of today's instruction.

D4L Learning Outcome Checklist

<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Does the outcome support your instructional goals?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Does the outcome describe what the learner will know or do as result of your instruction?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Is the outcome:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specific with sufficient detail?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Measurable?</td>
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<tr>
<td></td>
<td>Achievable?</td>
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<tr>
<td></td>
<td>Realistic and Relevant?</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Timebound?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Could you break down your learning outcome into specific learning targets if you need to?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>(It is early for this but . . .) Can you envision an activity you might create to enable your students to achieve the desired outcome?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Step 4: Learning Outcomes (Part 2)

Video Transcript:
“Foundation Module Week 3: Learning Outcomes Part 2”
https://youtu.be/WLkEl59smeQ

SLIDE 1

Hello. Marilyn Arnone, here again. At the end of my first video lecture on learning outcomes this week, I introduced Bloom's Taxonomy for the Cognitive Domain, one of three domains of learning including the affective and psychomotor domains. In this lecture, I'll explain how this taxonomy can help you in constructing your learning outcomes –

SLIDE 2

but first, a brief history on the taxonomy. I will take all the way from Benjamin Bloom's original taxonomy, published in 1956 all the way to Andrew Churches' version of Bloom’s Digital Taxonomy revised for today’s world.

SLIDE 3

Benjamin Bloom saw the taxonomy, according to Krathwohl, as a “common language about learning goals to facilitate communication across persons, subject matter, and grade levels” (2002).

SLIDE 4

It had six levels with the Knowledge level at the bottom of the pyramid and Evaluation at the top. Each level of the pyramid increased in complexity and yet provided the foundation for the level above. It proved to be very useful in developing a way to assess learning with consistency across educational institutions.

SLIDE 5

The revised version was published in the early 90's by Lorin Anderson, a former student of Bloom's and David Krathwohl, a Syracuse University professor. I was fortunate to have Dr. Krathwohl as a professor in my doctoral program in Instructional Design at the School of Education. He passed away in October of 2016 having made more contributions to research and education than anyone I've known. He was truly inspiring.
The revised version is on the left while the original version is on the right. Instead of using nouns like Knowledge, the revised version used verbs like Remember. Do you have any thoughts on why using verbs was perhaps better than using nouns?

SLIDE 7

Think about it. [WAIT TIME ACCOMPANIED BY SOUND OF STOPWATCH]

An important reason is that thinking is an active process. Nouns don’t reflect that but verbs do.

SLIDE 8

The other big difference is that the top level in the revised version became Create; the original version had Evaluation as the top level; and, Evaluate is now under Create taking the place of the former category of Synthesis.

SLIDE 9

When writing your learning outcomes, consider the level of thinking skills you wish to invoke in your learners from lower order to higher order thinking skills. “Remember” level skills are about recalling facts and basic concepts. At the next level, a student should be able to explain ideas and concepts. Being able to “understand” the ideas and concepts is necessary in order to apply and use information in new situations. At the top level of the taxonomy, you want your learners to produce new or original work.

There is more to consider. In addition to the cognitive process dimension that we are looking at here, Krathwohl categorizes learning along a knowledge dimension.

SLIDE 10

There isn’t just knowledge. There are types of knowledge: Factual, Conceptual, Procedural, and Metacognitive.

SLIDE 11

Krathwohl shows both dimensions in his Taxonomy Table. We as educators need to consider both the cognitive process dimension as well as the type of knowledge when creating our learning outcomes. Does our learning outcome involve factual knowledge, conceptual knowledge, procedural knowledge, or metacognitive knowledge? And at what level of thinking skills? Higher order or lower order?

Please read the article by Krathwohl for a full understanding of this way of conceptualizing learning. But even before you read the whole article, check your understanding right now.
I’ll give you a learning outcome and you think about where I should place the X, that is, in which cell does it belong? Here’s the teaching scenario and the learner outcome to think about.

SLIDE 12

The instructional librarian at a rural community college is holding a workshop entitled *Hone your Information Skills* at the beginning of the fall semester. Ten students have signed up. Each has chosen a topic to research that is relevant to one of the courses they are taking. Here is one of her intended learning outcomes:

*After completing the workshop, students determine which of three web-based resources contains the most reliable information for their research project.*

SLIDE 13

Here is the Taxonomy Table again. In which cell do you think I should place the X? I’ll give some wait time to think about it.

[WAIT TIME ACCOMPANIED BY SOUND OF STOPWATCH]

OK, time’s up. I would place the X right here. I chose this cell because determining resources to use based on reliable information infers that students will evaluate the resources for their reliability using criteria. And I put it in Conceptual knowledge because criteria such as reliability, accuracy, and so on, is classified as conceptual knowledge. I’m sure there could be arguments made for a different placement. But that’s my choice and I’m sticking to it! [Laugh]

I also want to mention that the Taxonomy Table can be useful in classifying the learning activities you are planning in order to achieve the learner outcomes.

Well, you might think that it ends there with Anderson and Krathwohl’s revised taxonomy.

SLIDE 14

However, as we entered the Digital Age, the tweaking continued. SLIDE 15

A few years back, someone else wondered “How can we make the taxonomy even more useful for defining and assessing the types of digital tasks that students engage in today? Where would such verbs fit into Bloom’s Taxonomy for the Cognitive Domain?” So, Andrew Churches started working on that.

SLIDE 16

This time, Churches added "ing" to the verbs so *Create* became *Creating* and so on. Why do you suppose this was done? Food for thought.
SLIDE 17

The major contribution that Churches made was exploring the verbs of today's world that didn't exist back in 1956 or even around 1990--verbs like blogging, vlogging, digitizing, downloading, etc. Please also read the Churches article which you will find in the Additional Resources section of this week’s instruction.

Look at the verbs on each level in Churches’ version – Bloom’s Digital Taxonomy. They relate to today's digital world on the six levels of the taxonomy. There have been many useful variations on Church’s graphic applied to a variety of technology apps.

As I mentioned in my first video lecture this week, we will talk about assessing our learning outcomes in Week 4 but keep in mind that if your learning outcome and your instructional activities have been on the applying level, then your assessment must be on that same level. If students have learned to apply rules of netiquette in an activity, then they should not be asked to evaluate those rules in an assessment.

For a full understanding of the Revised taxonomy and Church’s application to the world we now live in, please read the articles in the Additional Resources section

SLIDE 18

Thank you!

Activity: An Interactive Resource

Visit [http://eductechalogy.org/swfapp/blooms/wheel/engage.swf](http://eductechalogy.org/swfapp/blooms/wheel/engage.swf) to explore a simple but useful resource called Bloom's digital taxonomy Wheel and Knowledge Dimension.

It provides examples of technology-based activities for each of the cognitive levels of Bloom's Digital Taxonomy (it is a Flash file). It could be helpful to you in lesson planning. When you click the image, a new window will open so that you can return to Week 4 when you are finished exploring.

Reflection

As you work on your lesson plans, consider some of the action verbs that relate to Church's version of Bloom's Taxonomy that you can see in the figure below. Are they helpful to you as you think about the cognitive levels of learning you want to address and considering the skills
you need to teach? Now, depending on the type of library you work in, take a look at the relevant standards and guidelines along with Church’s list (e.g., AASL standards for school librarians, ACRL standards for academic librarians, etc).

Please write a brief reflection in your workbook on how one might complement the other when thinking about and planning activities that relate to today’s technologies.

Summing up Week 3

Video Transcript:
“Foundation Module Week 3: Summing Up”
https://youtu.be/re2R3R0I5kk
Do you have a better feel for writing your learning outcomes now? I hope so. And don’t forget to use Bloom’s Digital Taxonomy to help you. I’ll provide an additional resource on Bloom’s Taxonomy to give you more of a background on its evolution from the original taxonomy. Please review the examples of instruction that follow and start adding some learning outcomes to your 7-Step instructional design template. See you next week when we’ll be working on assessments for your learning outcomes.

**Additional Resources**

For this week's instruction, you may find the following resources helpful.


**Videos**

- All of this module's videos are available on a playlist at YouTube: [https://www.youtube.com/playlist?embed=no&list=PLw6HBD7UyT3nKkQsX00KGsD-SzlheYb1B](https://www.youtube.com/playlist?embed=no&list=PLw6HBD7UyT3nKkQsX00KGsD-SzlheYb1B)

**Answer Key:**

1. B - Learning Targets
   Learning Targets break down what the student needs to do into small manageable chunks and uses student friendly language such as "I can" statements.