Building A Strong Foundation For Training With Solid Learning Objectives

By **Carrie Lewis Miller** and **Quincy Conley**

Ready to create a strong foundation for your 2018 training? Learn the basics of creating solid learning objectives.

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LEARNING

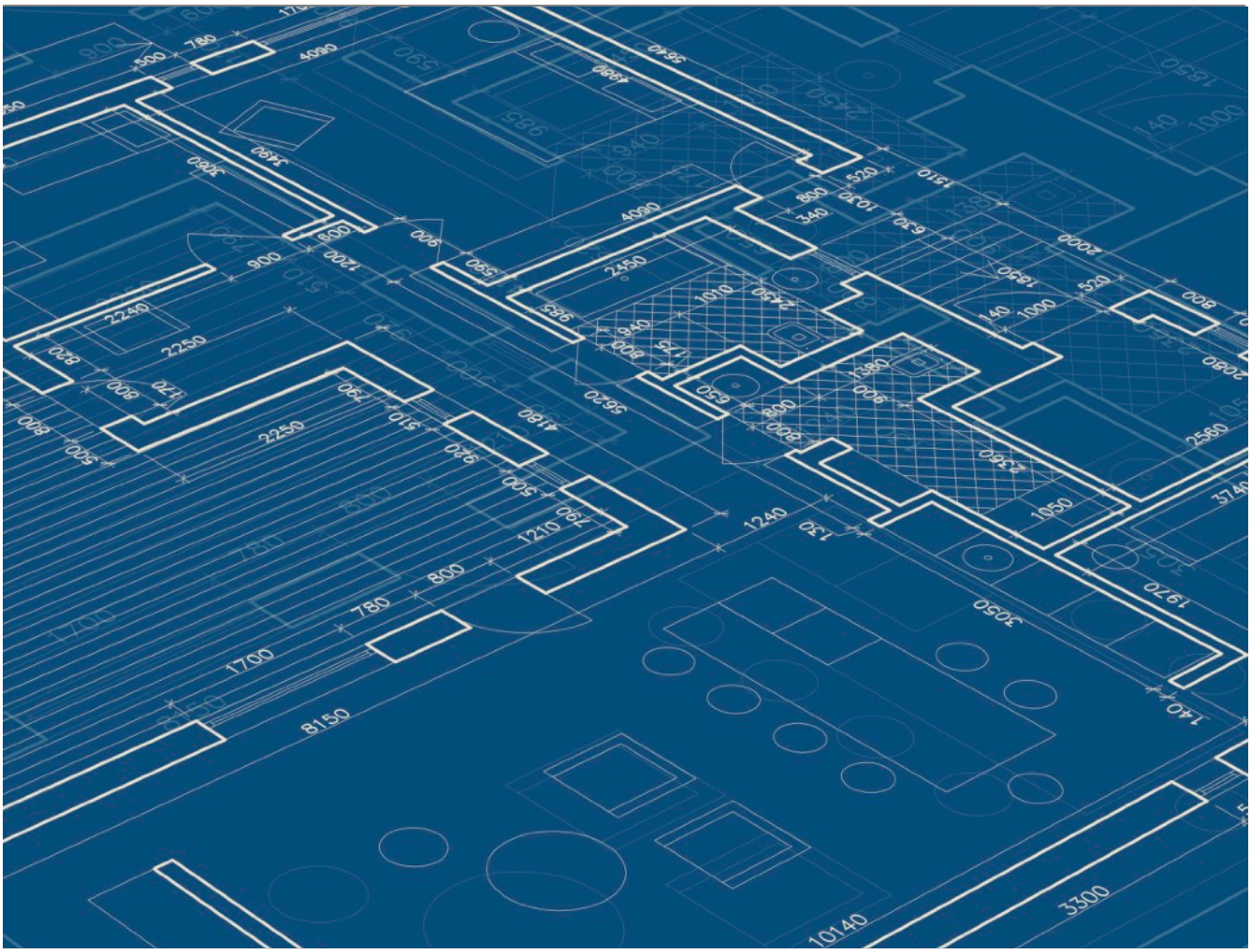
How to Make Your Training Concrete

How many of us would be willing to move into a house with no floor or foundation?

Chances are not too many of us. But over and over again, we ask our learners to move into a training or course without any learning objectives.

Without developing the solid foundation that learning objectives provide, we are building a shaky learning foundation that could crumble with any strong wind.

In 2003, my husband and I bought our first home. The realtor described it as a "Handyman's Dream." The "Dream" was built in 1895 and included a root cellar and three additions that sat on large boulders instead of a foundation. Both ends of the house had sunk and there was a hole in the bottom of the shower that allowed daylight, water, and nosy neighbors to see through.



The **Blueprint** of Learning Objectives

Learning objectives are concise statements that describe what learners are expected to learn by the end of school year, course, unit, lesson, project, or class period (Concepts, 2013).

Like a number of the things instructional designers (IDs) use on a daily basis (learner analysis, task analysis, etc.), objectives are tools for planning and communication.

As planning tools, they help us:

- Figure out what content to include
- How to present that content
- How to assess whether the learners have mastered that content

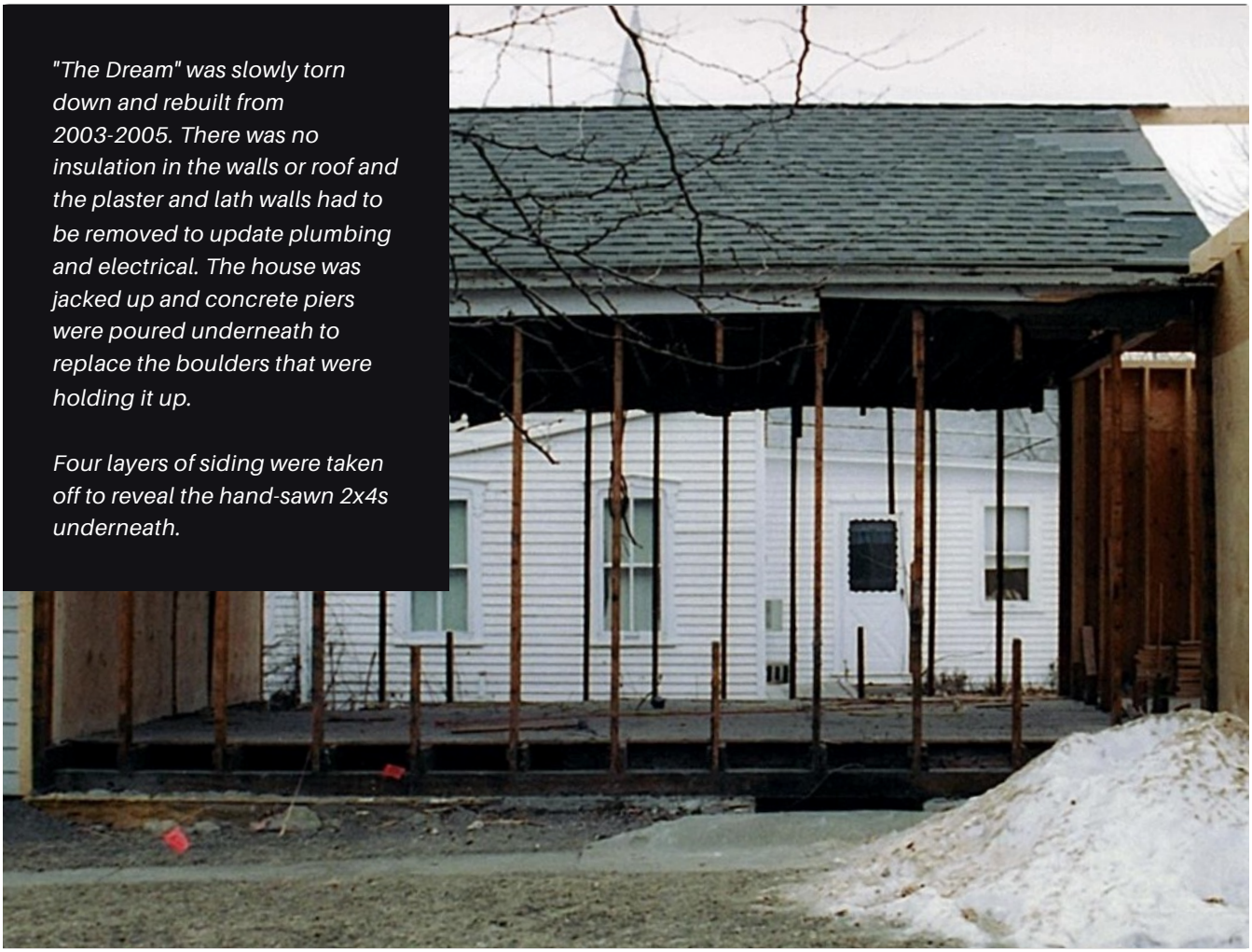
As communication tools, they help us talk with others about what we're trying to accomplish with our instruction. As long as the learning objectives serve these planning and communication functions, the wording and format used is secondary.

A History of Learning Objectives

Although the early versions of the idea of learning objectives can be traced back decades before, the popular term 'objectives' came about in the 1960s from **behavioral objectivism.**

Educators in the 1960s used the term to describe what learners should be able to do after a unit of instruction. However, there was no model for how to write these objectives, so in many cases, they were designed with the best intentions but were often lacking in execution (Dick, Carey, & Carey, 2014).

To the detriment of the instruction, these objectives often looked simply like a list of topics to be covered with little to no action behind them.



"The Dream" was slowly torn down and rebuilt from 2003-2005. There was no insulation in the walls or roof and the plaster and lath walls had to be removed to update plumbing and electrical. The house was jacked up and concrete piers were poured underneath to replace the boulders that were holding it up.

Four layers of siding were taken off to reveal the hand-sawn 2x4s underneath.

Importance of Learning Objectives in Your **Toolbelt**

Learning objectives serve as a set of blueprints that contain the plans for the learning experience and help everyone involved in the project build the appropriate structure.

The clearer our view of these plans, the easier it is to build a solid structure.

The time you spend in consideration of learning objectives is so important because they ultimately guide what is done within the learning experience.

Objectives hold the learning experience together, much like the foundation of a building is the key element holding the rest of the pieces up.

The **Language** of Learning Objectives

As you've probably experienced, there is a lot of overlapping terminology in instructional design.

You'll see it happening in various terms that are used for learning objectives, such as

- Performance goals
- Learning outcomes
- Behavioral objectives
- Instructional objectives

And there are other terms -- terminal objective, enabling objective, course objective, and so on -- that also mean pretty much the same thing.

We prefer to use the term ***learning objective*** because of the association with learning and because of the frequency of its use with popular instructional design models.

In any case, regardless of what we call it, what we're talking about is a statement that describes the intended outcome of instruction. Basically, what will the learners will be able to do afterwards, as a result of that instruction?

How Objectives Help to Create the **Foundation** Of Your Training Materials

To create a strong structure for your instruction, Carliner (2015) makes the point that learning objectives should be derived from a task analysis and be used to dictate the alignment between all instructional components (i.e., content, assessment items, etc.).

If something is identified as a requisite step to complete the learning task, that step should be written as a learning objective. It should then drive the sequence of activities and design of the types of assessment items used for the instruction.

To start building your foundation, we encourage you to write a clear and comprehensive task analysis first, write the learning objectives second, or complete them concurrently (Jonassen, Tessmer, & Hannum, 1998).

Either way, when they're finished, they should line up.

The **Structure** of Useful Learning Objectives

Dr. Susan Shadle et al. (2016), colleagues from Boise State University's Center for Teaching and Learning, came up with a memorable way for us to think about learning objectives, called C.A.L.M.S.

Besides being associated with the emotion that instructional designers hope to feel after creating them, the acronym C.A.L.M.S. helps us identify what a "good" or "solid" learning objective includes:

Clear language for the learner given their pre-requisite level of skill and/or knowledge
Attainable goals reasonable for learners to achieve
Learning focused
Measurable actions that can be observed
Specific about the performance that is required to achieve the goal

Building Your Learning Objectives with Bloom's Taxonomy

Often what you will see in learning objectives are statements like “learners will understand the difference between cash and accrual basis accounting.” This is not a measurable learning objective – how can you measure someone’s *understanding* of a concept?

We can argue this philosophically, but in objective, evidence-based terms, it is obvious to see how difficult it would be to measure a learner’s "understanding" of a concept. Alternatively, our aim should be to only measure with **concrete evidence** of their acquisition of a skill, behavior, or knowledge.

To solve this problem, instructional designers often turn to Bloom’s Taxonomy to help them write learning objectives.

According to Bloom (1956), cognitive tasks, such as those that can be performed by learners on assessments, can be categorized into levels of increasing complexity. Ideally, a learning experience will start out with learning objectives and assessments at a lower cognitive level and increase to one of the higher cognitive levels by the end of class.

Using the verbs from Bloom’s Verb Wheel turns the previous, unmeasurable learning objective, “Learners will *understand* the difference between cash and accrual basis accounting,” into “Learners will *explain* the difference between cash and accrual basis accounting.”

Models for Writing Learning Objectives

There are other ways to write learning objectives.

Mager's (2004) method has been the standard in the instructional design field for the past 50 years. But it isn't the only method.

Eisner, Gagne, Gronlund, and Langdon all describe alternative methods for writing learning objectives, along with other generic rationales such as the following.

- **Descriptive statements:** Learning objectives may be expressed as brief statements describing what learners should know or be able to do by the end of a defined instructional period.
- **"I can" statements:** Teachers may choose to express learning objectives as "I can" statements as a way to frame the objectives from a learner standpoint. The basic idea is that "I can" statements encourage learners to identify with the learning goals, visualize themselves achieving the goals, and experience a greater sense of personal accomplishment when the learning objectives are achieved.
- **"Learners will be able to" statements:** "Learners will be able to" statements (LWBAT) are another commonly-used format for learning objectives.

Contemporary models take writing learning objectives one step further by adding the clarification of audience, behavior, condition, and degree. This is called the ABCD method. Our example learning objective would then look like:

> *"Given a profit and loss statement for a company [condition], learners [audience] will correctly explain the accounting method used and the benefits of the chosen method [behavior], with 100% accuracy [degree]."*

This adds an absolute to the achievement of the objective – learners will not achieve the objective unless they can explain the correct accounting method used 100% of the time.

Finding Your **Approach**

With dozens of models of how to create learning objectives, another issue is how to choose the right model to write purposeful objectives for you and your employees. Deciding which approach to use can be overwhelming.

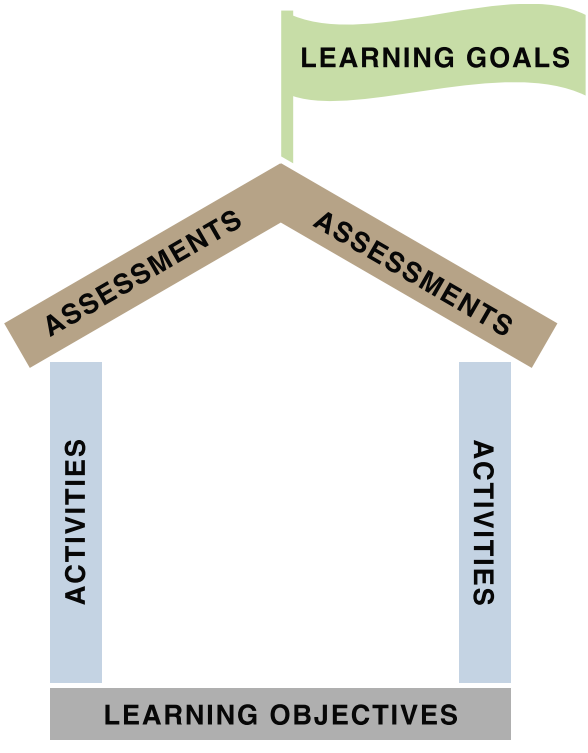
Our suggestion is to avoid getting caught up in the semantics of models for how to write objectives, instead focusing on the components that are attributed to creating good goals for learning. There are many other methods for writing learning objectives out there and we have only presented a few.

What the **Research** Says

Based on scientific research on this topic, the first step in planning a learning experience is deciding what behaviors or skills you want your learners to have at the end.

After your objectives are written, you then decide what activities will give them the tools to achieve that goal.

Finally, you design assessments (tests, projects, or other deliverables) that measure their achievement of that goal, aligning your assessments to actively and accurately determine the level of mastery the learners have achieved. We want the walls of our learning house to be attached to the foundation, square with each other, and strong enough to withstand any test.



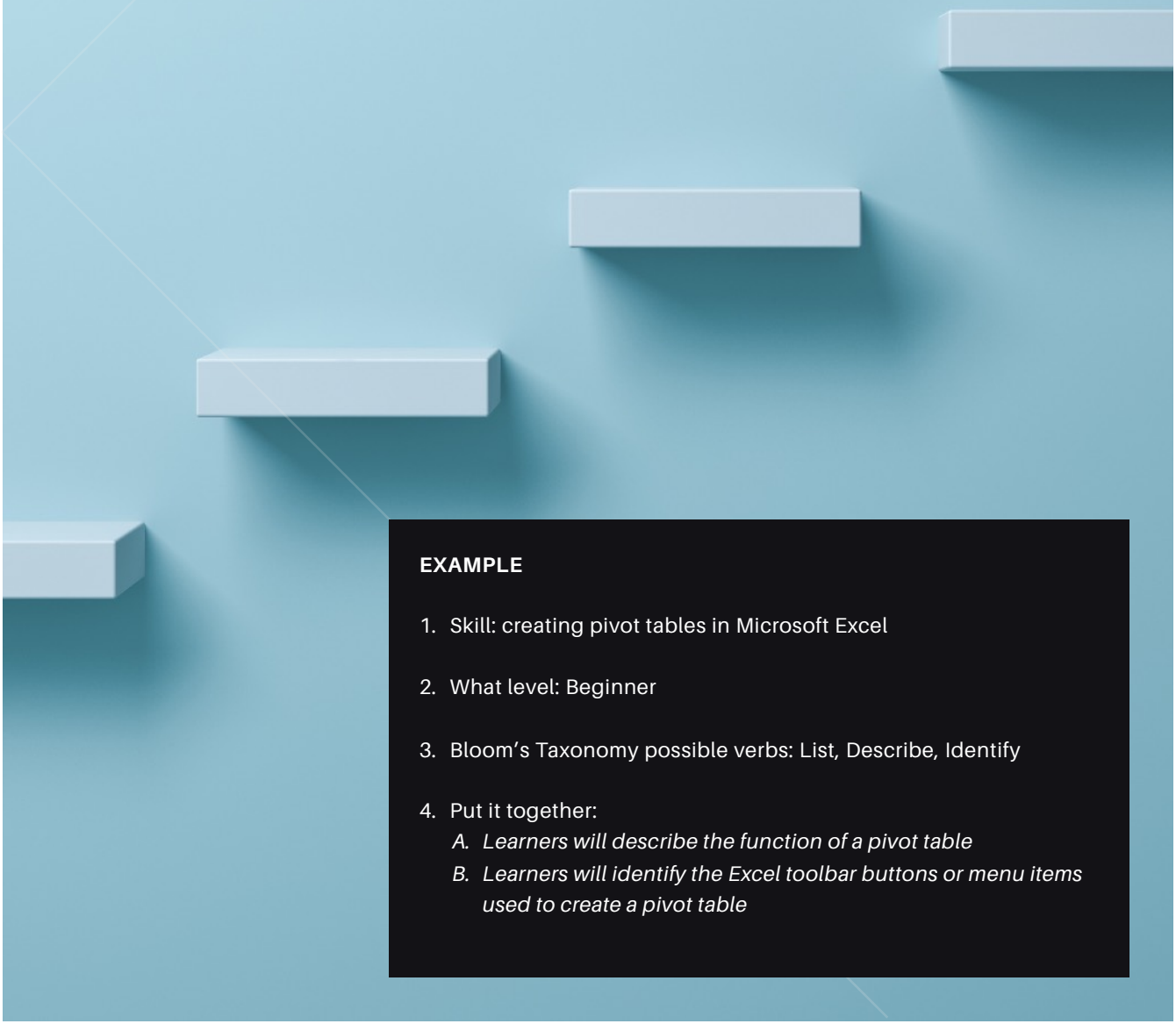
Questions
to Guide You

As you build your learning house, think about the connection between objectives, activities, and assessment. Ask yourself:

- Are the objectives strong enough to hold up your learning goals?
- Are they well-written and worthwhile, if they are present?
- Do the activities support those objectives?
- Are they aligned with your assessments?
- How is the instructor measuring whether or not the learners achieve the objectives?
- What is the importance of learners knowing these skills or behaviors?

Steps for **Building Concrete** Learning Objectives

1. Identify the skill(s) or behavior(s) your learners should exit the training or course with
2. Determine at what level they should be able to perform these skills or behaviors
3. Use Bloom's Taxonomy to choose a measurable verb for those skills or behaviors
4. Put it all together into one sentence per skill or behavior



EXAMPLE

1. Skill: creating pivot tables in Microsoft Excel
2. What level: Beginner
3. Bloom's Taxonomy possible verbs: List, Describe, Identify
4. Put it together:
   A. *Learners will describe the function of a pivot table*
   B. *Learners will identify the Excel toolbar buttons or menu items used to create a pivot table*

Making it Whole

An almost finished "Dream," complete with an addition, new windows, doors, and siding. From inside and out it looks completely new, held up by a concrete foundation and the "old bones" (2x4s) of an 1895 shotgun shack.

Your Foundation, **Built**

Learning objectives are an important foundation of any learning experience, not only because they help an instructional designer define the specific behaviors, skills, and knowledge that a learner should acquire from a given training or course, but they also allow us to evaluate the success of a learning experience.

In addition, defined learning objectives give your learners an overview of the training and can indicate to the learner what will be expected of them during the learning experience.

Much like expecting a solid floor under our feet when we walk into a building, trainees expect to leave a training with useful information. Just as we may not give much thought to the foundation at our feet, learners may not give much thought to learning objectives in the course. As the learning experience "contractor," the instructional designer must create the smooth foundation upon which to base the remaining seamless learning experience.

Authors

Carrie Lewis Miller is an instructional designer with IT Solutions at Minnesota State University, Mankato. She holds a Ph.D. in Educational Technology from Arizona State University, an M.S. in French and a Graduate Certificate in TESL from Minnesota State University, Mankato, and a B.A. in French from Arizona State University. Carrie has been an instructor in higher education for over 10 years, both in face-to-face and online classes. She currently facilitates online courses in eLearning and Instructional Design for the University of Phoenix. Prior to coming to IT Solutions at Minnesota State University, Mankato, Carrie helped open a branch campus of Benedictine University in Mesa, Arizona, where she became well-versed in problem-based learning, flipped instruction, and technology-enhanced instruction. Her research interests include game-based learning, teacher education, curriculum evaluation, and adult education programs.

Quincy Conley is a Learning Scientist on the Learning Research and Design team at Pearson. He has worked as a dedicated instructional designer and research for over 16 years. With expertise in using biometric sensors to examine learning experiences, his primary functions are to decide what combination of appropriate educational techniques and technology to use to increase learning gains. His current research interests are in designing performance support systems, augmented reality and intelligent tutoring systems. Quincy earned his Ph.D. in Educational Technology from Arizona State University, and both his M.A. in Instructional Design & Technology and B.A. in Aerospace Science from the University of North Dakota.

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Appendix

Here is a short list of Action Verbs that will help you formulate effective learning objectives 100% of the time (Lane, 2017).

Identify	Name	Distinguish	Define
Describe	Classify	Order	Construct
Demonstrate	Translate	Predict	Interpret
Generalize	Explain	Apply	Analyze
Recognize	Specify	Create	Judge
Attend	Prepare	Participate	Discuss
Plan	Communicate	Interpret	Solve
Perform	Evaluate	Speak	Interview
Predict	Design	Locate	Calculate
Diagnose	Explain	Build	Complete