

Learning Outcomes Defined

Learning outcomes are just what the term states—the outcomes of a learning experience. More specifically, however, the term is used to describe what teachers and trainers intend each learner to achieve during any particular education or training event, such as a class, course, or programme of study. The actual learning outcomes for each learner can include intended, peripheral (secondary), and unintended outcomes, but here we focus on those intended and documented by the trainers when planning their training.

Examples of learning outcomes:

- Apply a systems approach to analyze the context of learning and the training development process.
- Evaluate and use NWP products in the forecast process.
- Use remote sensing products for agricultural applications.
- Identify and retrieve adequate climate data from different sources to generate climate products
- Create discovery metadata records describing products and services

Why document them? Documenting the intended learning outcomes guides your training development, helping you decide what content is required (or not required) and what activities and practice opportunities will help learners achieve benefits from training. Even more directly, **learning outcomes tell you how you should assess learners**. Finally, learning outcomes communicate to learners what they can expect to gain from a training event or resource, and also what they will be expected to demonstrate during assessment.

Competencies should be written at a high level, describing general job tasks or responsibilities, but **learning outcomes should be written more specifically at the level of training assessment**. They will appear more like the performance criteria or performance components within a competency framework than the high level competency. More specifically, they should represent those tasks you will directly assess to determine when training has achieved its goals. If your training is competency-based, then the learning outcomes should not be difficult to identify. For example, a competency may be written as

“Forecast marine weather phenomena, variables and parameters,”

and the performance criteria for this competency may include the following:

“Prepare forecasts and warnings for the following weather phenomena and parameters and variables, including spatial extent, onset/cessation, duration, intensity and temporal variations:

- wind, including directional variability, speed and wind gusts

- sea state (total wave height, wind wave height, swell height, swell direction and swell period, significant wave height)
- damaging or large waves
- etc., etc.”

In this case you might have a learning outcome for your training session such as,

“Forecast the onset and cessation of large coastal waves using remote sensing and NWP data.”

It is likely that learning outcomes will be written at this more specific level because this provides nearly all the information you need to make an assessment of learning, including any specific information to help developing the assessment and evaluating success.

Well-written learning outcomes describe learning in terms of what a learner should be *able to do* following the learning experience, not just what they should *know or understand*. This helps to ensure a direct connection to required job competencies and job tasks, which provides the justification for the effort of training. All the examples provided in this resource so far describe tasks learners will be expected to do after their training.

However, knowing and understanding are important co-requisites to the ability to perform a task, so these “enabling” outcomes may also be important enough to document. “Knowing” and “understanding” outcomes also help prepare learners for performing tasks in a variety of contexts. For this reason they are more common, and more justified, in educational contexts than professional ones.

However, **enabling outcomes are better represented by higher-level, task-oriented outcomes that can be assessed to demonstrate knowing or understanding**. Rather than simply writing “Understand the Norwegian cyclone conceptual model”, which does not suggest a method of assessment of understanding, the outcome might be written as “Draw the five stages of the Norwegian cyclone model,” and that should also be how the learner will be assessed (by how well they describe or draw the model). Better yet, assessment of this outcome can be embedded in a practical task, such as an exercise that asks: “Considering the Norwegian cyclone model, predict the probable next stages of evolution of the system visible in this satellite IR image.”

The term “learning outcome” is sometimes used interchangeably with “learning objective” or “performance objective.”