

Learning Outcomes...

... are specific statements of what students will be able to do when they have completed instruction (adapted from Arreola & Aleamoni, 1998).

... when thoughtfully written, ensure both shared expectations for student learning and actual opportunities for students to achieve these expectations (Maki, 2005)

... translate learning into actions, behaviors, and other texts from which observers can draw inferences about the depth and breadth of student learning (Maki, 2005).

... create means to assess not only student learning and understanding of course material, but also the overall effectiveness of the course and educational program (Mandernach, 2003).

... at Cornell, create a shared understanding among faculty, students, and staff of expectations for student learning and success within a given course, academic department, co-curricular experience, and/or the collegiate experience as a whole.

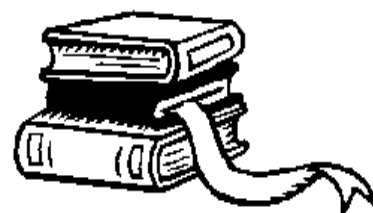
Why Use Learning Outcomes?

- ∞ Help students learn more effectively.
- ∞ Make clear what students should expect from an educational experience.
- ∞ Help educators select the most appropriate learning strategy.
- ∞ Help educators design materials to foster learning.
- ∞ Assist others in implementing strategies to meet outcomes.
- ∞ Ensure that appropriate assessment strategies are used.

(Adapted from Henning, G. [2007])

“Learning outcome statements identify what students should be able to *demonstrate* or *represent* or *produce* as a result of what and how they have learned at the institution or in a program.”

~ Maki, 2004



Did You Know?



Components of a Learning Outcome...

- ∞ Description of what students will be able to do— a specific **verb**
- ∞ Conditions under which the student will perform the task
- ∞ Criteria for evaluating student performance (Arreola & Aleamoni, 1998)

Good Outcome Statements

- ∞ Focus on measurable student behavior.
- ∞ Translate intentions into actions.
- ∞ Use simple, specific action verbs such as those listed for Bloom's Taxonomy of Learning.
- ∞ Avoid vague phrases such as "have an understanding of," which are difficult to measure.
- ∞ State desired performance criteria.
- ∞ Describe what students should demonstrate or produce.
- ∞ Align with other intentions (institutional, departmental).
- ∞ Indicate appropriate assessment methods to measure achievement of learning outcomes.
- ∞ Are collaboratively authored.
- ∞ Map to practices.
- ∞ Reflect / complement national criteria.

Adapted from Maki (2004) & UNC School of Pharmacy



Examples of Learning Outcomes

- ∞ Students will be able to evaluate psychological research critically.
- ∞ Students will identify prevalent cultural and socioeconomic conditions.
- ∞ Students will be able to collect, organize, and analyze biological data and apply this data to a pertinent biological problem.

Statements that are NOT Learning Outcomes

- ∞ Students will be exposed to psychological research.
- ∞ Students will be offered an opportunity to explore current cultural and socioeconomic conditions.
- ∞ Students will perform experiments and form conclusions.

Bloom's Taxonomy of Learning and Descriptive Verbs for Expressing Performance Expectations

- ∞ **Knowledge:** recall or recognition of information, principles, or ideas
 - ∂ *arrange, cite, define, duplicate, identify*
- ∞ **Comprehension:** interpretation of material based on prior learning
 - ∂ *classify, convert, describe, discuss, explain*
- ∞ **Application:** use of principles to solve a problem with minimal directions
 - ∂ *apply, implement, utilize, operationalize*
- ∞ **Analysis:** relation of evidence to a hypothesis or concept
 - ∂ *analyze, correlate, differentiate, distinguish*
- ∞ **Synthesis:** combination of ideas into a unique or proposal
 - ∂ *arrange, assemble, communicate, propose*
- ∞ **Evaluation:** assessment on the basis of specific criteria
 - ∂ *appraise, assess,, score, evaluate*

adapted from Persky, 2005