Pacific Crest

Learning Outcomes

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Faculty Development Series

Learner performance is more likely to improve if one is able to precisely define what is to be achieved along with how this performance can be documented at the end of a learning experience. This module contrasts five different types of learning outcomes that are common in higher education: competencies, movement, accomplishments, experiences, and integrated performance. Each of these outcomes addresses a different aspect of learning. Each is best suited to different educational methods and requires collecting different evidence to demonstrate that the outcome has been achieved. A competency is a collection of knowledge, skills, and attitudes needed to perform a specific task effectively and efficiently at a defined level of performance. Movement is documented growth in a transferable process or learning skill. Accomplishments are significant work products or performances that transcend normal class requirements and are externally valued or affirmed by an outside expert or client. Experiences are interactions, emotions, responsibilities, and shared memories that clarify one's position in relation to oneself, a community, or discipline. Integrated performance is the synthesis of prior knowledge, skills, processes, and attitudes with current learning needs to address a difficult challenge within a strict time frame and set of performance expectations.

Need for Learning Outcomes

Adoption of a learner-centered approach to teaching requires a supportive environment and focused attention to what students should be able to do at the end of a learning experience (Fink, 2003). Good instruction begins with a statement of intentions or objectives. However, instructional success can only be measured by the level of behaviors that are elicited in response to well-defined situations at the conclusion of an instructional period (Mager, 1997). These can be formalized in measurable learning outcomes that can inform formative assessments, guide instructional methods, serve as the basis for course evaluation, and generate data needed for program accreditation.

The modern workplace demands a variety of cognitive, social, and affective behaviors that need to become more and more sophisticated over time (SCANS 1991). Over the last decade, accreditation organizations have responded by defining a much more comprehensive set of student learning outcomes that must be rigorously demonstrated for program accreditation (ABET, 2004). These learning outcomes are subjective as well as objective in nature and individual as well as collective in participation. Skill listings in the *Cognitive Domain, Social Domain*, and *Affective Domain*, levels of knowledge outlined in *Bloom's Taxonomy—Expanding its Meaning*, and knowledge types described in *Forms of Knowledge and Knowledge Tables* provide a rich set of data for constructing a broad spectrum of learning outcomes. By recognizing different types of learning outcomes, educators are better equipped to select instructional methods and to align assessment and evaluation systems (Wiggins and McTighe, 1999).
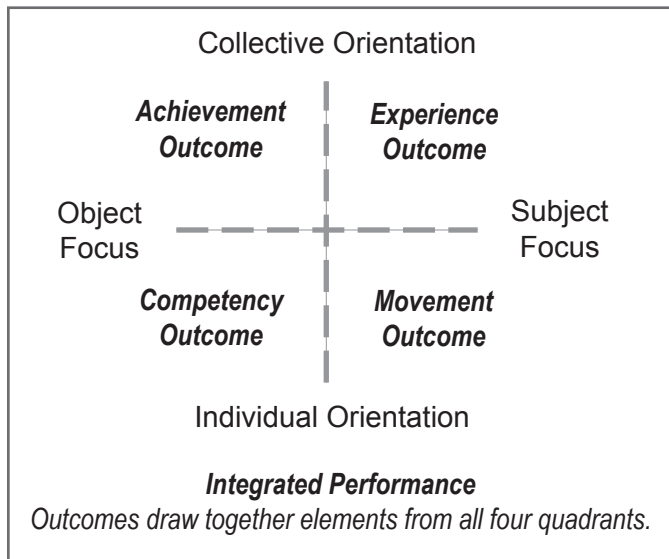
Types of Learning Outcomes

Learning is a social enterprise that contains elements that can be mapped on two axes (Wenger, 1998). One axis is defined by what is learned (object) versus who is involved in the learning (subject); the other axis is defined by whether the learning has more of an individual or a collective orientation. When these axes intersect, as shown in Figure 1, four different regions emerge that suggest distinctive educational activities and outcomes.

Competency Outcomes focus on the level of mastery of specific skills and knowledge across a wide range of contexts. These outcomes are content-laden but depend on knowledge construction and deconstruction by individuals. Hence, competency development must be sensitive to needs associated with different learning styles. Movement Outcomes focus on awareness of issues involved in improving the use of learning skills and learning processes in different situations over a period of time. Self-assessment of the learning process and awareness of personal development are both useful for determining movement outcomes. Experience Outcomes are often shared among groups of people, and they frequently serve to clarify goals, roles, and responsibilities within an organization and within oneself. These outcomes involve considerable individual and group processing and help build professional as well as personal connections within a community. Accomplishment Outcomes are significant additions to practice of the discipline and have value to a wider audience. These can be innovations in knowledge, practice, or creative work, but they must have value beyond the classroom. Integrated Performance Outcomes stress how well expertise can be drawn together from all quadrants (of Figure 1) in response to a complex challenge.

All learning outcomes for a course share some common characteristics that contribute to an effective learning experience. They must be stated concisely to facilitate understanding and must capture major performance expectations. They must be specific enough to support measurement and be achievable within the time frame available, considering the developmental level of the

Figure 1   ***Types of Learning Outcomes Mapped to Axes of Social Learning***

Collective Orientation

Achievement Outcome   ***Experience Outcome***

Object Focus   Subject Focus

Competency Outcome   ***Movement Outcome***

Individual Orientation

Integrated Performance
Outcomes draw together elements from all four quadrants.

learners. They should be aligned with long-term behaviors expected within a program and be motivating to learners so that they take responsibility for specific required actions. Finally, learning outcomes are most compelling if they are defined within a specific application or context.

Each of the five learning outcomes can be distinguished by (a) the type of performance involved, (b) the conditions under which these performances are interpreted, and (c) the challenges associated with measurement of the performance. Table 1 contrasts the five types of learning outcomes with respect to these three areas. More detailed discussion about unique attributes of each type of learning outcome appears in subsequent sections of this module.

Competency Outcomes

Competency Outcomes are tasks that learners must perform at a prescribed level. These performance levels are often referenced to disciplinary standards and/or accreditation criteria. Competency Outcomes are snapshots of what learners can do at a specific point in time, and they are relatively easy to measure. Special attention should be given to exactly what levels of knowledge are expected so that these outcomes reach the appropriate level in Bloom's Taxonomy. Examples of competency outcomes are given below.

Rewrite a paragraph using active rather than passive voice. (English Composition)

Identify Piaget's stages of childhood development and give an example of several behaviors that are typical for each stage. (Psychology)

Find all real positive roots of a second-order polynomial using the quadratic formula. (College Algebra)

Use a decision matrix to defend a design decision within the context of multiple alternatives, customer requirements, and resource limitations. (Capstone Project Course)

Within five minutes, produce a written assessment using the SII model format with meaningful analysis. (Faculty Development Workshop)

Movement Outcomes

Movement Outcomes focus on personal and professional development. They prescribe a desired direction and magnitude of growth that extend well beyond the present capabilities of all learners. Movement Outcomes require multiple samplings over time to document whether real growth has occurred. Several examples of Movement Outcomes are given below.

Increase effectiveness in word choice in one's own writing. (English Composition)

Increase the performances of reflection and self-assessment in investigating one's life vision. (Psychology)

Increase speed and accuracy in interpreting simple word problems into symbolic equations. (College Algebra)

Manage project knowledge, resources, and the work environment leading toward timely and within-budget completion of a quality design product. (Capstone Project Course)

Strengthen use of the assessment process by elevating SII reports at least one level in the holistic rubric for

Assessor Performance. (Faculty Development Workshop)

Experience Outcomes

Experience Outcomes capture changes in attitudes, values and behaviors as the result of a life-changing experience. They should reveal awareness and critical analysis of the causes and impacts of personal changes in the learner. Processing of the experience should produce new understanding that can be shared with others through purposeful reflection and self-assessment. Examples of experience outcomes are given below.

Practice accepting and giving peer feedback as a means for improving writing assignments, leading to increased valuing of revision in response to feedback. (English Composition)

Engage in repeated, intense learning exercises within cooperative learning teams leading to the study of different learning strategies and improved individual and team learning through self-assessment. (Psychology)

Table 1   **Comparison of Outcome Types**

	Competency	**Movement**	**Experience**	**Accomplishment**	**Integrated Performance**
Targeted Performance	disciplinary knowledge and methods	transferable skills and processes	attitudes, values and meaningful context	work product that can be placed on a resume	knowledge, skills, and processes used expertly in a very meaningful context
Situational Issues	disciplinary standard	unbounded continuum	critical analysis; meaningful; life changing	archival contribution	real-world application
Measurement Issues	snapshot of performance	trend sampling	reflective thinking	third party evaluation of product quality	focused challenge

Serve as a tutor once a week throughout the semester in a math laboratory at a local high school advancing your confidence in learning mathematics. (College Algebra)

Gain appreciation of professional practice through interactions with clients, mentors, team members, and support staff in a yearlong product development project, documenting issues and discoveries in a reflective journal that illustrates formation of a personal design philosophy. (Capstone Project Course)

Experience a culture where the assessment mindset is valued as a tool for challenging and supporting student achievement through a productive learning environment. (Faculty Development Workshop)

Accomplishment Outcomes

Accomplishment Outcomes are exemplified by a major work product or creative performance that is significant within a disciplinary field. They usually represent a clear endpoint and can often be archived for future reference or study. Outside affirmation by other faculty, alumni, or practitioners in a field can be used to eliminate instructor bias in measuring Accomplishment Outcomes. Often these outcomes can be evaluated and celebrated at the same time in a public display. Frequently they can also be listed on a student's resume documenting his or her ability to perform in specific areas. Examples of Accomplishment Outcomes are given below.

Write a poem that can be published in the campus literary magazine. (English Composition)

Create and present a poster describing benefits of a campus support group to which you belong for use in Freshman Orientation. (Psychology)

Place in the top 10% at a Student Math League competition. (College Algebra)

Produce a design product that impresses a client, your peers, and the general public at a year-end design show and wins a competition while at the same time meeting key functional performance specifications so that your product is used by your client. (Capstone Project Course)

Outline an assessment system for a course that eliminates three evaluation exercises and replaces them with assessment practices that promote desired student learning outcomes and can be used as part of accreditation visit. (Faculty Development Workshop)

Integrated Performance Outcomes

Integrated Performance Outcomes draw on previous types of learning and experiences from multiple sources. They require extension and transfer of knowledge, skills, and perspectives in a professional environment. This type of outcome must be measured in a challenging and compelling situation that ensures peak performance on the part of the learner in a relatively short period of time. Integrated performance can be studied at the beginning of a course as a pre-assessment activity or at the end of a course as a summative evaluation. Integrated Performance Outcomes are especially efficient and effective in answering questions connected with program assessment. Examples of Integrated Performance Outcomes are given below.

Write a 500-word persuasive essay for the city's editorial page challenging a recent news item that you felt was shallow or one-sided to turn public opinion in your direction. (English Composition)

Contrast the theories from the course to explain why the motivation to become president is different for each of the primary candidates. (Psychology)

Use mathematical skills developed in this course to formulate, analyze, and report quantitative results related to a scientific experiment in your lab course. (College Algebra)

Table 2   **Research Questions, Learning Activities, and Assessment Tools for Learning Outcomes**

	Competency	Movement	Experience	Accomplishment	Integrated Performance
Classroom research question	What can the learner do at what level in a specific situation?	What does increased performance look like?	How has this shared experience changed the learner?	How well does student work compare with work products of practitioners in the field?	How prepared are students to respond to a real-world challenge?
Common learning activity	guided-discovery; active learning	study of processes; use of tools	team building; contests	project work	role playing; problem solving
Common assessment tool	exams with scoresheets	self-growth papers	personal interviews; focus groups	judging work products	panel of mentors or colleagues

Display professionalism in forming client relationships, assuming team responsibilities, achieving consensus, fulfilling commitments, applying prior knowledge, and conducting self-directed learning. (Capstone Project Course)

Plan and facilitate a team-based learning exercise that will generate insights about information processing, critical thinking, problem solving, communication, teamwork, assessment, and personal development from the perspective of facilitators, participants, and peer coaches. (Faculty Development Workshop)

Using Learning Outcomes

Learning Outcomes for a course should be small in number but consistent with the long-term behaviors supported by the course. Outcome types should be selected based on the behavior, situation, and performance level desired as suggested by Table 1. Regardless of type, learning outcomes should be relevant, concise, measurable, achievable, motivating, aligned with long-term objectives, and framed in a meaningful context. Each type of outcome answers different classroom research questions, is supported by different types of learning activities, and is aligned with different assessment tools as shown in Table 2.

Concluding Thoughts

Strong performers take a keen interest in increasing the quality of their learning outcomes, and they desire feedback on how to improve in the areas that they feel are important. Educators can strive to expand the diversity and depth of learning outcomes for each course to better meet the program expectations by avoiding (a) learning outcomes of only one type, (b) emphasis on low levels of knowledge, and (c) disconnection from follow-on courses. One great way for educators to start a semester is to remind themselves and their students of the major areas for content mastery and personal growth in their courses. They can then monitor their progress as the semester unfolds. By matching the most appropriate type of learning outcome to the desired area for performance improvement, both learners and teachers will better visualize performance expectations in the immediate course and in future courses.

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