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A Guide to Writing Learning Objectives for Teachers of Psychology

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Overview

Assessment is “the systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning” (Marchese as cited in Palomba & Banta, 1999, p. 4). An essential first step in the process of assessment is outlining a clear set of objectives to be expected from an educational experience (Anderson, Moore, Anya, & Bird, 2005; Association of American Colleges and Universities, 2008; Combs, Gibson, Hays, Saly, & Wendt, 2008; Pike, 2002; Pusateri, Halonen, Hill, & McCarthy, 2009; Schuh & Upcraft, 2001; Suskie, 2006). The purpose of this resource is to assist psychology teachers in (a) understanding key terms related to objectives and their assessment, (b) writing behavior-based learning objectives, and (c) evaluating objectives once they are written.

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Definitions

Goals and Outcomes

The terms *goal*, *outcome*, and *objective* are used idiosyncratically and often synonymously in the assessment and higher education literature, but I assign them distinct meanings in this document. The expected results of higher education are split into two levels: broad and specific (Anderson et al., 2005; Harden, 2002; Palomba & Banta, 1999). Goals and outcomes refer to the broad expectations set for graduates of a certain institution or program. They cut across lower levels of organization such as individual courses. Goals and outcomes are the type of learning expectations that might be included as a short list on a syllabus. For example, higher education frequently involves learning expectations related to critical thinking; for example,

- College-wide student-learning goal: The college will train students to think critically.
- Psychology Department student-learning outcome: “Students will respect and use critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes” (American Psychological Association [APA], 2007, p. 10).

Objectives

Objectives are specific and behavioral; they consist of the knowledge, skills, or attitudes teachers expect from learning experiences such as courses (Anderson et al., 2005; Harden, 2002; Palomba & Banta, 1999). Objectives are specific enough to be measured and shared as the expectation for learning during one class period or even one activity. Continuing with the example of critical thinking, an objective would be

- Course learning objective: Students in Introductory Psychology will apply the four steps of the scientific method to determine if parapsychology constitutes a science.

Typical psychology courses may have only a handful of goals/outcomes while simultaneously having a hundred or more objectives. Further illustrations of the distinction between broad psychology major outcomes and specific course objectives can be seen in Table 1. The table shows how objectives for various courses can all be related to the same overarching outcomes for the psychology major.

Assessment and Evaluation

Assessment and evaluation are related but distinct concepts that both involve learning objectives. Assessment is a process. The steps in that process include the following:

- establishing learning objectives,
- providing learning opportunities that relate to the objectives,
- determining if learning has occurred, and
- making revisions and improvements based on determinations of student learning.

In contrast, evaluation refers to judgments about performance. More specifically to the context of teaching, evaluation mostly refers to the assignment of grades based on student performance. For example, tests and papers are traditional tools for evaluation. Thus, evaluation can be part of assessment, but it is not assessment in and of itself.

Writing Learning Objectives

There are three steps in writing learning objectives: (1) defining the learning content, (2) translating content into a measurable format, and (3) evaluating the quality of the resulting objectives (Huba & Freed, 2000). Course objectives serve as a guide for all learning experiences

and all evaluation of learning. As such, the process outlined below should be completed in the very earliest stages of course planning.

Step 1: Defining Learning Content

Instructors can derive course learning content from many sources, both formal and informal (Palomba & Banta, 1999; Pike, 2002). In general, instructors need to answer the question: What should students be able to do after this learning experience?

Formal sources of content come from official organizations. Teachers should start searches for content by determining if there are predetermined requirements or expectations for their course. Examples of formal sources include the following:

- ***College mission and goal statements.*** Colleges and universities set broad expectations for learning in their goal or mission statements. Teachers should determine how psychology fits into their college's mission and if their courses have special designations for achieving aspects of the mission. For example, courses may be part of a general education curriculum that has goals pertaining to critical thinking, communication, or diversity. The role of instructors is then to translate these broad expectations into specific course learning expectations.
- ***Departments.*** Psychology departments may have their own set of outcomes, and they may even use curriculum mapping to specify which courses are expected to foster which outcomes.
- ***Professional organizations.*** For teachers in undergraduate programs, the *APA Guidelines for the Undergraduate Psychology Major* (APA, 2007) offer guidance on the agreed-upon outcomes for psychology as an overall program of study. Teachers of introductory psychology can utilize the College Board's (2010) full list of objectives for

Advanced Placement Psychology. For teachers in graduate programs, accreditation standards might dictate some course content.

Despite their value, even the most detailed sets of institutional, departmental, or professional outcomes/goals will only provide a starting point for instructors. Teachers will also need to use **informal sources** in determining the typical knowledge, attitudes, and skills that students should possess after a specific learning experience. Examples of informal sources include the following:

- **Colleagues.** Consulting with other teachers, especially instructors of the same course, can provide a sense of consensus about important content (Palomba & Banta, 1999).
- **Sample Syllabi.** The Project Syllabus Website (teachpsych.org/otrp/syllabi/index.php) allows instructors to examine other instructors' peer-reviewed syllabi. Instructors can find additional examples by using their course title and "syllabus" as Internet search terms, but limiting the results to .edu websites is advisable.
- **Textbooks.** Textbook authors, recognizing the importance of setting objectives, frequently include them as part of their texts. In addition, analysis of common concepts that occur across textbooks also provides an indication of core content (e.g., Griggs, Bujak-Johnson, & Proctor, 2004).
- **Personal expertise in the content area.** Finally, teachers must use their own training, experience, and expertise to select content that they think is most important for students to learn and that they can teach most effectively.

Step 2: Creating Objective Statements

Once instructors identify content, their second step in writing objectives is to transform that content into clear and measurable statements. Although there are several ways to conceptualize objective statements (e.g., D'Andrea, 1999; Osborn & Wagor, 2004), the ABCD format is both comprehensive and mnemonically useful (Cope, 2008; Smaldino, Russell, Heinich, & Molenda, 2005). The ABCD format involves specifying an audience (A), behavior (B), condition (C), and degree (D).

Audience (A). Audience refers to who will be involved in the learning experience. For course objectives, the audience will simply be the students in a course. Practically speaking, teachers need to formulate audience statements only once when creating a list of objectives for a specific course. Some examples of audience statements for courses and other learning experiences are

- students in Introductory Psychology (A),
- students who complete the psychology major (A),
- participants who complete the 2-hour workshop (A), and
- clients engaging in career counseling (A).

Behavior (B). Behavior refers to what will be learned, such as knowledge, skills, or attitudes. Defining the behavior requires translating intellectual abilities, which are frequently abstract, into activities that can be observed and measured (Smaldino et al., 2005). Bloom's (1956) taxonomy is an essential tool in writing knowledge-based objectives because it organizes learning into different levels of cognitive complexity. Table 1 illustrates how various psychology outcomes can be addressed with objectives at various levels of Bloom's taxonomy, and Pusateri and colleagues (2009) provide detailed information on using Bloom's taxonomy.

Teachers must select a cognitive level and a specific behavioral term that represents the learning they want students to achieve. The selection process is complex, however, because even for the same psychological topic, learning experiences can focus on achieving different levels of cognitive complexity. Consider the following classical conditioning objectives, which each address a different level of cognitive complexity.

- **Knowledge:** Students in Introductory Psychology (A) will illustrate the four components of classical conditioning (B).
- **Application:** Students in Introductory Psychology (A) will apply classical conditioning to explain their own behavior (B).
- **Evaluation:** Students in Introductory Psychology (A) will evaluate the strengths and weaknesses of classical conditioning as an explanation of behavior (B).

When the expected learning is more abstract, the goal remains the same – translation into observable and measureable behavior. Consider these examples.

- **Career development:** Students completing the professional development course (A) will place themselves at a specific step in the career decision-making process (B).
- **Interpersonal development:** Trainees in the counseling practicum course (A) will identify personal beliefs that could interfere with treatment of diverse clients (B).
- **Lifelong learning:** Students in Introductory Psychology (A) will develop a plan for evaluating the reporting of scientific findings in the popular press (B).

Condition (C). Condition refers to the precise situation in which students can demonstrate a learned behavior (Smaldino et al., 2005). Condition statements are not always required, but they can add necessary clarity to some objectives. One way to set a condition is to stipulate the tools available when enacting the behavior.

- Students in Research Methods (A) will compute correlations (B) using SPSS (C).
- Students in Research Methods (A) will write APA style references for journal articles (B) without using the APA manual (C).

Conditions can also dictate the situation in which the behavior should occur.

- Students in Introductory Psychology (A) will identify the independent and dependent variables (B) when given an example of an experiment (C).
- Students in Abnormal Psychology (A) will generate a differential diagnosis for all the anxiety disorders (B) when given a list of symptoms (C).

Degree (D). Degree refers to how much or how well learning occurs; it sets minimal standards for the behavior (Smaldino et al., 2005). Just as with conditions, degree statements are not always required but can provide additional clarity. One way to define degree is by stipulating the amount of a specific behavior to be expected.

- Students in Introductory Psychology (A) will illustrate the four components of classical conditioning (B) by giving two examples of classical conditioning in action (D).
- Students in Research Methods (A) will identify (B) five empirical articles (D) when given a psychological topic and access to PsycINFO (C).

Another way to set a degree is by stipulating a certain level of acceptable performance.

- Students in Research Methods (A) will write APA style references for journal articles (B) without using the APA manual (C) and without making errors (D).
- Students in Abnormal Psychology (A), when given a case study (C), will calculate a Global Assessment of Functioning Scale score (B) within 15 points of the correct score (D).

Step 3: Evaluating Objectives

The final step in creating objectives is evaluation. All objectives should be evaluated for quality before implementation. Evaluation can be accomplished by answering a set of questions for each objective (Cope, 2008; Huba & Freed, 2007). The answer to all of these questions should be “Yes.”

Is the objective related to important content? The need to cover content can lead teachers to bury students in course material. Thus, teachers should honestly evaluate each objective to determine if it really is part of the essential course content.

Is the objective meaningfully related to the intended content? Simply having an objective does not mean that it is actually achieving the intended goal. Part of the challenge in formulating behavioral statements is determining if the behavior is a valid operationalization of the to-be-learned content. To illustrate, imagine a teacher who decides that critical thinking is of central importance in a course, but the course objectives only involve knowledge and comprehension skills. Such objectives are unlikely to be meaningfully related to critical thinking, which typically entails higher cognitive skills such as analysis and evaluation.

Is the objective phrased as a behavior? Terms such as “understand,” “know,” and “appreciate” are not appropriately behavioral (Smaldino et al., 2005). How can understanding be observed and measured? What does a student who appreciates something do? Answering such questions helps translate abstract learning into behavioral phrases. Table 1 provides numerous examples of appropriate behavioral terms for psychology-based learning at every possible cognitive level.

Is the objective focused on an outcome students will achieve? Behavioral statements must focus on how students will demonstrate that they have reached a learning goal rather than

the instructional methods that move them toward that goal. Stating that students will listen to a lecture, engage in a discussion, read a book, or view a film does not describe the intended learning behind those activities, and they are not appropriate statements of behavior.

Is the behavior in the objective specific enough to be measured? Objectives must be measurable. If they are not measurable, then it becomes impossible to determine if educational experiences are having the intended effect. Measurability is especially important to consider in the case of value and attitude objectives, which have a tendency toward the abstract.

Does the objective match the planned evaluation? Objectives that are inconsistent with evaluation methods are problematic. To start with an obvious example, it would be incongruent to have objectives related to written communication and not grade students on their writing skills. However, it would be equally problematic to use only multiple choice tests if course objectives include higher order cognitive skills (i.e., above comprehension) because those skills tend to require written evaluations (Osborne & Wagor, 2004).

Conclusion: Objectives as Process

When learning is operationally defined using objective statements, assessment results can clearly indicate students' level of learning. If assessments indicate that students are not meeting learning objectives, reevaluation of the objectives is warranted (Suskie, 2009). In evaluating objectives, consider the following questions:

- Are there too many objectives?
- Are the objectives unclear?
- Are the objectives too advanced?
- Are objectives written at the appropriate cognitive level?

- Are intermediate learning objectives needed to move students incrementally toward the final learning expectation?

Ultimately, learning objectives are just the first step in an ongoing assessment process. Just as assessment can lead to alterations in teaching strategy, it can also lead to changes in learning objectives.

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Table 1

Examples of Cognitive Skills, Behaviors, and Objective Statements

Cognitive skill	Behavior term	APA outcomes and example course objectives	Additional behavior terms
Knowledge		“Characterize the nature of psychology as a discipline.”	
	Define	Students in Introductory Psychology will define psychology.	Label Name Order
	List	Students in Research Methods will list the steps of the scientific method in order.	Recognize Reproduce Select
	State	Students in History of Psychology will state the events that led the transition of psychology from philosophy to science.	
Comprehension		“Demonstrate knowledge and understanding representing appropriate breadth and depth in selected content areas of psychology... [such as] biological bases of behavior.”	
	Locate	Students in Introductory Psychology, given a diagram of the brain, will locate the areas of the cerebral cortex including the frontal, occipital, parietal, and temporal lobes.	Classify Describe Explain Identify Indicate Locate Paraphrase
	Describe	Students in Research Methods will describe three methods of measuring brain structure and function.	Restate Translate
	Indicate	Students in History of Psychology will indicate the importance of Broca’s research in psychology by connecting his work to three subsequent fields of study.	

Application	“Use the concepts, language, and major theories of the discipline to account for psychological phenomena.”		
Show	Students in Introductory Psychology, given an example of child misbehavior, will show how two different schedules of reinforcement could be used in its management.	Apply Demonstrate Change Illustrate Manipulate Predict Show Relate Use	
Illustrate	Students in Research Methods will illustrate how concepts from psychoanalysis, behaviorism, humanistic, and cognitive psychology can be operationally defined.		
Relate	Students in History of Psychology will relate three characteristics of animal psychology to Watson’s behaviorism.		
Analysis	“Explain major perspectives of psychology.”		
Compare	Students in Introductory Psychology will compare and contrast the underlying assumptions and methods of the behavioral and humanistic approaches to psychotherapy.	Analyze Break down Calculate Compare Contrast Differentiate Discriminate Question Test	
Analyze	Students in Research Methods will analyze the research methods of psychoanalysis using the principle of falsifiability.		
Break down	Students in History of Psychology will break down the historical context that led to the rise of cognitive psychology using factors both internal and external to science.		

Synthesis	“Explain different research methods used by psychologists.”	
Propose	Students in Introductory Psychology, given an area of psychology, will propose a research topic in that area that could be studied using the correlational or experimental method.	Arrange Compose
Synthesize	Students in Research Methods will synthesize at least eight primary sources into an Introduction for an APA style empirical report.	Create Develop Formulate Generate Plan
Arrange	Students in History of Psychology will arrange the major schools of psychology (i.e., volunteerism, structuralism, functionalism, behaviorism, psychoanalysis, Gestalt, cognitive) based on their similarity to modern psychological research.	Propose Synthesize
Evaluation	“Evaluate the appropriateness of conclusions derived from psychological research.”	
Argue	Students in Introductory Psychology will argue for the existence of single or multiple intelligences using at least three pieces of supportive evidence.	Argue Evaluate Defend Discriminate
Evaluate	Students in Research Methods will evaluate the internal, external, and statistical conclusion validity of published empirical reports.	Judge Justify Rate Recommend Support
Judge	Students in History of Psychology will judge the scientific and ethical suitability of Skinner’s theoretical applications of behaviorism to society.	

Note. Bolded quotations represent selected APA (2007) undergraduate learning outcomes.