

Psychology Program Learning Outcomes Assessment Project 2005-2006

Psychology *includes* ways of knowing and understanding the world based on science, philosophy, the humanities, and the arts. Psychology also recognizes the diverse cultural, economic, ethnic, historical, and political viewpoints that exist in a multicultural world. The discipline seeks to understand how these viewpoints interact with individual and group behavior in order to encourage a rich pluralism of human interaction. As can be seen, the CSUCI Psychology program embraces the institutionally based mission outcomes of the university:

CSUCI graduates will possess an education of sufficient breadth and depth to appreciate and interpret the natural, social and aesthetic worlds and to address the highly complex issues facing societies. Graduates will be able to:

- *Identify and describe the modern world and issues facing societies from multiple perspectives including those within and across disciplines, cultures and nations (when appropriate).*
- *Analyze issues, and develop and convey to others solutions to problems using the methodologies, tools and techniques of an academic discipline.*

Psychology Program Goals and Student Learning Outcomes

The Psychology program adheres closely to the Learning Objectives and Outcomes outlined in *Goals and Objectives for the Undergraduate Psychology Major: Recommendations from a Meeting of California State University Psychology Faculty* (Allen *et al*, 2000) and *Undergraduate Psychology Major Learning Goals and Outcomes: A Report* (American Psychological Association [APA], 2002). These reports list a set of recommended goals and objectives for the undergraduate psychology major. The first three goals represent *knowledge, skills, and values unique to psychology*. The remaining goals represent *knowledge, skills, and values for undergraduates further developed in psychology*. According to these eight key learning objectives and goals, students should:

- be familiar with the major theoretical approaches, findings and historical trends in psychology;
- understand and be able to use major research methods in psychology, including design, data analysis and interpretation;
- have an understanding of applications of psychology to personal, social and organizational issues;
- demonstrate information competence and the ability to use computers and other technology for multiple purposes;
- use and respect skeptical inquiry, critical thinking, and the scientific approach to understanding behavior;
- have an understanding of the complexity of cultural diversity;
- be able to express themselves effectively in written and oral communication; and
- understand themselves and others in a cultural context and develop interpersonal skills for diverse settings over the lifespan

For the 2005-2006AY, the program selected a lynchpin learning goal to assess:

- Students should understand and be able to use major research methods in psychology, including design, data analysis and interpretation.

This learning goal has a number of specific indicators, or student learning outcomes, that provide an “operational definition” of the goal. These more specific outcomes (see bulleted material below) provide a measurable way to determine the degree to which the overarching learning goal has been met.

The culminating experience and assignment for the two-semester research methods sequence (*PSY 300 Psychological Research and Statistical Methods with Lab I, 3 units; PSY 301 Psychological Research and Statistical Methods with Lab II, 3 units*) is a poster presentation of students’ original empirical research. This poster presentation mirrors those held at both regional (*e.g.*, Western Psychological Association) and national (*e.g.*, American Psychological Association) conferences. The posters present students’ original, empirical research conducted as a requirement for passing PSY 301. The APA (2006) cites a number of advantages of poster

assessment over other modes of assessment. As such, these posters provide a rich source of data that to assess the degree to which Psychology students can:

- Locate relevant research, theory, and information necessary to plan, conduct, and interpret results of research studies.
- Formulate a testable research hypothesis.
- Design basic studies to address psychological questions using different research methodologies.
- Under appropriate supervision, collect, analyze, and report data designed to answer a psychological question.
- Apply APA ethical guidelines in the design, data collection, analysis, interpretation, and reporting of psychological research.
- Demonstrate understanding of APA guidelines for the ethical treatment of human and nonhuman research participants.
- Apply and interpret basic descriptive and inferential statistics.
- Demonstrate understanding of the appropriate use of various data analytic techniques for addressing different types of questions and hypotheses.
- Demonstrate knowledge of different research methodologies employed by psychologists, including an understanding of the appropriate use of various research designs for addressing different types of questions and hypotheses.
- Place research questions in an appropriate theoretical context.
- Evaluate the appropriateness of conclusions presented in disseminated research relevant to psychology.

Data and Analysis

Maintaining student and rater confidentiality, Psychology faculty independently judged 54 student posters at the annual Psychology Program Poster Presentation. In line with best practices for such evaluation, faculty assessed the posters based on the degree to which the research and poster presentations met the criteria (see Appendix A). The ratings were sufficiently reliable ($\alpha = .87$) to use them for assessment purposes. The means and standard deviations appear below.

Criteria	Mean	SD
The introduction contains enough information for me to understand the purpose of the study.	4.6	0.3
The introduction/method section clearly identifies the hypothesis or research question addressed in the study.	4.7	0.4
The methods section clearly identifies the subjects/participants in the study.	4.5	0.5
The methods section clearly identifies the variables/measures used in the study.	4.2	0.5
The methods section clearly identifies the data collection methods used in the study.	4.8	0.3
The results/analysis section clearly reports the necessary quantitative information about the variables/measures used in the study.	4.2	0.5
The results/analysis section clearly reports the necessary statistical results for testing the hypothesis or answering the research question.	4.3	0.5
The discussion/conclusion section clearly conveys in words the major findings of the study.	4.2	0.5
The discussion/conclusion section provides a reasonable interpretation/conclusion etc.	4.1	0.6
The reference section is in standard APA format.	4.0	0.7
Appropriate APA format is followed throughout the poster.	3.9	0.5
The poster is attractive and easy to read and understand	4.7	0.2

Note. Based on a five point scale, 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree.

Statistical tests (*t*-tests) confirmed that for each criterion, students' work *significantly* exceeded the neutral point (3.0). These findings provide strong evidence that the learning outcome was met: the posters and underlying research met the goals and expectations that students would understand and be able to use major research methods in psychology, including design, data analysis and interpretation. Faculty were also asked to provide an overall holistic rating using a five-point scale ranging from 1 ("Poor") to 5 ("Excellent/Outstanding"), the average rating was 4.7, (SD = 0.34). This means the "average" poster and underlying research was judged to be "Very Good" to "Excellent/Outstanding."

Additional analysis demonstrated a significant instructor effect ($p < .05$) that suggested poster and research quality varied by instructor. This statistical analysis was "blind" to instructor, and suggests only that students were not receiving uniform instruction across all sections of PSY 300 and PSY 301.

Conclusions and Implications for Program Modification

Clearly, the posters demonstrate that Psychology students clearly attained the learning outcome under study. One conclusion, therefore, is that Psychology is graduating students who understand and can conduct empirical research to the standards set by the program. These standards, in turn, are common standards across many Psychology programs nation-wide.

Also of importance, there was significant variability in the ratings based on the instructor of the PSY 301 courses. This suggests some program modifications that can help to reduce this unwanted source of variance that tends to lower the ratings. To this end, the Psychology program allocated significant resources to resolve this issue. All PSY 300 and PSY 301 instructors were granted an additional weighted teaching unit (WTU) each semester for AY2006-2007. For this additional WTU, instructors meet weekly in an informal working group. The charge for this group is the review of the PSY 300 and PSY 301 curricula, the exchange of teaching ideas and methods, the creation of a set of common and signature assignments for all PSY 300 and PSY 301 sections, and the development of a common rubric for poster and paper presentations. It is expected that when the recommendations of this group are tendered and followed, the "unwanted" variation in poster and research quality due to instructor will diminish, helping to ensure that all Psychology students develop the highest possible set of competencies and skills in conducting, analyzing and interpreting research.

References

- Allen, M. J., Noel, R., Deegan, J., Halpern, D., & Crawford, C. (2000). *Goals and objectives for the undergraduate psychology major: Recommendations from a meeting of California State University psychology faculty*. Statesboro, GA: Office of Teaching Resources in Psychology.
- American Psychological Association. (2001). *Publication manual of the American Psychological Association* (5th ed.). Washington, D.C.: Author.
- American Psychological Association. (2002). *Undergraduate Psychology major learning goals and outcomes: A report*. Washington, D.C.: Author.
- American Psychological Association. (2006). *Designing viable assessment plans: Evaluating assessment strategies*. Retrieved from http://www.apa.org/ed/eval_strategies.html, September 14, 2006.

Poster Evaluation and Assessment

For each poster, please answer each of the following questions. In each case, please select the response that best reflects how much you agree or disagree with that statement.

- A** Strongly Agree
B Agree
C Neutral

- D** Disagree
E Strongly Disagree

	Poster Number
	The introduction contains enough information for me to understand the purpose of the study.
	The introduction/method section clearly identifies the hypothesis or research question addressed in the study.
	The methods section clearly identifies the subjects/participants in the study.
	The methods section clearly identifies the variables/measures used in the study.
	The methods section clearly identifies the data collection methods used in the study.
	The results/analysis section clearly reports the necessary quantitative information about the variables/measures used in the study.
	The results/analysis section clearly reports the necessary statistical results for testing the hypothesis or answering the research question.
	The discussion/conclusion section clearly conveys in words the major findings of the study.
	The discussion/conclusion section provides a reasonable interpretation/conclusion etc.
	The reference section is in standard APA format.
	Appropriate APA format is followed throughout the poster.
	The poster is attractive and easy to read and understand
	My overall rating is:
	1. Poor
	2. Fair
	3. Good
	4. Very good
	5. Excellent/Outstanding

	Poster Number
	The introduction contains enough information for me to understand the purpose of the study.
	The introduction/method section clearly identifies the hypothesis or research question addressed in the study.
	The methods section clearly identifies the subjects/participants in the study.
	The methods section clearly identifies the variables/measures used in the study.
	The methods section clearly identifies the data collection methods used in the study.
	The results/analysis section clearly reports the necessary quantitative information about the variables/measures used in the study.
	The results/analysis section clearly reports the necessary statistical results for testing the hypothesis or answering the research question.
	The discussion/conclusion section clearly conveys in words the major findings of the study.
	The discussion/conclusion section provides a reasonable interpretation/conclusion etc.
	The reference section is in standard APA format.
	Appropriate APA format is followed throughout the poster.
	The poster is attractive and easy to read and understand.
	My overall rating is:
	1. Poor
	2. Fair
	3. Good
	4. Very good
	5. Excellent/Outstanding

Rater Initials: _____