



Executive Summary

Goal 2: Scientific Inquiry and Critical Thinking

GROUP MEMBERS

Jon Mueller, Chair

Karen Brakke

Mike Drysdale

Keisa Kelly

Gary Levine

Jaclyn Ronquillo-Adachi

Helen Taylor, CABE

CONTEXT

Scientific and critical thinking skills serve as the foundation of not only introductory psychology but also of the entire psychology curriculum. These skills are critical for students and citizens in general to interpret much of the information and claims they encounter in everyday life. They are also a necessary foundation for making sense of the research within the sub-disciplines of psychology and critically considering appropriate applications of psychological ideas. We see the major thrust of our goal area as assessing whether students are learning how to think like psychologists, whether at the novice or advanced level. Above all, we want to assess whether they are able to critically evaluate everyday claims, develop psychological literacy, and understand/conduct research. Thus, our group gave attention to addressing these skills at the foundation and baccalaureate levels.

SEVEN KEY TASKS

As a guiding framework for the identification and development of meaningful assessment of scientific inquiry and critical thinking, we first identified seven key cognitive tasks that students complete across many schools and programs, including

- Critiquing claims
- Locating and evaluating information/sources
- Evaluating sociocultural, theoretical, personal biases
- Critiquing a research study
- Designing a research study
- Conducting a research study
- Analyzing a data set

We used the APA Guidelines 2.0 in concert with the seven student learning outcomes to drive our development of the assessments. Although we addressed many of the foundation and baccalaureate indicators, the Guidelines constitutes a living document. Consequently, our group gave less attention to Outcome 2.3, which we thought was significantly replicated elsewhere in Goal 2. On the other hand, we also suggested inclusion in future revision activity of another possible outcome, statistical literacy, which we did not believe the Guidelines addressed adequately.

EXEMPLAR DEVELOPMENT

Of the types of exemplars that we could identify and create, our group thought that broad rubrics that addressed each of the outcomes would be most useful to our audiences. College instructors have regularly generated assignments, but have received little training in rubric development. Therefore, both teachers and departments would welcome a general rubric that could be applied to a variety of tasks within and across the outcomes. Our group created or adapted at least one broad rubric for each of the seven key tasks. We noted that the AAC&U VALUE rubrics are particularly useful in this respect.

Additionally, we developed or adapted examples of fully-developed assignments or brief descriptions of tasks that would align with the rubrics. Each exemplar in our folder begins with a cover page, followed by an assignment or brief task description, and concludes with the relevant

rubric. However, we want to emphasize that the rubrics are not specific only to the sample assignments but can be applied to a large variety of tasks for the specific outcomes.

Our attention has been given to the development of local assessments rather than external ones. One reason for that is the expense of adopting and using any of the external measures. Another reason is that the greater the teaching-testing mismatch between the assessment and curriculum, the less valid the inference drawn from the assessment will be. If instructors or departments can tailor any of these rubrics to the specific focus of their curriculum, the closer the match will be between the two.

FORMATIVE ASSESSMENT

We developed a model that instructors or departments can follow to create a series of formative assessments to develop the skills addressed. Faculty who struggle with developing a specific skill (or even a specific concept) can follow this model to teach the skill more carefully and coherently, as well as give students opportunity to practice the skill, receive feedback, and reflect upon the feedback and performance. Similarly, departments that look to address deficiencies or improve student learning on these skills can use formative assessments to build the competencies of their students. We include a few sample series of formative assessments created using this model in the bonus feature area.

FUTURE REPOSITORY DEVELOPMENT

Several guidelines emerged as important considerations for the assessment repository:

1. Keep the repository simple to use;
2. Tag the assessments for level (two-year, four-year), formative/summative; by the indicators, large/small class, type of artifact (rubric, test, etc.), online/face-to-face, etc.;
3. Make it possible for peer reviews, ratings, comments and variations used (like a recipe); and
4. Include a glossary of terms and concepts in assessment (primer idea).

To test the reliability and validity of the assessment tools, we suggest that users collect and share data regarding the use of these instruments. For example, one possible way to do this would be to create a shared data library and to devise a rating system for each of the assessment tools for users to submit feedback. Furthermore, the repository could use a peer-review framework to allow other instructors to submit original assessments (perhaps like Project Syllabus). It is also worth noting a few issues regarding the maintenance of the repository:

1. Ensure the goals and outcomes remain aligned to the updated versions of APA Guidelines for the Undergraduate Psychology Major;
2. Attend to both formative and summative assessments; and
3. Distinguish foundational and baccalaureate contributions.

RECOMMENDATIONS REGARDING *GUIDELINES 3.0*

As development of the *Guidelines* moves through additional iterations, we encourage the developers to include a statistical literacy outcome, and to design the indicators to be easily transferable to rubric criteria. For example, we experienced redundancy between Outcome 2.3 with the other outcomes.