The Assessment CyberGuide for Learning Goals and Outcomes

(Second Edition, November 2009)

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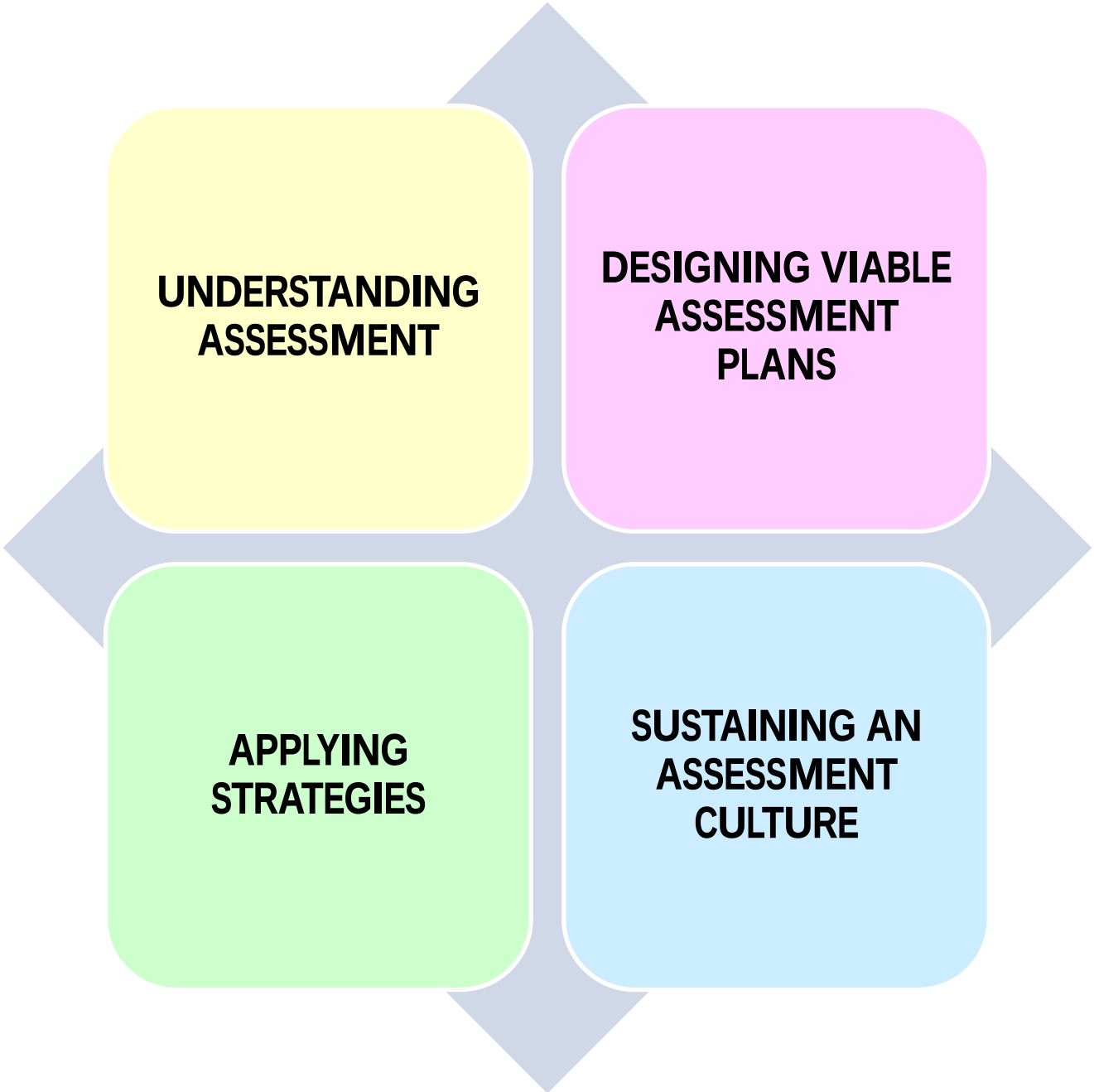

"Assessment Days." Many departments designate a common time to assess student progress. In some cases, classes may be canceled to facilitate completion of the work; however, care needs to be taken to insure student motivation in rendering solid performance.

After graduation. Interest in alumni satisfaction and performance skills prompts many departments to assess students after they have graduated. Length of time can range from six months after graduation (e.g., typical length of time to look at employment success) to five years (e.g. typical length of time to look at graduate school completion rates/adjustment). Employers or graduate advisors may be asked to evaluate the former student's strengths and weaknesses.

What do you assess?

Achievement in the Major. Assessment activity can establish how well students have learned the content, skills, and attitudes of the major. Quality is easiest to assess when the department has formulated explicit learning outcomes that characterize the major.

General Education Achievement. Some institutions assess the overall development within the liberal arts.

Performance Patterns. Programs may want answers to specific issues about student performance. For example, how do transfer students compare to students who have been in the program from the outset of their studies? How do female students compare to male students in their relative performances?

Impact of Faculty or Program. Program faculty may want to determine what kind of impact the program or the faculty have had on students beyond their academic achievement. Satisfaction surveys, focus groups, and other strategies may help the faculty to address these questions.

Quality of Instructional Practice. Faculty may want to evaluate whether a new instructional technique produces improved learning over other approaches. They may evaluate questions of this type through systematic comparison of student performances across semesters.

Who assesses?

Faculty. Historically, faculty have been charged with evaluating the quality of their students' work. They remain the primary source of expert feedback on student performance in assessment activities.

Expert External Judges. Assessors can provide feedback on student performance as long as they can be trained properly on performance criteria. Experts can be recruited from among other faculty or professionals in the community.

Peers. Student colleagues can provide feedback on performance if properly trained on clear criteria.

Employers. We can find out the quality of performance of our graduates by asking for a review of their work from current employers. Although the student is the focus, the attitudes being assessed are the employers.

Family. Some strategies can involve assessing parental satisfaction with changes in their children as a result of education. Although the student is the focus of the assessment, the attitudes being assessed are the parents.

Students. Students can evaluate their own performances through self-assessment strategies. Advocates of self-assessment suggest such practices can encourage student development and independence.

What is the quality of your assessment measures?

Validity and reliability of the measure. The selected strategy needs to produce both a valid and reliable measure of learning. Students should be optimally motivated to engage in the assessment.

Appropriateness for the targeted learning goal as well as the mission and goal of the program. The measure should be logically connected to the objectives of the assessment.

How will you use the assessment results?

Direct feedback to students/faculty. In most cases, the individuals who are being assessed can benefit from feedback that determines strengths and weaknesses. An assessment experience can highlight both strengths and areas of potential weakness, which can have an impact on individual plans for improvement.

Systematic feedback for program improvement. The results of assessment can be used by program faculty to determine strengths and weaknesses. Strengths can be used to enhance recruitment and procure resources. Weaknesses can be remediated once they have been recognized.

Benchmarking for program comparison. In some institutions, programs may have to provide evidence of effectiveness for continued support. Clear indications of effectiveness may secure additional support funds.

How will you manage assessment obligations with other academic tasks?

Best Practices in Assessment: Top 10 Task Force Recommendations

from the APA Board of Educational Affairs Task Force on Psychology Major Competencies (2002)

1. Encourage department ownership to drive the process.
Faculty resistance to assessment activity can defeat the best designed assessment practices. Assessment planning should grow out of the fundamental questions the faculty have about how their contributions shape program success. This emphasis may involve addressing differences between an individual faculty member's personal goals (e.g. income, convenience, lifestyle, security, autonomy) and the collective goals of the department.

2. Define your objectives in the context of your institutional mission.
Create a shared mission and goals statement that reflects an emphasis on student learning. The values of the institution should be reflected in your department's plan. Faculty identification with the institution will reinforce assessment activities, particularly if faculty can envision that their results will have a positive impact on how the institution works.

3. Focus on collaboration and teamwork.
Faculty members must agree on assessment goals for planning to be meaningful. They may have to rise to a higher level of collaboration than may have been traditionally practiced in most departments. Collaboration within the department, across departments, and with higher administration will facilitate the best outcomes from assessment planning. All constituents must recognize that assessment skills must be developed and that colleagues can assist each other by sharing practices and strategies.

4. Clarify the purpose of assessment.
Assessment can serve dual purposes: Assessment can promote student learning or provide evidence for accountability requirements through an evaluation of strengths and weaknesses. Wherever possible, students should experience a direct, positive benefit from their participation in assessment activities.

5. Identify clear, measurable, and developmental student learning
Explicit identification of learning expectations facilitates the department's coherence about their goals. Sharing those expectations explicitly with students can provide an effective learning scaffold on which students can build their experiences and render effective performance. Outcomes can be specified in a developmental hierarchy, where possible.

6. Use multiple measures and sources consistent with resources.
Effective assessment planning can only occur when properly supported with appropriate time, money, and recognition for good work. The expansiveness of the assessment plan will depend on those resources. As resources permit, additional measures can be added to planning. These measures address variations in learning style, differences in types of learning, and interests from variable stakeholders.

7. Implement continuous assessment with clear, manageable timelines.
Better assessment practice involves spreading out assessment activity throughout the year and across years rather than conducting a marathon short-term assessment effort in a single year. Projecting a schedule of regular formal reviews can facilitate appropriate interim activity.

8. Help students succeed on assessment taskcan be add

A. Understanding Assessment

3. Undergraduate Education Perspective: Principles for Sound Assessment Practices

In 1993, a task force from the American Association of Higher Education (AAHE) articulated some philosophical principles about enacting assessment planning. This entry summarizes nine ideas and

A. UNDERSTANDING ASSESSMENT

4. Societal Perspective: National and International Conversations on Assessment and Accountability

To provide a broader context for discussions on assessment, we briefly describe the Spellings Report, the Bologna Process, and assessment resources from some national organizations and associations.

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National Perspective: Spellings Commission Report

In September 2006, The United States Department of Education published a report and several issue papers (available online at http://www.ed.gov/about/bdscomm/list/hiedfuture/reports.html) that called for reforms in the country's higher education system in six key areas: Access, Cost and Affordability, Financial Aid, Learning, Transparency and Accountability, and Innovation. Here is a summary of their recommendations concerning the two areas most related to assessment of student learning.

Learning: "In our view, correcting shortcomings in educational quality and promoting innovation will require a series of related steps, beginning with some of the accountability mechanisms that are summarized below and discussed at greater length later in this report. In addition, we urge postsecondary institutions to make a commitment to embrace new pedagogies, curricula, and technologies to improve student learning."

Transparency and Accountability: "We believe that improved accountability is vital to ensuring the success of all the other reforms we propose. Colleges and universities must become more transparent about cost, price, and student success outcomes, and must willingly share this information with students and families. Student achievement, which is inextricably connected to institutional success, must be measured by institutions on a 'value-added' basis that takes into account students' academic baseline when assessing their results. This information should be made available to students, and reported publicly in aggregate form to provide consumers and policymakers an accessible, understandable way to measure the relative effectiveness of different colleges and universities."

U.S. Department of Education (2006). *A test of leadership: Charting the future of U.S. higher education*. Washington, DC: Author. (ERIC Document Reproduction Service No. ED493504)

International Perspective: The Bologna Process

In 1999, a Joint Declaration of the European Ministers of Education established the "Bologna Process" whose goal is to develop shared standards and articulation agreements for all academic degree programs across all participating countries. The European Commission's Web site indicates that "The three priorities of the Bologna process are: Introduction of the three cycle system (bachelor/master/doctorate), quality assurance and recognition of qualifications and periods of study." (http://ec.europa.eu/education/higher-education/doc1290_en.htm)

The following articles discuss the Bologna Process in relation to degree programs in psychology. The abstracts of these articles can be viewed at http://www.psycnet.org/journals/epp/10/2/ by clicking on the links to the "Full Text/HTML version of each article:

Bartram, D. & Roe, R. A. (2005). Definition and assessment of competences in the context of the European Diploma

General Resources for Assessment of Student Learning

American Psychological Association. (1997). *Learner-centered psychological principles: A framework for school reform & redesign.* Retrieved from http://www.apa.org/ed/cpse/LCPP.pdf

Effective assessment strategies require an understanding of the learning process. The Learner-Centered Principles Work Group of the American Psychological Association's Board of Educational Affairs (BEA) articulate 14 learner-centered psychological principles that address cognitive and metacognitive factors, motivational and affective factors, developmental and social factors, and individual difference factors in learning.

Angelo, T. (1999, May). Doing assessment as if learning matters most. *AAHE Bulletin*, *51*(9), 3-6. Retrieved from http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/17/a5/10.pdf (Note: This article appears on pages 133-136 of the PDF.)

Angelo argues for assessment that is focused on learning-centered principles and that transforms the culture of the university. He advocates for shared trust, shared vision and goals, shared language and concepts, and research-based guidelines to enhance the quality of assessment practices.

Banta, T. W., Jones, E. A., and Black, K. E. (2009). *Designing effective assessment: Principles and profiles of good practice*. San Francisco, CA: Jossey-Bass.

Banta, Jones, and Black discuss good practices in planning, implementing, and sustaining assessment and provide examples from 130 institutions (49 of which are in detail) that illustrate varying approaches to assessment at the institutional, departmental, and program level. For more information, visit http://www.josseybass.com/WileyCDA/WileyTitle/productCd-0470393343.html

Biggs, J. (1999, May). Assessment: An integral part of the teaching system. *AAHE Bulletin*, *51*(9), 10-12. Retrieved from http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/17/a5/10.pdf (Note: This article appears on pages 140-142 of the PDF.)

Following a brief review of different approaches to classroom assessment, Biggs presents a model that emphasizes defining learning objectives and adopting

Quality Assurance Agency for Higher Education. (2005). *Reflections on assessment: Volume I*. Gloucester, UK: Author. Retrieved from http://www.enhancementthemes.ac.uk/themes/Assessment/outcomes.asp

Contains papers on four workshops:
Workshop 1: Streamlining assessment- how to make assessment more efficient and more effective
Workshop 2: Using assessment to motivate learning
Workshop 3: Constructive alignment of learning outcomes to assessment methods
Workshop 4: Developing a variety of assessment methods, including self and peer assessment

Quality Assurance Agency for Higher Education. (2005). *Reflections on assessment: Volume II*. Gloucester, UK: Author. Retrieved from http://www.enhancementthemes.ac.uk/themes/Assessment/outcomes.asp

Contains papers on four workshops:
Workshop 5: Assessing online
Workshop 6: Issues of validity, reliability and fairness
Workshop 7: Improving feedback to students (link between formative and summative assessment)
Workshop 8: Assessing personal transferable skills

Quality Assurance Agency for Higher Education (2007). *Integrative assessment.* Gloucester, UK: Author. Retrieved from http://www.enhancementthemes.ac.uk/themes/IntegrativeAssessment/themes.asp

Contains links to four separate guides:
Guide no. 1: Monitoring Students' Experiences of Assessment
Guide no. 2: Balancing Assessment of and Assessment for Learning
Guide no. 3: Blending Assignments and Assessments
Guide no. 4: Managing Assessment Practices and Procedures

Volkwein, J. F. (2003, May). Implementing outcomes assessment on your campus. *eJournal*, *1*. Retrieved from http://rpgroup.org/publications/eJournal/volume_1/volkwein.htm

Provides an overview of assessment planning that links institutional, departmental, and course levels.

Walvoord, B. E. (2004). *Assessment clear and simple: A practical guide for institutions, departments, and general education.* San Francisco, CA: Jossey-Bass.

B. Designing Viable Assesment Plans

1. Linking Assessment to the Learning Outcomes in the *APA Guidelines*

The Task Force constructed the Learning Outcomes in the *APA Guidelines for the Undergraduate Psychology Major* from the standpoint that they should be assessable. In this entry, we outline the assumptions that provided the foundation for goals and outcomes and the implications these assumptions have for good practice in psychology assessment.

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The Task Force members view the Learning Outcomes in the *APA Guidelines for the Undergraduate Psychology Major* and assessment planning as inextricably intertwined. Specifying performance criteria in the absence of well-designed plans to gather evidence on program effectiveness is likely to be an unproductive enterprise. The development of the Learning Outcomes was driven by our belief that each goal with its associated outcomes must reflect measurable aspects of the undergraduate psychology major.

After drafting the goals and outcomes, we discussed appropriate assessment methods that could be applied to each goal and its related outcomes. We considered a wide variety of both quantitative and qualitative assessment methods (e.g., objective tests; essays tests; formative assessments; projects; student portfolios; self-assessment practices; surveys of current students, alumni,

B. Designing Viable Assessment Plans

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ESSAY TESTS

Advantages:

- showcases deeper learning, higher order thought processes
- requires transfer, integration of learning from other sources
- can include applications or problem-based learning
- develops writing skills and critical thinking
- cheap and easy to administer
- faster to construct than objective tests

Disadvantages:

- questionable psychometric properties
- may disadvantage ESL, students with poor writing or thinking skills
- takes longer to grade and provide feedback
- produces narrower sample of content knowledge

Recommendations

Despite the labor intensiveness of essay evaluation, this kind of performance effectively addresses many aspects of what we want students to learn. Critical to defensible evaluation of essays is a well-designed rubric. Instructors can benefit from training to produce reliable feedback for student performance. Careful consideration should also be given to the instructions to clarify performance expectations. Some faculty provide an array of potential essay questions as a study guide, selecting a select number of those questions to comprise the actual exam.

EMBEDDED QUESTIONS AND/OR ASSIGNMENTS

Advantages:

- saves time since assignments will already be required for the course
- overcomes faculty resistance due to reduced intrusion of external assessment activity
- encourages faculty to discuss common course outcomes, goals, & objectives promotes shared responsibility for agreeing where embedding should occur
- assessment phobic faculty exhibit greater comfort with embedded designs
- obligates faculty to have public discussion about their pedagogy
- limits demand characteristics

Disadvantages:

- can be time-consuming to coordinate effort
- may be taxing to isolate key aspects of performance
- limits faculty autonomy within the course

Recommendations

Embedding departmental assessment measures in existing coursework will emphasize a strong relationship between course content and assessment content. Individual faculty autonomy is essentially preserved; however, the faculty must collaborate within the department and be responsible for reporting to department colleagues. That level of obligation may not be standard procedure. The department must also control, store, and protect data, including protection from misinterpretation and misuse by outside sources.

CLASSROOM ASSESSMENT TECHNIQUES (e.g., 1-minute papers, course focus groups, free-writing, etc.)

Advantages:

- promotes experimental attitude in faculty about course design
- convenience
- provides immediate feedback to faculty about success
- vividly demonstrates faculty commitment to student satisfaction

Disadvantages:

- focus on teacher performance
- should be combined with other methods for full picture of student learning
- perceived to sacrifice content coverage for time required to assess
- demand characteristics may compromise validity of results

Recommendations

Enthusiasts of classroom assessment advocate these techniques as a way of implementing continuous improvement efforts. Careful context-setting will avoid or minimize students making unfavorable judgments that the activities are potentially time-wasting, particularly when faculty share the conclusions drawn from the assessment data with the students and make efforts to address concerns, where appropriate.

INDIVIDUAL PROJECTS/PERFORMANCE ASSESSMENT

NATURE OF CATEGORY

Individual projects have historically provided students the opportunity to apply their learning in projects that make optimal use of their potential intrinsic interest in the subject matter. The category includes individual writing, speaking, and graphic and poster production. Performance assessment strategies, sometimes also referred to as *authentic assessment,* are also evaluated in this section.

OVERALL ANALYSIS

Advantages:

- student-centered design promotes investment, motivation
- promotes transfer of skills and integration of content
- clear expression of knowledge base
- engages active learning
- encourages time outside of class
- promotes library use
- can provide study in depth not possible during allotted class time
- student benefits directly from experience
- provides venue for creativity

Disadvantages:

- time consuming and labor intensive to design and execute both for instructor and students
- may use materials wastefully (e.g., making transparencies for one speech)
- narrows content range for which student is responsible
- student variability (ability, motivation) challenges reliability and value of performance
- labor intensive for student
- cost may be prohibitive

Recommendations

The types of projects faculty choose as assessment vehicles will depend, in part, on the expertise the faculty have in

SUMMATIVE PERFORMANCE ASSESSMENT

NATURE OF CATEGORY

Summative assessment strategies tend to be employed for purposes of evaluating program quality rather than primarily to provide developmental feedback to students. This collection of assessment strategies include methods that involve a single episode of data collection (e.g., nationally or locally normed tests) as well as those that incorporate tracking student performance over time (e.g., portfolio, case studies, longitudinal studies. Capstone courses and internships can also be appropriate contexts for summative evaluation.

OVERALL ANALYSIS

Advantages:

- promotes coherence in curriculum planning
- provides feedback loop to improve quality
- some strategies can be adapted to student interests
- supports to earlier curriculum recommendations (e.g., St. Mary's conference to provide vehicle for integrating learning)

Disadvantages:

- some options are labor and/or cost intensive
- students may not receive direct feedback regarding their performances, thus limiting their own gains from effort expended
- departments may ignore available data in their planning

Recommendations

Summative procedures can be invaluable in making the case for the overall quality of programs. Although all of the methods have advantages and drawbacks, the most benefit can be gained to all constituents when students receive direct feedback regarding their summative performance. Finding out relative scores on comprehensive exams or receiving feedback regarding performance over time can assist students with career and life planning in some instances.

STANDARDIZED TESTS

Advantages:

- typically one shot assessment
- facilitates comparisons over time
- convenient

Disadvantages:

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PORTFOLIOS

Advantages:

- shows sophistication in student performance
- illustrates longitudinal trends
- highlight student strengths
- identify student weaknesses for remediation, if timed properly

Disadvantages:

- collection will be no better than the quality of collected instruments
- time consuming and challenging to evaluate
- space and ownership challenges making evaluation difficult
- content will vary widely with students
- students fail to remember to collect items
- transfer students may not be in position to provide complete portfolio
- time intensive to convert to meaningful data

Recommendations

Clear expectations about the purpose and collection responsibilities will help students succeed in using the portfolio method. The works that student select will be more satisfying if the students can compare to established criteria. If the faculty want student portfolios to represent student development over time, they will need to be scrupulous about setting forth the performance demand of collecting and examining works throughout the student's career. The success of the portfolio may be enhanced when students reflect on how all the pieces work together to express their learning or meet department criteria.

ASSESSMENT CENTER METHODS (e.g, in-baskets, guided problem-solving)

Advantages:

- complex tasks can enhance student motivation
- designing relevant authentic assessment practices challenging
- facilitates integration of diverse skills and content areas

Disadvantages:

- expensive in material preparation and time
- students may not always perceive relevance of assessment to their studies

Recommendations

Not all disciplines may lend themselves as readily to problem solving situations that seem to be at the center of those challenges.

SELF-ASSESSMENT/REFLECTION

STUDENT JOURNALS OR SELF-CRITIQUES

Advantages:

- multiple modes and variable sophistication possible
- quality of self-assessment related to quality of content knowledge
- flexible in format; prompts provided or not
- might ask about change over time
- empowers students to practice self-evaluation
- promotes transfer of accountability to other situations

Disadvantages:

- student judgment may not be accurate
- self-assessment are prone to evaluative biases (e.g., Lake Woebegone Effect, underestimation due to self-esteem issues)
- students have limited experience being held accountable to judge their own work
- students may define assessment as job of teacher
- faculty may perceive this practice to set up more grade conflicts

Recommendations

Students should receive feedback on the accuracy of their self-evaluations. Early assignments might fare best with more global criteria. For example, "what aspects of your performance were effective?" and "What would you do differently if you had more time?" may engage the student in being reflective. Over time, students should be able to apply more discrete criteria to their own performance, and eventually they should be able to help formulate criteria by which performances should be judge. The quality of self-assessment may be very dependent on the careful construction of the self-assessment prompts.

INTERVIEWS AND SURVEYS (ATTITUDE MEASUREMENT)

EXIT INTERVIEWS

Advantages:

- provides realistic picture
- provides catharsis
- provides in-depth, personal perspective on experience of major
- can be embedded in existing courses to capture broad range of student experience
- demonstrates overt department commitment to high quality
- may promote long-term allegiance among graduating students
- can generate reinforcing feedback to help departments sustain effectiveness

Disadvantages:

- volunteers may have a negative or a positive agenda that may not be representative, producing a selection bias
- time-consuming to coordinate and evaluate the results
- students may not show up for discussion
- negative discussion may influence formerly neutral students to redefine their experience negatively
- completion challenge
- participants may paint too rosy a picture partially due to timing
- expensive
- results can be influenced by the quality of the interviewer and protocol

Recommendations

Departments will need to decide on the scale and format of focus exit interviews. These activities can be conducted individually or in small groups. Departments can commit to interviewing every graduating seniors or elect to sample from the group. Instructors need to determine how much credence to place on the results of group discussions with students based on sample size and representation. Questions should target the data that the department wishes to gather. The department should also determine how to interpret the results of the interview. Collaborative design of the interview protocol will promote greater enthusiasm by department members to deal with the consequences of the interview. Conducting the interviews with department faculty may influence student participation since they may be more candid with an external reviewer.

FOCUS GROUPS

Advantages:

- small discussion groups promote engagement
- can be employed to provide feedback on a class, course, or program
- participants can benefit directly from changes that result from their feedback
- demonstrates overt department commitment to high quality
- can generate reinforcing feedback to help departments sustain effectiveness
- development of protocol can be involving for faculty
- may tap unforeseen areas of concern

Disadvantages:

- current students may feel some pressure not be completely candid for fear of retribution
- volunteers may have a negative or a positive agenda that may not be representative
- time-consuming to coordinate and evaluate the results
- students may not show up for discussion

Recommendations

Departments should develop a good rationale for selecting students for focus group linked to the purpose for which the group is being convened. The discussion protocol can produce both quantitative and qualitative data that can be beneficial to the department. However, student commentary in a focus group may not be representative of the typical student's experience.

ARCHIVAL MEASURES

B. Designing Viable Assessment Plans

4. Overview of Optimal Assessment Strategies in Psychology

In this entry, we offer a matrix that estimates the potential of different assessment categories with the Task Force's learning goals. We differentiate categories that may be optimal for a specific goal from those strategies that offer little advantage in documenting quality.

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Methods of Assessing Learning in the Major:
What Strategies are Optimal?

APA Board of Educational Affairs Task Force on Psychology Major Competencies (2002)

Learning Goals	Course data	Individual projects/

B. Designing Viable Assessment Plans

5. Critique of Assessment Strategies Applied to Goals and Outcomes

In the largest entry in the Assessment Cyberguide, we provide an estimate of the assessment potential for each category and practice within each category in relation to the psychology goals. Suggestions from this entry can help departments pick beneficial approaches and avoid strategies that will have little pay-off.

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Critique of Assessment Strategies Applied to Goals and Outcomes

APA Board of Educational Affairs Task Force on Psychology Major Competencies (2002)

GOAL 1: Knowledge Base of Psychology: Demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.

1.1 Characterize the nature of psychology as a discipline.

1.2 Demonstrate knowledge and understanding representing appropriate breadth and depth in selected content areas of psychology (e.g., learning and cognition, individual differences, biological bases of behavior, developmental changes in behavior).

1.3 Use the concepts, language, and major theories of the discipline to account for psychological phenomena.

1.4 Explain major perspectives of psychology (e.g., behavioral, biological, cognitive, evolutionary, humanistic, psychodynamic, and sociocultural).

GOAL 1: Knowledge Base of Psychology (continued)	
SELF-ASSESSMENT	**Overall Mixed potential.** As can be seen from student anticipation of how well they performed on an exam, student ability to judge their own expertise is variable.
STUDENT JOURNALS	**Moderate potential.** Journal instructions can specify the manner in which students should interact with the content of the discipline. For example, instructions might require that students demonstrate the appropriate application of five concepts or principles from the discipline. Students will vary in their own expert judgment on the success of addressing the concepts or principles in the manner anticipated by the faculty.
SELF-CRITIQUES	**Mixed potential.** Students have limited experience in making judgments about how well they have met the content criteria of a given assignment. Students often drift to the easier-to-judge aspects of performance, such a format concerns, interest generation, or comfort level rather than exploring how well they have reflected content expertise.
COLLABORATION	**Mixed potential.** Some methods offer effective avenues for examining content and theory, while others are less promising.
RESEARCH TEAMS	**Strong potential.** Research teams give students an opportunity to demonstrate content expertise in two dimensions: research methods and the subject matter that the research is designed to explore. Students can receive separate evaluations on the extent to which they have collectively demonstrated research expertise as well as whether they have appropriately represented the target content.
GROUP PROJECTS	**Strong potential.** Group projects can also provide a content-based opportunity to develop group skills. Projects can reflect successful or unsuccessful strategies to master relevant content and principles. However, group projects suffer similar limitations to individual projects. Committing in-depth study to one arena may require the sacrifice of exposure to other content in the course.
ON-LINE ACTIVITIES	**Limited potential.** Unless students are given very constrained instructions regarding how to pursue content collaboration, the

GOAL 1: Knowledge Base of Psychology (continued)	
ARCHIVAL MEASURES	**Mixed potential.** Archival measures can provide some insight into the content bases to which students have been exposed but will do little to assess more formal learning of the content in the discipline.
TRANSCRIPT ANALYSIS	**Limited potential.** Individual transcript analysis can provide not just a measure of the various content bases to which the student has been exposed but through grades can provide a gross measure of achievement in those areas. However, assessment experts recommend that other noncourse-based strategies will be more effective in providing legitimate measures of student and program achievement.
ANALYSIS OF TRANSFER PATTERNS	**Limited potential.** Examining patterns of what transfer students provide can help departments determine what and when to offer in the curriculum, but will shed little light on the quality of learning.
SYLLABUS AUDIT	**Limited potential.** A syllabus audit can isolate the range of content exposure that students experience but will be poor indicators of actual learning.
DEMOGRAPHIC DATA ANALYSIS	**Not recommended.** Understanding the characteristics of the student body will provide little insight into their content mastery.
ALUMNI DATABASE	**Not recommended.** The alumni database does not directly reveal student expertise in the content of psychology. However, many programs rely on the percentage of students who go on to graduate school in the area as an indirect measure of content expertise.
LIBRARY STATISTICS USAGE/WEB HITS	**Not recommended.** Content expertise is not apparent in this archival analysis.

GOAL 2: Research Methods in Psychology: Understand and apply basic research methods in psychology, including research design, data analysis, and interpretation.	
2.1	Describe the basic characteristics of the science of psychology.
2.2	Explain different research methods used by psychologists.
2.3	Evaluate the appropriateness of conclusions derived from psychological research.
2.4	Design and conduct basic studies to address psychological questions using appropriate research methods.
2.5	Follow the APA Ethics Code in the treatment of human and nonhuman participants in the design, data collection, interpretation, and reporting of psychological research.
2.6	Generalize research conclusions appropriately based on the parameters of particular research methods.
COURSE DATA	**Mixed potential.** Useful for providing assessment of factual knowledge and some limited application. Research skills will be better assessed with other strategies that involve activities outside the traditional classroom.

GOAL 2: Research Methods in Psychology (continued)	
STRUCTURAL/ SITUATIONAL ASSESSMENTS	**Strong potential.** The presentation and interpretation of research findings in the popular media can be used to have students demonstrate their skill in addressing issues related to the design and interpretation of research. Current events can also be used as a starting point for students to design and conduct original research projects.
SUMMATIVE PERFORMANCE ASSESSMENT	**Mixed potential.** Strategies in this category range from poor to strong.
STANDARDIZED TESTS	**Moderate potential.** Although standardized tests assess factual knowledge related to research methods and statistics, they fail to evaluate application of skills at the level identified for these outcomes.
LOCALLY DEVELOPED TESTS	**Moderate potential.** Like standardized tests, they primarily focus on factual knowledge as opposed to application. In addition, they may lack strong psychometric properties.
CAPSTONE EXPERIENCES	**Strong potential.** Assuming that the capstone course or project has an expressive requirement (e.g., writing or speaking), it can provide an integrated demonstration opportunity.
INTERNSHIP/ PROFESSIONAL APPLICATIONS	**Limited potential.** The focus of most applied inte9t the cs6 cs .8784he cs6ip489.9 6 520.7.5 488.451 .840.4(T)-7

GOAL 2: Research Methods in Psychology (continued)	
GROUP PROJECTS	**Moderate potential.** Group projects involve similar issues to those of research teams.
ON-LINE ACTIVITIES	**Limited potential.** Archived on-line chat rooms, listservs, or bulletin boards can provide opportunities to assess the development and evolution of research ideas from start to finish.
INTERVIEWS & SURVEYS	**Mixed potential.** The assessment of attitudes by the students or other stakeholders may provide some feedback about research methods and statistical competence, but attitudes may not be an accurate indication of true skill attainment.
SATISFACTION SURVEYS	**Strong potential.** The abilities of students to design, conduct and evaluate research can be evaluated by employers, graduate advisors, or other stakeholders. External evaluators may explicitly need to be prompted to address these skills. This may be particularly effective for those students who continue in graduate programs in psychology.
PERFORMANCE REVIEWS	**Strong potential.** Stakeholders can provide an estimate of strengths and weaknesses within research skills with appropriate prompts for reflection.

GOAL 3: Critical Thinking Skills in Psychology: Respect and use critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes.

3.1 Use critical thinking effectively.

3.2 Engage in creative thinking.

3.3 Use reasoning to recognize, develop, defend, and criticize arguments and other persuasive appeals.

3.4 Approach problems effectively.

COURSE DATA	**Overall Mixed potential.** Classroom and course data can be used to assess critical and creative thinking, but the quality of the assessment depends on what is measured in these settings and not the setting per se.
OBJECTIVE TESTS	**Limited potential.** Objective tests can be used to assess critical thinking, but good objective tests of critical thinking are difficult to construct and cannot be used to assess what students actually do in an unstructured setting where critical thinking is required. They cannot assess the propensity to engage in critical thought. They are better as measures of recognition memory, and hence of limited usefulness in assessing critical thinking.
ESSAY TESTS	**Strong potential.** An essay test that poses an ecologically-valid scenario (ideally somewhat complex) where students need to explain/ describe their thinking and the conclusion they reached or problem they solved can be a good way to assess critical thinking.
EMBEDDED QUESTIONS AND ASSIGNMENTS	**Strong potential.** An embedded question or assignment can provide a measure of student's propensity to think critically (i.e., do they engage in critical thinking when the need for critical thinking is not cued or labeled).
CLASSROOM ASSESSMENT TECHNIQUES	**Poor potential.** Classroom assessment techniques can include reflections on what was learned. It is more likely useful as feedback to instructors about what students believe they have learned than a measure of learning per se.
INDIVIDUAL PROJECTS/ PERFORMANCE ASSESSMENT	**Overall good potential.** Individual projects and performance assessment can be good measures of critical thinking, assuming that the project calls for extended and careful thought. The nature of the project or performance (e.g., solve a novel problem) is what determines the quality of the assessment. The quality of a critical thinking assessment most often lies in the way the instructor crafted the assignment and explained it to students.
WRITTEN PRODUCTS	**Strong potential.** Like essay tests, a written project needs to allow the student to show the thinking process that went into a conclusion or a solution to a problem.

GOAL 3: Critical Thinking Skills in Psychology (continued)	
SUMMATIVE PERFORMANCE ASSESSMENT	**Overall Mixed potential.** Summative assessments usually refer to tests that are normed to provide comparative data, usually at the completion of a program of study. The normative information can be useful, but only if the test is valid in that it relates to the way students think critically when they are not in class.
STANDARDIZED TESTS	**Moderate potential.** There are several standardized tests of critical thinking. Unfortunately, they tend to be multiple-choice tests with short problems or scenarios described in each question. They are not generally good measures because real life is much messier, and there is rarely a single correct answer to ill-defined problems. They also do not measure what student's actually do in less structured settings. A quality standardized test is possible, if it includes both constructed response and multiple-choice alternatives to show how students approach problems *and* whether they can recognize a good response when they have to select from among a small set of alternatives.
LOCALLY DEVELOPED TESTS	**Limited potential.** A locally developed test can reflect the curriculum that is taught, so it can be more useful to instructors, but locally-developed tests will rarely have the psychometric properties of good reliability and validity that a standardized test will have.
CAPSTONE EXPERIENCES	**Strong potential.** A capstone experience can be an extended project that requires the application of critical thinking skills to a wide range of issues. If well designed, capstone experiences can provide meaningful measures of critical thinking, but the instructor needs to have clear critical thinking objectives in mind when planning the capstone experience because

GOAL 3: Critical Thinking Skills in Psychology (continued)

ARCHIVAL

GOAL 4: Application of Psychology: Understand and apply psychological principles to personal, social, and organizational issues.

4.1 Describe major applied areas (e.g., clinical, counseling, industrial/organizational, school, etc.) and emerging (e.g., health, forensics, media, military, etc.) applied areas of psychology.

4.2 Identify appropriate applications of psychology in solving problems.

4.3 Articulate how psychological principles can be used to explain social issues and inform public policy.

4.4 Apply psychological concepts, theories, and research findings as these relate to everyday life.

4.5 Recognize that ethically complex situations can develop in the application of psychological principles.

GOAL 4: Application of Psychology (continued)	
INTERVIEWS & SURVEYS	**Moderate potential.** Interview methods generally can have application skills as a target but this strategy requires making the assessment of application skills a prominent part of the design.
SATISFACTION SURVEYS	**Moderate potential.** Satisfaction surveys can be used to determine how well current students or alumni perceive they are learning or learned how to apply psychology. However, the survey must be carefully crafted to reflect an estimate of the student's application skills.
PERFORMANCE REVIEWS	**Strong potential.** Subsequent work settings provide good contexts in which generalization of skills can be evaluated.
EXIT INTERVIEWS	**Moderate potential.** Exit interviews can be designed to focus on the aspects of application outlined in this goal.
EXTERNAL EXAMINER INTERVIEWS	**Moderate potential.** External examiner interviewers usually work from a protocol that should be shaped by the department's interest in the effectiveness of application skills.
FOCUS GROUPS	**Strong potential.** Focus groups can be used to gather initial data that may zero in on a specific problem. As such, the purpose of the group may be to solve a problem and provide feedback to the department based on the expressed purpose. As such, students can apply principles and concepts in psychology both in the process and product of the focus group.
FOLLOW-UP ALUMNI INTERVIEWS	**Limited potential.** Calling alumni and identifying examples of successful or not so successful applications of psychology can be a source of data, but the demand characteristics of the situation may produce false positive data. If the purpose is not expressly identified by the researcher, the interview may be suspect on the basis of its potential deception.
ARCHIVAL MEASURES	**Mixed potential.** In most cases, archival measures cannot provide information about the student's ability to apply psychology. At best, archival records may reveal the intention of course design to address application skills.
TRANSCRIPT ANALYSIS	**Limited potential.** Transcript analysis might yield the percentage of students engaged in "applied" courses (e.g., internships) as well as the quality of their performance in the class, which could provide a diffuse measure of application skills.
ANALYSIS OF TRANSFER PATTERNS	**Not applicable.**

GOAL 5: Values in Psychology (continued)

Limited potential. Unless the assigned poster addresses values in an explicit way, faculty may have to infer relevant values from **posters**

POSTERS

GOAL 5: Values in Psychology (continued)	
SELF-ASSESSMENT	**Mixed potential overall.** Many departments do not pay direct attention to the assessment of psychological values since these may be regarded as abstract or esoteric. In such situations, students will be less well prepared to self-assess. However, to the extent that departments can clarify their expectations about the ways in which they expect student values to change toward greater appreciation of the scientific aspects of psychology, the more student self-assessment can be facilitated.
STUDENT JOURNALS	**Mixed potential.** In **student journals**, values can be addressed directly or they may be inferred based on student discussion of related phenomena. Better journal entries will be framed in ways that students can directly discuss their practice of identified values.
SELF-CRITIQUES	**Strong potential.** Where departments make their values & expectations explicit, students should be able to evaluate the extent to which their own work matches these expectations.
COLLABORATION	**Limited potential overall.** The assessment of the degree to which individuals express scientific values may be challenging to assess in group contexts. Even when the focus of the group activity is directly linked to values, discussion about values may not predict individual behavior. On the other hand, conflict situations may clarify the degree to which students differ in the values that they profess.
RESEARCH TEAMS	**Limited potential.** Students who work under the direction of a research mentor are likely to receive indirect training on the scientific values that undergird high quality research. When students are challenged to explain why certain actions are required as part of the research process, their understanding and adherence to scientific values can be assessed.
GROUP PROJECTS	**Limited potential.** Most group projects that transpire in the undergraduate curriculum are unlikely to address scientific values directly. However, some projects could be designed that would allow students to solve problems in such a way that their collective grasp of scientific principles could be demonstrated.
ON-LINE ACTIVITIES	**Poor potential.** Values may be inferred from group process but the amount of work required makes this assessment approach untenable.
INTERVIEWS & SURVEYS	**Mixed potential overall.** Various approaches in this goal produce differential outcomes in identifying values.
SATISFACTION SURVEYS	**Limited potential.** Satisfaction surveys do not tend to focus on values related to psychology education. Perhaps some survey items could be crafted to address values, but that might detract from the main purpose.
PERFORMANCE REVIEWS	**Limited potential.** Inferring other's values from their performance is dicey business. Perhaps it is not best to describe definitively what the values relc P-.8(en.9(y)-13.3(w)14.1(h)-5.2(at the valu)-5.2(es relc P

GOAL 5: Values in Psychology (continued)

ARCHIVAL MEASURES	**Not recommend1(mmen0.98 0 0 oRES)6(e)28 0 era98 0 ll.T6 1 Tf5.66 0 14.840088 TTc.0038 Tw[T)-4.1(Arch**

GOAL 6: Information and Technological Literacy: Demonstrate information competence and the ability to use computers and other technology for many purposes.

GOAL 6: Information and Technological Literacy (continued)

POSTERS

GOAL 6: Information and Technological Literacy (continued)	
COLLABORATION	**Mixed potential.** The range of potential in this category ranges from strong to poor.
RESEARCH TEAMS	**Strong potential.** A research team can develop expertise in research skills through peer involvement. Ironically, research teams may reduce a student's direct involvement in finding resources or producing polished copy. However, the opportunity to brainstorm with peers about developing concepts and executing research strategies makes this an attractive alternative.
GROUP PROJECTS	**Moderate potential.** Group projects can still involve many of the elements in this target area related to research teams.
ON-LINE ACTIVITIES	**Poor potential.** Tracking student skill development online will be a complex undertaking unless there is explicit direction for the online traffic to focus on this area of skill development.
INTERVIEWS & SURVEYS	**Mixed potential.** The assessment of attitudes by the students or other stakeholders may provide some feedback about information/technological competence, but attitudes may not be an accurate indication of true skill attainment.
SATISFACTION SURVEYS	**Strong potential.** The abilities of students to process information and use technology responsibly can be evaluated by their employers, their graduate advisors, or other stakeholders. External critics may require prompting explicitly to address this skill, but the context in which the critics work provides a reasonable normative comparison.
PERFORMANCE REVIEWS	**Strong potential.** Graduate school advisors and employers can readily provide comments on the quality of technological preparation for their setting.
EXIT INTERVIEWS	**Moderate potential.** Students can reflect on the evolution of their information processing and technological execution as part of the interview protocol.
EXTERNAL EXAMINER INTERVIEWS	**Limited potential.** External examiners can ask probe questions to evaluate student comfort levels about the target skills, but it may be much more challenging to evaluate the quality of their performance from self-report in the absence of concrete evidence. If examiners also review printed materials or tapes of student work, they may be able to make reasonable judgment about student competence.
FOCUS GROUPS	**Limited potential.** Focus groups most often convene to solve specific problems for a department. Although the topic might be the target of a focus group, it is more likely used for other broader problems.
FOLLOW-UP ALUMNI INTERVIEWS	**Not recommended.** A follow-up interview on this topic would be hard to execute without inviting demand characteristics that might distort the real skill levels attained.
ARCHIVAL	

GOAL 6: Information and Technological Literacy (continued)

DEMOGRAPHIC

GOAL 7: Communication Skills: Communicate effectively in a variety of formats.

7.1 Demonstrate effective writing skills in various formats (e.g., essays, correspondence, technical papers, note taking) and for various purposes (e.g., informing, defending, explaining, persuading, arguing, teaching).

7.2 Demonstrate effective oral communication skills in various formats (e.g., group discussion, debate, lecture) and for various purposes (e.g., informing, defending, explaining, persuading, arguing, teaching).

7.3 Exhibit quantitative literacy.

7.4 Demonstrate effective interpersonal communication skills.

7.5 Exhibit the ability to collaborate effectively.

GOAL 7: Communication Skills (continued)

GOAL 8: Sociocultural and International Awareness: Recognize, understand, and respect the complexity of sociocultural and international diversity.

8.1	Interact effectively and sensitively with people of diverse abilities, backgrounds, and cultural perspectives.
8.2	Examine the sociocultural and international contexts that influence individual differences.
8.3	Explain how individual differences influence beliefs, values, and interactions with others and vice versa.
8.4	Understand how privilege, power, and oppression may affect prejudice, discrimination, and inequity.
8.5	Recognize prejudicial attitudes and discriminatory behaviors that might exist in themselves and in others.
8.6	Predict how interaction among diverse people can challenge conventional understanding of psychological processes and behavior.

COURSE DATA	**Overall Mixed potential.**

GOAL 8: Sociocultural and International Awareness (continued)	
SUMMATIVE PERFORMANCE ASSESSMENT	**Mixed potential.** Although summative approaches can be used to address this area, none of the methods in this category produce optimal strategies.
STANDARDIZED TESTS	**None available.** At the present time, there TDtAt

GOAL 8: Sociocultural and International Awareness (continued)

GOAL 9: Personal Development: Develop insight into their own and others' behavior and mental processes and apply effective strategies for self-management and self-improvement.

9.1 Reflect on their experiences and find meaning in them.

9.2 Apply psychological principles to promote personal development.

9.3 Enact self-management strategies that maximize healthy outcomes.

9.4 Display high standards of personal integrity with others.

9.5 Seek input from and experiences with diverse people to enhance the quality of solutions.

COURSE DATA	**Mixed potential.** Departments will naturally vary in relation to the importance of the personal development goal; however, the primary emphasis in most classroom activity and course assignments will be mastery of the appropriate content. Unless the courses itself has a particular or purposeful personal development focus or feature, it is unlikely much assessment of related outcomes will occur in courses.
OBJECTIVE TESTS	**Limited potential.** Personality inventories, such as the Myers-Briggs SIGI-PLUS, or assorted learning inventories can be used to develop some developmental strategies in classes that have a personal development emphasis (e.g., college success courses). The Multimedia Integrity Test (MIT) also provides an inventory related to integrity. However, a specific inventory has not been developed for this category, would be very expensive to develop, and would have narrow use in a typical psychology curriculum.
ESSAY TESTS	**Strong potential.** Although the quality of feedback will depend on the clarity of instructions, well-designed essay questions can be used to prompt personal reflection.
EMBEDDED QUESTIONS AND ASSIGNMENTS	**Strong potential.** Self-assessment strategies that are routinely embedded in course assignments will help develop strengths regarding self-evaluation, goal-setting, and other aspects of meta-cognition and self-regulation.
CLASSROOM ASSESSMENT TECHNIQUES	**Strong potential.** Classroom strategies that require students to construct meaning and make active connections to prior learning have the potential to build personal development skills if the items are designed to produce that outcome.
INDIVIDUAL PROJECTS/ PERFORMANCE ASSESSMENT	**Mixed potential.** Personal development goals may be relevant to only a limited range of courses of educational experiences. However, individual projects provide good samples for personal reflection.
WRITTEN PRODUCTS	**Strong potential.** Journals, essays with a personal focus, letters, or other means of personal expression are better adapted to this goal than formats designed for scientific communication. Such work will necessarily have a strong emphasis on self-assessment.
ORAL PRESENTATIONS	**Limited potential.** The emphasis on oral presentation training in most programs is geared toward professional speeches on research or concepts. Self-assessment strategies deployed to evaluate the success or weaknesses of presentations can enhance student understanding of self-development, but it is unlikely that speeches would be devoted to student exploration of personal development insights, which would likely be viewed as a narcissistic, boring, or time-wasting enterprise.
GRAPHIC TESTS AND DISPLAYS	**Limited potential.** Due to the personal nature of the objectives in this category, graphic representation would have little appeal for broad audiences. Metaphor work may provide a reasonable expression about how students experience personal development challenges.
POSTERS	**Limited potential.** Due to the personal nature of the objectives in this category, it is hard to imagine that a poster would have appeal for broad audiences.

GOAL 9: Personal Development (continued)	
STRUCTURAL/ SITUATIONAL ASSESSMENTS	**Strong potential.** Authentic problem-solving situations can be structured to promote student learning in self-development. Design of performance assessments need to incorporate careful rubric development to foster on-target developmental feedback related to this skill development area.
SUMMATIVE PERFORMANCE ASSESSMENT	**Mixed potential.** Assessment designed to capture penultimate achievement can include personal development dimensions although not all formats do so with equal success.
STANDARDIZED TESTS	**Not available/recommended.** There is no national test of personal development skills in psychology per se. Should such an exam be developed in this area, it would provide some interesting opportunities for benchmarking how students develop metacognitively. Some aspects of this goal can be addressed by values inventories.

TESTS
Not available/recommended .

GOAL 9: Personal Development (continued)	
ARCHIVAL MEASURES	**Not recommended.** Archival measures would typically not allow for direct measurement of personal development objectives.

B. Designing Viable Assessment Plans

1 Knowledge Base 2 Research Methods			Summative performance			Interviews and Surveys	

Scepansky, J., & Carkenord, D. M. (2004). Senior year retention of methods and statistics concepts. *Teaching of Psychology*, *31*, 9-12. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785834129

Abstract: This article describes an empirical investigation of whether performance on a senior-level assessment of methodological and statistical knowledge related to elapsed rime since students took prerequisite methods and statistics courses. In a senior-capstone course, 50 students completed a 50-item multiple-choice assessment measuring their knowledge of methods and statistics. We also measured elapsed time (number of months) since students completed Research Methods and Quantitative Methods (statistics). Results revealed that performance on the assessment showed no significant correlation with elapsed time from the Research Methods course or with elapsed time from the Quantitative Methods course. On a self-report Self-report survey, however, student reported they believed the elapsed time negatively affected their performance.

1 Knowledge Base			Summative performance			Archival measures	

1 Knowledge Base
2 Research Methods

2 Research Methods							Archival measures

Tomcho, T., Rice, D., Foels, R., Folmsbee, L., Vladescu, J., Lissman, R., Matulewicz, R., & Bopp, K. (2009). APA's learning objectives for research methods and statistics in practice: A multimethod analysis. *Teaching of Psychology*, *36*, 84-89. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a909502535

Abstract: Research methods and statistics courses constitute a core undergraduate psychology requirement. We analyzed course syllabi and faculty self-reported coverage of both research methods and statistics course learning objectives to assess the concordance with APA's learning objectives (American Psychological Association, 2007). We obtained a sample of 64 research methods and 56 statistics syllabi (return rates: 16%, 14%) from 400 randomly selected psychology departments in colleges and universities in the United States. Course syllabi generally contained appropriate research methods and statistics content. However, certain APA learning objectives consistently were absent from course syllabi, and we found discrepancies between listed objectives and faculty self-reports of topics covered.

2 Research Methods						Interviews and Surveys	Archival measures

Wayment, H. A., & Dickson, K. L. (2008). Increasing student participation in undergraduate research benefits students, faculty, and department. *Teaching of Psychology*, *35*, 194-197. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a795059220

Abstract: Little information is available about how departments might improve undergraduate students' access to research experience. At a midsized psychology department (550 majors, 21 full-time faculty), we identified 5 barriers in our existing program (lack of student awareness, unequal student access, poor curricular timing, lack of publicity, and uneven access/incentives for faculty) and implemented 5 changes (application procedures, advertisement, assessment and communication with majors, establishment of a departmental newsletter, and restructured faculty teaching assignments). Following implementation, the number of involved students increased fr

Goal 3: Critical Thinking Skills in Psychology: 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.

3 Critical Thinking	Course data						

Hall, S. S. & Seery, B. L. (2006). Behind the facts: Helping students evaluate media reports of psychological research. *Teaching of Psychology*, *33*, 101-104. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785862670

Abstract: This article describes an activity that can help students (a) understand how the research process influences the outcomes of that research and (b) appre3(der)r5(1T)14(8:9-.0008 T1c.003 acontente-4.7(4.9(1.4(te me4(a'-9.7c

Goal 4: Application of Psychology: Students will understand and apply psychological principles to personal, social, and organizational issues.

4 Application

Goal 5: Values in Psychology: Students will be able to weigh evidence, tolerate ambiguity, act ethically, and reflect other values that are the underpinnings of psychology as a discipline.

5 Values	Course data	Interviews and Surveys	Collaboration

Goal 7: Communication Skills: Students will be able to communicate effectively in a variety of formats.

Oral communication skills

7 Communication Skills						Interviews and Surveys	

Burchfield, C. M., & Sappington, J. (1999). Participation in classroom discussion.*Teaching of Psychology*, *26*, 290-291. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785863015

Abstract: Students ranked themselves and peers on perceived class participation (i.e., unsolicited questions and comments during class). The instructor also ranked students. Results suggested that students ranked themselves higher, on average, than did their peers and instructor. Students' self-rankings did not correlate well with either peer or instructor

Interpersonal communication/Collaborative skills

7 Communication Skills					Collaboration	Interviews and Surveys

7 Communication Skills						Interviews and Surveys	

Melvin, K. B. (1988). Rating class participation: The prof/peer method. *Teaching of Psychology, 15*, 137-139. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785861732

Abstract: To reduce the subjectivity of class participation grades, a method was devised that combined forced-distribution peer ratings with professor grades. In seven seminar courses, correlations between professor and peer ratings ranged from .83 to .90. Course/teacher evaluations were high and the prof/peer technique was generally perceived as a fair way to evaluate participation.

7 Communication Skills	Interviews

Abstract: Thir y-four undergraduates used

Written communication skills

7 Communication Skills		Individual projects					

Fallahi, C. R., Wood, R. M., Austad, C. S., & Fallahi, H. (2006). A program for improving undergraduate psychology students' basic writing skills. *Teaching of Psychology*, *33*, 171-175). Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785862161

Abstract: We examined the effects of in-class writing instruction, practice, peer review, and feedback on writing skills of undergraduates enrolled in a general psychology course. We rated writing for grammar, writing style, mechanics, and American Psychological Association referencing style. Significant differences emerged on the 4 writing skill domains ($p < .001$). Improvement occurred immediately for referencing, whereas other skills did not improve significantly until the 4th paper. The results show that teaching writing in content courses such as general psychology can yield significant improvement in students' writing. We believe that writing instruction by psychology professors is worth the time and effort to help undergraduate psychology students develop better writing skills.

6 Info/Tech Literacy 7 Communication Skills		Individual projects	Interviews and Surveys	Interviews

Goal 9: Personal Development: Students will develop insight into their own and others'behavior and mental processes and apply effective strategies for self-management and self-improvement.

9 Personal Development						Interviews and Surveys	

Bolin, A. U., Khramtsova, I., & Saarnio, D. (2005). Using student journals to stimulate authentic learning: Balancing Bloom's cognitive and affective domains. *Teaching of Psychology*

9 Personal Development	Individual projects	Self-assessment

Goal 10: Career Planning and Development: Students will emerge from the major with realistic ideas about how to implement their psychological knowledge, skills, and values in occupational pursuits in a variety of settings.

10 Career Planning						Interviews and Surveys	

Borden, V.M.H., & Rajecki, D.W. (2000). First-year employment outcomes of psychology baccalaureates: Relatedness, preparedness, and prospects. *Teaching of Psychology*, *27*, 164-168. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785859407

Abstract: Surveys of recent baccalaureate degree recipients confirmed earlier findings that, compared with other alumni, psychology baccalaureates ranked low on ratings of the relatedness of their current job to the major. Psychology baccalaureates also rated low on whether their education had prepared them for that job and enhanced their future prospects. Correlations across all majors suggested that employment relatedness predicted judgments of preparedness, and preparedness predicted future prospects. Comparable correlations for psychology majors suggested that they entered the job market with expectations similar to graduates of more occupationally oriented programs. We offer specific recommendations to prepare students for more satisfying outcomes in the postbaccalaureate job market.

10 Career Planning						Interviews and Surveys	Archival measures

Landrum, R. E. & Mulcock, S. D. Use of pre- and postcourse surveys to predict student outcomes . *Teaching of Psychology*, *34*, 163-166. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a788034825

Abstract: We obtained data from pre- and postcourse questionnaires given in an Introduction to the Psychology Major course taught for 10 semesters and compared these data with institutional outcomes concerning the students' last known major and their graduation status. We found the questionnaire reliably measured (a) vocational identity, (b) knowledge of course content, and (c) students' knowledge of information-finding strategies. Generally, students who entered the course with high commitment to psychology or who demonstrated the greatest growth in commitment tended to remain psychology majors and earned the bachelor's degree in psychology. We discuss factors that affect these predictive outcomes

10 Career Planning						Interviews and Surveys	

10 Career Planning						Interviews and Surveys	

Roscoe, L. J., & Strapp, C. M. (2009). Increasing psychology students' satisfaction with preparedness through a professional issues course. *Teaching of Psychology*, *36*, 18-23. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a907765761

Abstract: The current studies evaluated a capstone course, Professional Issues in Psychology, designed to prepare students for a career in psychology. The first study examined course topics and student evaluations of assignments across 4 terms. Overall, students reported that the assignments were very helpful. The second study found that students who had completed the course felt more satisfied with their preparation for graduate school and for entering the job market relative to a sample of graduating seniors who did not take the course. These results suggest that the course is associated with increased self-efficacy for entering the job market and applying to graduate school. Suggestions for developing a careers capstone course are discussed.

Multiple Goals. The following articles discuss assessment strategies that address multiple goals using multiple measures.

1 Knowledge Base
3 Critical Thinking
4 Application
5 Values
7 Communication Skills

10 Career PlannTc.s>96 11.r4.8543 98 96 enat.

Measuring

projects a s s e s s m e n t

(pp. 47-63). Washington, DC:

Dunn,C. M. Mehrotra,&S. alonen (Es.)

psychology

How the Taxonomy Promotes Active Learning

Clark (2002) provided an adaptation of Bloom's work to facilitate active learning. Although originally the tool was developed by a class of teachers for use in curriculum building in the high school level, the suggestions would work for college level classes as well. The inner ring contains the original levels of Bloom's taxonomy. The middle ring offers synonyms for the various academic processes that comprise that taxonomic level. The outer ring links process to product. For example, if you wanted to increase application skills, you might ask students to construct diagrams of the key concepts involved in the content of the class. If you wish to improve evaluation skills, you might ask students to produce an editorial for the student newspaper in which they discuss the strengths and weaknesses of a particular side of a controversial issue. We have modernized the language of the original circle to reflect the latest version of Bloom's Taxonomy.

Cognitive Taxonomy Circle

Based on:

Clark, B. (2002). *Growing up gifted: Developing the potential of children at home and at school*. Upper Saddle River, NJ: Merrill Prentice Hall. For more information, visit http://www.allynbaconmerrill.com/store/product.aspx?isbn=0131185721

Applying Bloom's Taxonomy to Assessment of Student Learning in Psychology Programs

American Psychological Association. (2008). Teaching, learning, and assessing in a developmentally coherent curriculum. Washington, DC: American Psychological Association, Board of Educational Affairs. Retrieved from http://www.apa.org/ed/resources.html

This is a report from the APA Board of Educational Affairs Task Force on Strengthening the Teaching and Learning of Undergraduate Psychological Science. The Task Force advocates for psychology programs to design their curricula in ways that promote students' development along Bloom's taxonomy from basic (retention and comprehension) to intermediate (analysis and application), and advanced (evaluation and creation) levels. The Task Force also argues for the use of authentic assessments embedded within core courses that may be used to track student development through the curriculum.

The appendices in the Task Force's report include rubrics that translate the APA Guidelines for the Undergraduate Psychology Major *into learning outcomes at the basic, intermediate, and advanced levels. Additional appendices provide examples of authentic assessments of the learning outcomes in several psychology courses.*

C. Applying Assessment Strategies in Psychology

Scientific Inquiry Skills

LEVELS OF PROFICIENCY: Before training – Basic Intro Psych – Developing - Advanced Undergrad - Professional Grad

DOMAINS (Components within each domain)
- Descriptive skills (Observation; Measurement; Interpretation)
- Conceptualization skills (Concept skills; Basic theory skills; Advanced theory skills)
- Problem solving skills (Methods skills; Statistical reasoning; Bias detection and management)
- Ethical reasoning (Awareness of ethical standards; Evaluation of ethical practices; Adherence to ethical standards)
- Scientific attitudes and values (Enthusiasm; Objectivity/subjectivity; Parsimony; Skepticism; Tolerance of ambiguity)
- Communication skills (Resource gathering; Argumentation; Conventional expression)
- Collaboration skills (Project completion; Process management; Leadership; Consensus building; Brainstorming)
- Self-assessment (Self-regulation; Self-reflection)

Bosack, T. N., McCarthy, M. A., Halonen, J. S., & Clay, S. P. (2004). Developing scientific inquiry skills in psychology: Using authentic assessment strategies. In D. S. Dunn, C. M. Mehrotra, & J. S. Halonen (Eds.), *Measuring up: Educational assessment challenges and practices for psychology* (pp. 141-169). Washington, DC: American Psychological Association. Retrieved from http://books.apa.org/books.cfm?id=4318011

Presents a development rubric for assessing scientific inquiry skills along eight domains and recommends strategies for conducting authentic assessments in courses that use the rubric.

Halonen, J. S., Bosack, T., Clay, S., & McCarthy, M. (with Dunn, D. S., Hill, IV, G. W., Mc

Self-reflection

LEVELS: Descriptive, Analytic, Integrated
CONTen

C. Applying Assessment Strategies in Psychology

4. Helping our Students Understand Our Goals

Student learning benefits from explicit understanding of our assessment plan. In this entry, Drew Appleby discusses strategies for bringing students into the conversation to assist department planning and improve their learning and metacognition.

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The First Step in Student-Centered Assessment: Helping Students Understand the Goals of Their Department's Curriculum

Drew C. Appleby[1]
Director of Undergraduate Studies in Psychology
Indiana University - Purdue University Indianapolis

Most psychology majors believe they understand the curriculum of their undergraduate program if they know what courses to take and when to take them. Although it is certainly important to know the answers to these questions, students should also be acutely aware of the answers to three other questions:

1. Why should I take these courses?
2. How will these courses change me?
3. Who can I become as a result of successfully completing these courses?

This paper provides an example of a strategy that undergraduate psychology faculty can use to enable their majors to understand that their curriculum is not just a list of courses they must complete to receive a degree, but rather a set of coherent and transformational experiences carefully created to provide them with the opportunities to develop the knowledge, skills, and characteristics they will need to become the people they aspire to be. This strategy is the first step in student-centered assessment that can enhance our ability to help students "select courses, plan careers, and develop life views" (Halpern, 1993, p. 37).

Although there are many definitions of the word assessment, the most compelling conceptualization I have encountered is that assessment helps us answer the question, "How do we know that our students know what we want them to know?" (T. McGovern, personal communication, April 17, 1997). The strategy described in this paper enables "our students to know what we want them to know" so they can become more motivated and cooperative partners in the teaching-learning process.

At IUPUI, we surveyed our psychology majors to measure their awareness of and ability to accomplish our curriculum goals and student learning outcomes (SLOs). The following two student responses demonstrate considerable insight and conviction regarding the need to make outcomes explicit (Appleby, 2002, p. 135):

Student One: Give better explanations of why students need to know the things they are learning in their classes and not just, "You need to know this." For example, in what other classes would the same SLOs be used? Statistics was used again in both my Introductory Lab and Capstone classes. Students need to know these things!

Student Two: I learned in my cognition class that when people are aware of the purpose of a task they are asked to perform, they usually perform it better. If my teachers would tell me why I am doing the things they want me to do (the department's SLOs) and why these SLOs are important for me to accomplish, I would be much more enthusiastic about accomplishing them. I am not an animal that must be operantly conditioned. I am a human being who can benefit from knowing the purposes and consequences of the behaviors I am asked to perform.

The word *curriculum* is derived from the Latin word *currere*, which means "to race" (Costello, 1993, p. 340). In modern English, curriculum means "a group of related courses, often in a special field of study" (p. 340). Psychology departments carefully choose a group of courses to create a coherent curriculum whose successful completion will enable their majors to accomplish a set of crucial goals. Ironically, they seldom share the underlying rationale for their curriculum with their students. I contend that we should be more explicit about the curricula we create. When we simply present our curriculum as a list of classes with no explanation for their existence other than that they are required, many of our students take the original Latin derivation of curriculum far too literally by viewing their course of study as a race they must rush through as quickly as possible so they can graduate in the shortest period of time. If the goal of a college education were to finish it as quickly as possible, then this would be an appropriate strategy. But

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[1] Drew Appleby served on the 2002 APA Board of Educational Affairs Task Force on Psychology Major Competencies. This is an updated version of an article he wrote for the first version of the Assessment Cyberguide.

7. Communication Skills: Students should be able to communicate effectively in a variety of formats.

8. Socio-Cultural and International Awareness: Students should recognize, understand, and respect the complexity of socio-cultural and international diversity.

9. Personal Development: Students should develop insight into their own and others' behavior and mental processes and apply effective strategies for self-management and self-improvement.

10. Career Planning and Development: Students should emerge from the major with realistic ideas about how to implement their psychological knowledge, skills, and values in occupational pursuits in a variety of settings.

The remainder of this paper will identify and explain the purpose of each of the five types of courses that make up your curriculum. I have underlined the key words from each of the ten SLOs to bring them to your attention and to create the connections between the SLOs and what you will accomplish in your required courses. I hope this information will enable you to understand the rationale behind your curriculum and lead you to a state of increased awareness of the value of the courses it contains. Once you become aware of why you are taking the courses you are required to take and how they can help you to develop the knowledge, skills, and characteristics (KSCs) you will need to accomplish your personal, educational, and career objectives, I believe you will begin to view your coursework as an integrated whole that will help you achieve your future goals.

Introductory Courses

The purposes of introductory courses are to introduce you to the content of psychology; to familiarize you with the department's faculty, curriculum, organizations, resources, and programs; and to engage you in active career planning and development. There are three introductory courses.

B103 Orientation to a Major in Psychology
B104 Introduction to Psychology as a Social Science
B105 Introduction to Psychology as a Biological Science

The successful completion of B103 enables you to understand your strengths, weakness, values, and goals and to identify, clarify, and create a plan to accomplish your post-baccalaureate aspirations. Many students choose psychology as their major before they fully comprehend its nature as a research-based science. B103 will insure that you are fully aware of the nature of your major and what your major will enable you to do after you graduate. You will also begin to strengthen the written and oral communication skills you will need in all your remaining psychology courses.

B104 and B105 introduce you to the full spectrum of areas of specialization that exist within psychology. B104 covers topics that represent the social science side of psychology (i.e., personality, lifespan development, social psychology, abnormal psychology, psychotherapy, intelligence, psychological testing, and industrial-organizational psychology). B105 covers topics that represent the biological science side of psychology (i.e., behavioral neuroscience, motivation, emotion, memory, sensation, perception, cognition, language, and consciousness). Because of the importance of crucial topics such as learning, research methods, and the history of psychology, both B104 and B105 cover these topics.

The successful completion of these three introductory courses paves the way for you to continue your study of psychology with a fundamental awareness of its basic history, empirical findings, principles, concepts, theories, specializations, methods, and applications and an understanding of how a psychology major can prepare you for your future. These courses will also provide you with an understanding of how psychological principles can be applied to personal, social, and organizational issues; help you develop insight into your own and others' behaviors and mental processes; and provide you with strategies for self-management and self-improvement. Another important outcome of the successful completion of these introductory courses is that it will allow you to make informed decisions when you select your subsequent psychology courses.

Methods Courses

The purpose of methods courses is to provide you with opportunities to learn and apply research methods used by psychologists during their scientific investigations of behavior and mental processes. These courses encourage critical and creative thinking during the scientific approach to problem solving. They require you to provide plausible

explanations for psychological observations, comprehend and critique the findings of previous research, produce novel hypotheses derived from the existing psychological literature, create ethical research designs to test these hypotheses, demonstrate technological numeracy by analyzing empirical evidence with statistical software, and provide logical interpretations of the results of your research. You will also demonstrate information literacy by utilizing bibliographic technologies to identify and evaluate information relevant to your research).

There are two required methods courses.

B305 Statistics
B311 Introductory Laboratory in Psychology

B305 focuses on the fundamentals of statistical data analysis, which enable you to organize and summarize data (descriptive statistics) and to interpret and draw conclusions from data (inferential statistics). B311 requires and builds upon the statistical knowledge gained in B305 as it introduces you to the research methods used by psychologists, the ethics of research, and experimental report writing. The successful completion of these two courses is crucial to the further success of a psychology major. Those students who aspire to graduate school will use the critical thinking skills they acquire in these courses to design and perform the research projects that will serve as evidence to graduate admissions committees of their ability to conduct themselves as scientific psychologists. Those who do not perform research themselves can employ the skills to understand and evaluate the research of others. As you progress from your introductory courses to your more advanced courses, you will be required to read, comprehend, and evaluate original psychological research (i.e., primary sources such as articles in professional journals) rather than learning from secondary sources such as textbooks in which the authors have done all the interpreting and evaluating for you. If you have not mastered the vocabulary and techniques from your methods courses, and not carried it with you into the next group of courses I will describe (Core Courses), the results section of a journal article will appear to you as if it had been written in an alien language from a planet far beyond our galaxy.

Core Courses

The purpose of core courses is to provide you with a broad and deep exposure to the main content areas that define the discipline of psychology. You will select six courses from a set of twelve that represents the full range of biological and the social approaches to psychology, including both theoretical and applied areas. There are twelve core courses.

B307 Tests and Measurement
B310 Life Span Development
B320 Behavioral Neuroscience
B334 Perception
B340 Cognition
B344 Learning
B356 Motivation
B358 Industrial/Organizational Psychology
B370 Social Psychology
B380 Abnormal Psychology
B398 Brain Mechanisms of Behavior
B424 Theories of Personality

Core courses provide you with an opportunity to choose a coherent set of courses that will provide you with the KSCs you will need to achieve your post-baccalaureate aspirations. Suppose you are preparing to become a school psychologist whose job will be to test the cognitive capabilities of children in order to determine if their ability to learn falls within the normal range. In this case, B307, B310, B340, B344, and B380 would provide an excellent foundation. The addition of B320, which provides a basic knowledge of how the anatomy and physiology of the nervous system controls behavior and mental processes, would enable you to identify and understand the effects of the drugs that your young clients may be taking either legally (e.g., Ritalin or Prozac) or illegally (e.g., alcohol or marijuana). No matter what career you plan to pursue, the core courses you take will enable you to understand how psychology can be applied to a wide variety of individual, social, and organizational issues and encourage you to recognize, understand, and respect socio-cultural complexity and international diversity.

Specialization Courses

The purpose of specialization courses is to provide you with an opportunity to continue your intellectual self-improvement by focusing your studies on the contents, methods, and applications of a particular area of psychology

by choosing and completing two 300-level or above psychology classes you have not used to satisfy your Methods, Core, or Capstone requirements. Continuing our school psychologist plan from the preceding section, you could build on the knowledge you gained in B310 by taking B360 Child and Adolescent Psychology and become even more knowledgeable about the effects of drugs after completing B320 by enrolling in B394 Drugs and Behavior or B396 Alcohol, Alcoholism, and Drug Abuse. The addition of these courses to your already impressive constellation of core courses will help to set you apart from other graduate school applicants. Distinguishing yourself in this manner is becoming increasingly important because of the huge number (approximately 88,000) of psychology majors who graduate each year in the Unit

A capstone practicum allows you to engage in the application what you have learned about a particular sub-disciple

C. Applying Assessment Strategies in Psychology

5. Assessment and the Scholarship of Teaching and Learning (SoTL)

We provide lists of books and articles that discuss the relationship between assessment and SoTL, conferences focused on assessment and SoTL, and journals that publish research on assessment and SoTL.

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The publication of Boyer's (1990) *Scholarship Reconsidered* initiated conversations that have expanded the definition of "scholarship" beyond basic research in a discipline to include additional forms such as the scholarship of teaching and learning (SoTL). The following articles and books describe the interconnections between SoTL and assessment within classes, courses, and curricula. We follow this list of articles and books with a list of conferences and journals that publish research on assessment and SoTL.

Books and Articles on Assessment and SoTL

Bartsch, R. A., Bittner, W. M. E., & Moreno, J. E. Jr. (2008). A design to improve internal validity of assessments of teaching demonstrations. *Teaching of Psychology*, *35*, 357-359. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a905077917

Abstract: Internal validity is important in assessing teaching demonstrations both for one's knowledge and for quality assessment demanded by outside sources. We describe a method to improve the internal validity of assessments of teaching demonstrations: a 1-group pretest-posttest design with alternative forms. This design is often more practical and ethical than random assignment, and it is more valid than a single posttest-only or simple 1-group pretest-posttest design. We describe how to interpret results from this design and discuss the advantages and disadvantages.

Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professorate*. Princeton, NJ: The Carnegie Foundation for the Advancement of Test-pl(-38.3-pl(-nof aD-.000Fdesi3lesuSe ho W3on: Tdesi3ls. .7(Tcles armakvani)1tag .001/wgcalaogr
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Halpern, D.F., & Reich, J.N. (1999), Scholarship in psychology: Conversations about change and constancy. *American Psychologist*, *54*, 347-349. Retrieved from http://psycnet.apa.org/journals/amp/54/5/347/

Abstract: Mounting pressures on higher education led the Task Force of the Society for the Teaching of Psychology to propose changes in the way the work of faculty is defined and in the criteria used to identify

D. Sustaining an Assessment Culture

2. Program Audit Measures

Departments routinely must produce evidence to document the quality of their work. This entry summarizes both quantitative and qualitative measures that often capture evidence of the quality of department programs.

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Program Audit Measures

Bill Hill, APA Board of Educational Affairs Task Force on Psychology Major Competencies (2002)

In this section, we describe measures that are often components of a program review. Accrediting agencies, administration, legislators, or Regents or Trustees may explicitly request these data to reflect a program's viability and productivity, but do not always reflect aspects of program quality. These data should be considered as foundational to understanding the achievements of a department. However, programs may fare better by including other more direct measures of program quality. Care should also be exercised in creating data sets that might promote specious
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D. Sustaining an Assessment Culture

3. Quality Benchmarks in Undergraduate Psychology Programs for Assessing Student Learning

Dunn, McCarthy, Baker, Halonen & Hill (2007) proposed a set of quality benchmarks for conducting program reviews of undergraduate psychology programs. This section includes narrative and tables from that article

ASSESSMENT ISSUES DOMAIN				
Issue	**Underdeveloped**	**Developing**	**Effective**	**Distinguished**
Assessment planning	Does not engage in assessment planning; demonstrates no proactive thinking about program effectiveness			

Student Learning Outcomes

The APA Task Force on Undergraduate Major Competencies (Halonen et al., 2002a) provided guidelines for structure of the undergraduate major. Programs should demonstrate that they are providing students with developmentally appropriate writing, speaking, research

References

Allen, M. J. (2004). *Assessing academic programs in higher education.*Bolton, MA: Anker.

Angelo, T. A. (1999, May). Doing assessment as if learning matters most. *AAHE Bulletin, 51*

D. Additional Resources on Assessment

4. Resources for Program Review of Undergraduate Programs in Psychology Departments

We identify Web sites and articles that departments may consult when preparing self-study reports for program reviews.

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Note: *Italicized descriptions are summaries written by the authors of the Assessment Cyberguide.* Descriptions in plain text are verbatim from the source.

Web sites

Departmental Consulting Service: http://teachpsych.org/otrp/deptconsult.php

Description from the Web site: The Departmental Consultant Service (DCS) is a service offered to psychology departments through the joint efforts of the APA Education Directorate and the Society for the Teaching of Psychology (STP). Developed in response to an increasing need for evaluations, the consultant service provides departments of psychology with a list of qualified consultants who will provide feedback that will enable them to improve their programs.

Profiles of undergraduate programs in psychology: http://www.apa.org/ed/pcue/profiles_intro.html

The Education Directorate of the

Levy, J., Burton, G., Mickler, S., & Vigorito, M. (1999). A curriculum matrix for psychology program review. *Teaching of Psychology, 26,* 291-294. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785863015

Abstract: Program review and outcomes assessment have become institutionalized as processes to promote accountability for most psychology departments. It is frequently problematic to demonstrate the relation between the content coverage and assessment taking place in individual courses and the broad curricular goals and objectives. We describe a matrix depicting the relation between desired perspectives, skills, knowledge, and attitudes and an undergraduate psychology curriculum to address this problem. Such a matrix is valuable to detect critical omissions or unnecessary redundancies, to examine the consistency across sections of individual courses in covering instructional objectives, and to compare faculty and student impressions of course and curricular coverage.

McGovern, T. V., & Carr, K. F. (1989). Carving out the niche: A review of alumni surveys on undergraduate psychology majors. *Teaching of Psychology*, *16*, 52-57. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785864510

Abstract: Information about psychology majors' activities after graduation is an important ingredient in the evaluation and renewal of undergraduate programs. In this article, we review the survey research on psychology alumni, analyzing the various survey objectives, samples, results, and program implementations. Based on this review, we make recommendations about the design of future studies, the role of APA's Educational Affairs Office, and the use of life-span development theory and methodology to refine future alumni research in undergraduate psychology.

Messer, W. S., Griggs, R .A., & Jackson, S. L. (1999). A national survey of undergraduate psychology degree options and major requirements. *Teaching of Psychology*, *26*, 164-171. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785863497

Abstract: We examined the catalogs of a random sample of 292 national and regional universities and liberal arts colleges to collect curricular data on the prevalence of focused specialty versus general degrees in psychology and on the course requirements for the various degree options. We analyzed the data by type of degree and institution. Requirements for the various psychology majors were in general agreement with recommendations by the curriculum committee of the recent St. Mary's Conference. We also found that a substantial number of schools offer options other than general degrees. Given trends such as rising undergraduate enrollments and concern for career relevance and job preparation, we believe that the number of these alternative degree options may increase in the future.

Perlman, B., & McCann, L. I. (1999). The structure of the psychology undergraduate curriculum. *Teaching of Psychology*, *26*, 171-176. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785863498

Abstract: A review of 500 college catalogs for 4 institutional types found the modal undergraduate psychology program follows the traditional model. It is taught in the liberal arts tradition as recommended by the St. Mary's Conference (Brewer et al., 1993), balancing natural and social science content. The major typically requires 34 credits including introductory, statistics, and a capstone course (either a senior seminar, colloquium or history); at least one content course; and limited laboratory experience. It neither necessarily requires the integrative capstone course nor psychometric methods courses recommended by the St. Mary's Conference. Prerequisites for methodology and capstone courses are limited.

Perlman, B., & McCann, L. I. (1999). The most frequently listed courses in the undergraduate psychology curriculum. *Teaching of Psychology*, *26*, 177-182. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785863499

Abstract: Continuing research with a 60-year history, we read 400 college catalogs and identified the most frequently listed undergraduate psychology courses for 4 institutional types. Results suggested ongoing segmentation in the research methodology and developmental areas, with an increasing number of courses listed in each. Experimental content courses (e.g., experimental, biological), clinical (e.g., abnormal, personality), and social/developmental courses are listed with about equal frequencies, and no movement toward additional vocational content is evident. We noted emerging subdisciplinary areas and courses.

Perlman, B., & McCann, L. I. (2005). Undergraduate research experiences in psychology: A national survey of courses and curricula. *Teaching of Psychology*, *32*, 5-14. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785856796

Abstract: We surveyed departments nationally to better understand the extent of scientific opportunities and experiences for undergraduate psychology students. Results showed intradepartmental variability, but overall students can expect 7 courses that offer research experiences in the typical psychology curriculum. Nonetheless, research is often not the primary course focus; some students must wait until their junior year to take such a course, and most such courses are elective, not required. We discuss implications for departments' curricula and the goals and outcomes for undergraduate education as well as future research directions.

Pusateri, T. P, Poe, R. E, Addison, W. & Goedel G. D. (2004). Designing and implementing psychology program reviews. In D. S. Dunn, C. M. Mehrotra, & J. S. Halonen (Eds.), *Measuring up: Educational assessment challenges and practices for psychology* (pp. 65-89). Washington, DC: American Psychological Association.

Discusses the purpose of program review and makes recommendations for preparing a self-study, scheduling a review by an external consultant, and following up on the reviewer's report. For more information, visit http://books.apa.org/books.cfm?id=4318011

Quereshi, M. Y. (1988). Evaluation of an undergraduate psychology program: Occupational and personal benefits. *Teaching of Psychology*, *15*, 119-123. Retrieved from http://www.informaworld.com/smpp/content~db=all~content=a785861725

Abstract: A 30-item questionnaire completed by 272 psychology graduates from Marquette University, between May 1972 and May 1983, provided an updated evaluation of the undergraduate program. This study investigated (a) differences between male and female graduates, (b) graduates' evaluation of the psychology curriculum and faculty, and (c) occupational benefits of the psychology major for those who pursued graduate work in psychology or professional fields and for those who sought employment with the terminal bachelor's degree. Results of this study are compared with those of other alumni surveys published between 1961 and 1987.

Vigorito, M. (2008). *An electronic workbook for assessing the Dunn et al. (2007) Quality Benchmarks in Undergraduate Psychology Programs*