Assessment for Departments
With Limited Time and Resources

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Definition

Assessment of student learning is the systematic gathering of information about student learning and the factors that affect learning, undertaken with the resources, time, and expertise available, for the purpose of improving the learning.

The Three Basic Steps of Assessment

1. Articulate learning goals
   > "When students complete this [course, major, gen-ed program] we want them to be able to…."
2. Gather information about how well students are achieving the goals and why
3. Use the information for improvement

The purpose of assessment is informed decision-making, including the use of information about student learning.

The most economical assessment process yields a reasonable basis for action.

The Basic, No-Frills Departmental Assessment Plan

1. Learning goals (at the end of the program, students will be able to…)
2. Two measures:
    a. One direct measure (direct means student performance is directly evaluated, as in tests, exams, projects, interactions with clients, etc.)
        i. Review of senior work by faculty teaching seniors
        ii. If students take a licensure or certification exam, this will be added as a second direct measure
    b. One indirect measure (indirect means an intervening step, such as asking students what they thought they learned, or tracking their career or graduate school placement)
        i. My preference: senior student surveys and/or focus groups asking three questions:
            1. How well did you achieve each of the following departmental learning goals [use scale such as "extremely well, very well, adequately well, not very well, not at all"]
                [list each department goal, with scoring scale for each]
            2. What aspects of your education in this department helped you with your learning, and why were they helpful?
            3. What might the department do differently that would help you learn more effectively, and why would these actions help?
        ii. Second choice: Alumni surveys
        iii. In some fields, job placement rates will be important
3. Annual meeting to discuss data and identify action items.
    a. Set aside at least 2 hours to discuss ONE of your degree programs.
    b. Put the annual meeting in place NOW, without waiting for the perfect data.
    c. At the meeting, consider whatever data you have about learning, no matter how incomplete or inadequate.
    d. Outcomes of the meeting:
        i. ONE action item to improve student learning, with a timeline and assignment of responsibility
        ii. ONE action item to improve the quality of data, with a timeline and assignment of responsibility
    e. Keep minutes of the meeting
        i. To serve as your own record and reminder
        ii. To document for accreditors that assessment is taking place

Case History #1: Annual Meeting with Oral Reports from Faculty

- Department of Political Science, very successful, very busy, with growing numbers of majors and among the highest teaching evaluations at the university.
- Hated assessment, thought it was a waste of time and a plot to destroy faculty autonomy.
- But recognized that, in all the busyness, there was a danger that the undergraduate major was not getting enough attention. Were willing to institute the 2-hour annual meeting.
- At the meeting, no preparation had been done, no rubrics (most faculty hated them or did not know what they were).
- They went around the table; each faculty member who taught senior research projects named two strengths and two weaknesses that s/he observed in senior projects, measured against the department's goals for learning.
- One member kept a list on a flip chart.
- They decided to focus on one item that had come up a number of times: the inability of senior students, as they began their senior research projects, to construct a question for inquiry in the discipline.
- They decided first to examine their curriculum prior to the senior year, to see where they were giving instruction, practice, and feedback in constructing questions for inquiry. They completed the meeting by assigning responsibility and a time line for this investigation of the curriculum.
- At this meeting, they also decided they should conduct a short, 3-question survey of senior students, during one class day in the senior year, to ask them how well they thought they were prepared to construct questions for inquiry, what pedagogical strategies in their past courses had been most helpful, and what changes they would suggest.
- The curriculum committee constructed and administered the student survey and also mapped those points in the present curriculum where students received instruction, practice, and feedback in constructing questions for inquiry. The committee prepared recommendations for the department.
- At the end of that year, the department acted on these recommendations, making some changes to the curriculum, so as to give more instruction, practice, and feedback.
- The following year, they continued to implement the changes and to observe whether student skills improved. Meanwhile, they took up one of their other degree programs and began a similar assessment process.
- They kept minutes and records of their actions.

This system relies on faculty members' ongoing evaluation of student work, reported orally to the department. Oral reports have their limitations as evidence, but they are based on faculty members' time-consuming, day-in day-out careful analysis of student work. Despite any weaknesses in the data, this department has now made a beginning. It has moved beyond coffee-pot complaints about "students can't do X" and has introduced some systematic analysis and sharing. It has used these data to identify an item for action. In time, this faculty may find that the oral reports are too informal, not sufficiently systematic or scholarly, and they may move to use written evaluations or rubrics for evaluating senior

projects. They should not use grades, because they do not give enough information about strengths and weaknesses.

The next example demonstrates a department that took those two additional steps.

Case Study #2: Add Rubric-Based Faculty Evaluation of Student Work

- Department of biology.
- The department articulated a set of learning goals for undergraduate majors (Appendix A)
- They had a capstone course called "Biological Research." To evaluate student work, the teacher developed a rubric (Appendix B)
- The department instituted the annual meeting.
- At the meeting, the capstone teacher(s) reported students' strengths and weaknesses, using rubric scores (Appendix A, B). They also considered other evidence.
- The department decided to focus on students' ability to design experiments.
- They examined their curriculum and made changes, much as the political science department had done.
- They reported their assessment process (Appendix A)

Case #3: Variations of the Department Meeting

Department of English at a community college

- They wanted to assess their literature courses, which students took as part of their Associate's degree.
- The department had generated a list of goals for these courses.
- The courses were taught by many adjuncts, teaching at all times of the day and night, in several different locations; any single meeting could gather only a few of them.
- The department assigned its adjuncts and full-time faculty to small groups of 3-4 people, according to the time they could meet (e.g. the Wed., Oct. 12, 5 p.m. group). They asked the group to meet at a location of their own choosing for one hour and generate a list of two strengths and two weaknesses they saw in students' work, evaluated against the written goals for the core lit course. The group's "recorder" then sent in the list.
- A committee compiled these lists and made recommendations for departmental action.

Appendix A: Department of Biology Assessment Report

Majors

(Note: similar matrices would be produced for general-education and graduate programs in the department)

Learning Goals for Majors

1. Describe and apply basic biological information and concepts
2. Conduct original biological research and report results orally and in writing to scientific audiences
3. Apply ethical principles of the discipline in regard to human and animal subjects, environmental protection, use of sources, and collaboration with colleagues

Website and/or other avenues by which these are readily available to students, prospective students, and faculty_____

Measures	Goal 1	Goal 2	Goal 3	Use of the information
Standardized test given to all seniors AND Final exams of three basic biology courses required of all majors	X			Data are reported to the department annually by the standardized exam committee and the instructors of the three basic courses. The department supports and encourages the instructors, takes any appropriate department-level actions, and reports meeting outcomes to dean or other body which has resources to address problems, and to those composing reports for accreditation or other external audiences. All data are reviewed as part of program review every seven years.
In senior capstone course, students complete an original scientific experiment, write it up in scientific report format, and also make an oral report to the class. The instructor(s) use a rubric to evaluate student work.	X	X	X	Annually, the senior capstone instructor(s) share students= rubric scores with the department. The department takes action as above.
Alumni survey asks		X	X	Data reviewed annually by department for

Measures	Goal 1	Goal 2	Goal 3	Use of the information
how well alums thought they learned to conduct and communicate scientific research				action, as above
Sample of regional employers gathers every 2-3 years to reflect how well our majors are doing and give advice to dept.	X	X	X	Data reviewed by department for action, as above

Examples of Changes Based on Assessment
- Two years ago, our advisory council of regional employers recommended that our majors had a good level of biological knowledge but needed stronger skills in actually conducting biological research. Data from the alumni survey also mentioned this problem. We instituted the required capstone course, which requires students to conduct original scientific research, and we asked the instructor(s) annually to report to the department on student research and communication skills demonstrated by their capstone projects. In three years, when several cohorts of majors have passed through the capstone, we will again survey alumni and employers to see whether student skills have increased, and we will review data from all years of the capstone projects.
- The capstone instructor(s) last year reported low graphing skills in seniors; we arranged with the mathematics department for greater emphasis on graphing and better assessment of graphing, in the required math course. The capstone instructor(s) will report next year whether graphing skills are stronger. Prof. Brody is currently developing a rubric to assess graphing skills more systematically in the capstone.

Recommendations for Improving Assessment Processes
- Standardized national test is costly and time-consuming to administer, has low student motivation in its current format, and results are difficult to map to our curriculum. Committee should review usefulness of the national test.
- We currently have no feedback from a senior survey or focus groups. Committee should explore adding these data.

Appendix B: Rubrics

Example #1: Rubric for Senior Biology Scientific Report

by Virginia Johnson Anderson, Towson University, Towson, MD

Assignment: Semester-long assignment to design an original experiment, carry it out, and write it up in scientific report format. This is the major assignment in this course, titled "Scientific Research." The course was instituted recently as a result of employer feedback that students were insufficiently prepared to really understand and carry out the scientific method. The goal of the course is to prepare students to conduct original scientific research and present it orally and in writing. There were no resources to make this a lab course, so the students had to conduct research outside the lab. Most student graduates will be working with commercial products in commercial labs in the area, e.g. Noxell. In the assignment, students are to determine which of two brands of a commercial product (e.g. two brands of popcorn) are "best." They must base their judgment on at least four experimental factors (e.g. "% of kernels popped" is an experimental factor. Price is not, because it is written on the package).

Rubric for Written Scientific Report

Title

5 -   Is appropriate in tone and structure to science journal; contains necessary descriptors, brand names, and allows reader to anticipate design.

4 -   Is appropriate in tone and structure to science journal; most descriptors present; identifies function of experimentation, suggests design, but lacks brand names.

3 -   Identifies function, brand name, but does not allow reader to anticipate design.

2 -   Identifies function or brand name, but not both; lacks design information or is misleading

1 -   Is patterned after another discipline or missing.

Introduction

5 -   Clearly identifies the purpose of the research; identifies interested audiences(s); adopts an appropriate tone.

4 -   Clearly identifies the purpose of the research; identifies interested audience(s).

3 -   Clearly identifies the purpose of the research.

2 -   Purpose present in Introduction, but must be identified by reader.

1 -   Fails to identify the purpose of the research.

Scientific Format Demands

5 -   All material placed in the correct sections; organized logically within each section; runs parallel among different sections.

4 -   All material placed in correct sections; organized logically within sections, but may lack parallelism among sections.

3 -   Material place is right sections but not well organized within the sections; disregards parallelism.

2 -   Some materials are placed in the wrong sections or are not adequately organized wherever they are placed.

1 -   Material placed in wrong sections or not sectioned; poorly organized wherever placed.

Materials and Methods Section

5 - Contains effective, quantifiable, concisely-organized information that allows the experiment to be replicated; is written so that all information inherent to the document can be related back to this section; identifies sources of all data to be collected; identifies sequential information in an appropriate chronology; does not contain unnecessary, wordy descriptions of procedures.

4 - As above, but contains unnecessary information, and/or wordy descriptions within the section.

3 - Presents an experiment that is definitely replicable; all information in document may be related to this section; however, fails to identify some sources of data and/or presents sequential information in a disorganized, difficult pattern.

2- Presents an experiment that is marginally replicable; parts of the basic design must be inferred by the reader; procedures not quantitatively described; some information in Results or Conclusions cannot be anticipated by reading the Methods and Materials section.

1 - Describes the experiment so poorly or in such a nonscientific way that it cannot be replicated.

Non-experimental Information

5 - Student researches and includes price and other non-experimental information that would be expected to be significant to the audience in determining the better product, or specifically states non-experimental factors excluded by design; interjects these at appropriate positions in text and/or develops a weighted rating scale; integrates non-experimental information in the Conclusions.

4 - Student acts as above, but is somewhat less effective in developing the significance of the non-experimental information.

3 - Student introduces price and other non-experimental information, but does not integrate them into Conclusions.

2 - Student researches and includes price effectively; does not include, or specifically excludes, other non-experimental information.

1 - Student considers price and/or other non-experimental variables as research variables; fails to identify the significance of these factors to the research.

Designing an Experiment

5 - Student selects experimental factors that are appropriate to the research purpose and audience; measures adequate aspects of these selected factors; establishes discrete subgroups for which data significance may vary; student demonstrates an ability to eliminate bias from the design and bias-ridden statements from the research; student selects appropriate sample size, equivalent groups, and statistics; student designs a superior experiment.

4 - As above, but student designs an adequate experiment.

3 - Student selects experimental factors that are appropriate to the research purpose and audience; measures adequate aspects of these selected factors; establishes discrete subgroups for which data significance may vary; research is weakened by bias OR by sample size of less than 10.

2 - As above, but research is weakened by bias AND inappropriate sample size

1 - Student designs a poor experiment.

Defining Operationally

5 -   Student constructs a stated comprehensive operational definition and well-developed specific operational definitions.
4 -   Student constructs an implied comprehensive operational definition and well-developed specific operational definitions.
3 -   Student constructs an implied comprehensive operational definition (possible less clear) and some specific operational definitions.
2 -   Student constructs specific operational definitions, but fails to construct a comprehensive definition.
1 -   Student lacks understanding of operational definition.

Controlling Variables
5 -   Student demonstrates, by written statement, the ability to control variables by experimental control and by randomization; student makes reference to, or implies, factors to be disregarded by reference to pilot or experience; superior overall control of variables.
4 -   As above, but student demonstrates an adequate control of variables.
3 -   Student demonstrates the ability to control important variables experimentally; Methods and Materials section does not indicate knowledge of randomization and/or selected disregard of variables.
2 -   Student demonstrates the ability to control some, but not all, of the important variables experimentally.
1 -   Student demonstrates a lack of understanding about controlling variables.

Collecting Data and Communicating Results
5 -   Student selects quantifiable experimental factors and/or defines and establishes quantitative units of comparison; measures the quantifiable factors and/or units in appropriate quantities or intervals; student selects appropriate statistical information to be utilized in the results; when effective, student displays results in graphs with correctly labeled axes; data are presented to the reader in text as well as graphic forms; tables or graphs have self-contained headings.
4 -   As 5 above, but the student did not prepare self-contained headings for tables or graphs.
3 -   As 4 above, but data reported in graphs or tables contain materials that are irrelevant. and/or not statistically appropriate.
2 -   Student selects quantifiable experimental factors and/or defines and establishes quantitative units of comparison; fails to select appropriate quantities or intervals and/or fails to display information graphically when appropriate.
1 -   Student does not select, collect, and/or communicate quantifiable results.

Interpreting Data: Drawing Conclusions/Implications
5 -   Student summarizes the purpose and findings of the research; student draws inferences that are consistent with the data and scientific reasoning and relates these to interested audiences; student explains expected results and offers explanations and/or suggestions for further research for unexpected results; student presents data honestly, distinguishes between fact and implication, and avoids overgeneralizing; student organizes non-experimental information to support conclusion; student accepts or rejects the hypothesis.
4 -   As 5 above, but student does not accept or reject the hypothesis.
3 -   As 4 above, but the student overgeneralizes and/or fails to organize non-experimental information to support conclusions.

2 - Student summarizes the purpose and findings of the research; student explains expected results, but ignores unexpected results.

1 - Student may or may not summarize the results, but fails to interpret their significance to interested audiences.

Student Scores on Rubric for Science Reports

Trait	Year 1	Year 2
Title	2.95	3.22
Introduction	3.18	3.64
Scientific Format	3.09	3.32
Methods and Materials	3.00	3.55
Non-Experimental Info	3.18	3.50
Designing the Experiment	2.68	3.32
Defining Operationally	2.68	3.50
Controlling Variables	2.73	3.18
Collecting Data	2.86	3.36
Interpreting Data	2.90	3.59
Overall	2.93	3.42

(From Walvoord and Anderson, *Effective Grading: A Tool for Learning and Assessment*, 1998, pp. 197-201, 147).

Example #2: Rubric for Evaluating Student Literary-Critical Essays

Note: such a rubric may be developed for use by all faculty teaching the gen-ed literature course, or faculty may be free to develop their own rubrics, perhaps using this as a guideline, or faculty may be asked to incorporate one or two common items into their own rubric.

5	4	3	2	1
Thesis: The thesis of the paper is clear, complex, and challenging. It does not merely state the obvious or exactly repeat others= viewpoints, but creatively and thoughtfully opens up our thinking about the work.	The thesis is both clear and reasonably complex.	The thesis of the paper is clear. It takes a stand on a debatable issue, though the thesis may be unimaginative, largely a recapitulation of readings and class discussion, and/or fairly obvious.	Thesis is relevant to the assignment. It is discernible, but the reader has to work to understand it.	Thesis is irrelevant to the assignment and/or not discernible.
Complexity and Originality: The essay is unusually thoughtful, deep, creative, and far-reaching in its analysis. The writer explores the subject from various points of view, acknowledges alternative interpretations, and recognizes the complexity of insider and outsider issues in literature and in life. Other works we have read and ideas we have discussed are integrated as relevant. The essay shows a curious mind at work.	The essay is thoughtful and extensive in its analysis. It acknowledges alternative interpretations and recognizes complexity in literature and in life. Some other works are integrated as relevant.	The writer goes somewhat beyond merely paraphrasing someone else=s point of view or repeating what was discussed in class. AND/OR the essay does not integrate other relevant works we have read.	Writer moves only marginally beyond merely paraphrasing someone else=s point of view or repeats what was discussed in class.	The paper is mere paraphrase or repetition.
Organization and Coherence: The reader feels that the writer is in control of the direction and organization of the essay. The essay follows a logical line of reasoning to support its thesis and to deal with	As for A5" but sub-points may not be fashioned to open up the topic in the most effective way.	The reader feels that the writer is in control of the direction and organization of the essay most of the time. The essay	The essay has some discernible main points.	The essay has no discernible plan of organiza-tion.

5	4	3	2	1
counter-evidence and alternative viewpoints. Sub-points are fashioned so as to open up the topic in the most effective way.		generally follows a logical line of reasoning to support its thesis.		
Evidence, Support: The writer=s claims and interpretations are backed with evidence from the literature, works we have read, secondary sources, and sensible reasoning. The writer assumes the reader has read the work and does not need the plot repeated, but the writer refers richly and often to the events and words of the novel to support his/her points.	As for A5" but the writer may occasionally drop into mere plot summary	The writer=s claims and interpretations about the works are generally backed with at least some evidence from the works. The writer assumes the reader has read the work and does not need the plot repeated.	The writer=s claims are sometimes backed with evidence. The paper descends at times into plot summary.	The paper is primarily plot summary.
Style: The language is clear, precise, and elegant. It achieves a scholarly tone without sounding pompous. It is the authentic voice of a curious mind at work, talking to other readers of the novel.	The language is clear and precise.	The language is understandable throughout.	The language is sometimes confusing. Sentences do not track.	The language is often confusing. Sentences and paragraphs do not track.
Sources: The essay integrates secondary sources smoothly. It quotes when the exact words of another author are important, and otherwise paraphrases. It does not just string together secondary sources, but uses them to support the writer=s own thinking. Each source is identified in the text, with some statement about its author; there are no quotes just	As for A5" but sources may be quoted with no contextual explanation AND/OR writer may use direct quotation and paraphrase in less than optimal ways.	The essay does not just string together secondary sources, but uses them to support the writer=s own thinking.	The essay strings together secondary sources.	There is no use of secondary sources.

5	4	3	2	1
stuck into the text without explanation.				
Grammar, Punctuation: There are no discernible departures from Standard Edited Written English (ESWE)	There are a few departures from ESWE	There are no more than an average of 2 departures from ESWE per page in the critical areas listed below.	There are more than 2.	Some portion of the essay is impossible to read because of departures from ESWE.

Critical Areas:
-Spelling or typo
-Sentence boundary punctuation (run-ons, comma splices, fused sentences, fragments)
-Use of apostrophe, -s, and -es
-Pronoun forms
-Pronoun agreement, and providing antecedents for pronouns
-Verb forms and subject-verb agreement
-Use of gender-neutral language
-Capitalization of proper nouns and of first words in the sentence

_____

Criteria for a Department's Report on Its Assessment

Possible Audiences:
- Internal committee or director charged with oversight for assessment
- Inclusion in institution's report to regional accreditors
- Basis for program review, strategic planning, and/or budget requests

CRITERIA
Learning Goals
Learning goals are stated (or a URL is provided) for each degree or program of study
Learning goals are stated as "Students will…"
Learning goals are readily available to students and faculty
The goal statement is limited to the learning goals; no other extraneous material is included.
Methods for Collecting Information about Student Achievement of the Goals
The dept uses at least one direct and one indirect method for each degree/ program of study.
The dept collects only data that is will actually use for decision-making and that it deems reliable and valid for those purposes. No data are being collected that are not also being used.
The report makes clear the relationship between the goals and the methods of collecting information.
The methods of collecting information, taken together, address all the learning goals, or, if not, then the department explains its strategic choice about which goals to assess first or which ones have top priority.
The report includes ONLY methods in which information from students is considered by the dept as a whole or a relevant group/ committee. The report does not include assessments that are considered only by a teacher to make improvements in his/her classroom, nor does it include explanations of requirements students must complete or other methods of individually grading students or determining their progress through the degree program, unless data from those assessments are aggregated and presented to the dept or a relevant committee for action.
Assessments are based on whole populations (e.g. all majors) or on samples of reasonable size.
Direct Methods
Direct assessment does not depend on grades or other very broad evaluations, but is diagnostic and specific, yielding information about specific student strengths and weaknesses, so the dept knows what to work on. (Example: NOT "The students' average grade on the capstone research project was 3.5," but "In the capstone research project, the weaknesses of senior students as a whole were A,B, and C, and their strengths were X, Y, and Z.")
If the department relies on faculty members' individual reports about student work in the faculty members' own classrooms, the dept takes steps to encourage the objectivity of those reports by, for example, asking faculty to explicitly state and share the assignments

CRITERIA
or tests on which the assessment is based and the criteria and standards (perhaps in rubric form) that the faculty member has applied.
The dept does not merely list all tests and assignments as the basis of assessment, but focuses only on those that the whole dept can reasonably consider.
Indirect Measures
The dept's indirect measure(s) seem reasonable given the resources at hand and the kinds of information the dept needs for its decisions.
For surveys, the dept has achieved a reasonable response rate
Using Assessment Information for Dept Action
Dept clearly describes its mechanism for considering assessment data and using data to make decisions at the dept level
Description includes the types of data reviewed
Description includes the frequency of meetings
Description includes the persons who will participate
Dept gives examples of decisions that have been made on the basis of assessment data; these descriptions, often about a paragraph long, show how the decision is connected to the assessment data.
The dept demonstrates that it continuously considers the quality of its assessment data and strives to improve that quality, given its limitations of time and resources.

Resources

The Short List

- Walvoord, B. E. *Assessment Clear and Simple: A Practical Guide for Institutions, Departments, and General Education.* Jossey-Bass, 2004. In 79 pages plus appendices, I try to give institutions, departments, and gen ed programs all they will need.
- Palomba, C. A., and Banta, T.W., eds. *Assessing Student Competence in Accredited Disciplines: Pioneering Approaches to Assessment in Higher Education.* Sterling, VA: Stylus Publishing, LLC, 2001. At 350 pages, it gives more extensive details on many of the subjects covered in this volume, and it is organized as a manual of advice to practitioners. The single most useful reference as an accompaniment to Walvoord's short guide.
- Suskie, L. *Assessing Student Learning: A Common Sense Guide*. Anker, 2004. A 300-page guide with many good ideas and illustrations.
- Banta, T. W., Lund, J. P., Black, K. E., and Oblander, F. W. *Assessment in Practice: Putting Principles to Work on College Campuses.* San Francisco: Jossey-Bass, 1996. Contains 82 case studies of best practice, each in 2-3 pages. Though now nine years old, still a wealth of practical ideas. 350 pages.
- Walvoord and Anderson, 1998. Walvoord, B. E., and Anderson, V. J. *Effective Grading: A Tool for Learning and Assessment*. San Francisco: Jossey-Bass, 1998. Shows how the classroom grading process can be enhanced and how it can be used for assessment. Helps classroom teachers make the grading process fair, time-efficient, and conducive to learning. Contains a case study of how a community college used the grading process for general-education assessment.
- Web pages and publications of your regional and professional accreditors

General Education Assessment

- Banta, T.W. (ed.). *Assessing Student Achievement in General Education: Assessment Update Collection*. San Francisco: Jossey-Bass, 2007. Banta's opening essay is very helpful as an overview of gen-ed assessment and a sensible evaluation of possible approaches. The rest of the volume contains essays from the newsletter *Assessment Update*.
- Bresciani, M.J. (ed). *Assessing Student Learning in General Education*. Boston, MA: Anker, 2007. Very useful case studies.

Additional Resources

- Astin, A. W. *Assessment for Excellence: The Philosophy and Practice of Assessment and Evaluation in Higher Education*. American Council on Education Series on Higher Education. Phoenix: Oryx Press, 1993.   A thoughtful treatment of the values and theoretical frameworks behind various assessment practices, as well as very practical advice about gathering and interpreting data, from one of the most respected higher education researchers.

- Banta, T. W. & Associates. *Building a Scholarship of Assessment*. San Francisco: Jossey-Bass, 2002. Essays by leaders in the field, addressing practical issues, but focusing on developing a "scholarship of assessment." Bibliography provides recent references to more specialized works on designing and selecting assessment instruments and other topics. 300 pages.
- Huba, M. E., and Freed, J. E. *Learner-Centered Assessment on College Campuses: Shifting the Focus from Teaching to Learning*. Needham Heights, MA.: Allyn & Bacon, 2000.
- Lucas, A.F., and Associates. *Leading Academic Change: Essential Roles for Department Chairs*. San Francisco: Jossey-Bass, 2000. Collection of essays on leading change in departments. Essays by Gardiner and Angelo are especially valuable for guiding assessment.
- Messick, S. J., ed. *Assessment in Higher Education: Issues of Access, Quality, Student Development, and Public Policy*. Mahweh, NJ: Lawrence Erlbaum Asociates, 1999. Places assessment in broader social and political contexts.
- Nichols, J. L. *Assessment Case Studies: Common Issues in Implementation with Various Campus Approaches to Resolution*. New York: Agathon Press, 1995. Nichols, J.O. *The Departmental Guide and Record Book for Student Outcomes Assessment and Institutional Effectiveness*, 2nd ed. New York: Agathon Press, 1995. Nichols, J.O. *A Practitioner's Handbook for Institutional Effectiveness and Student Outcomes Assessment Implementation*, 3rd ed. New York: Agathon Press, 1995. These are practical guides to an extensive assessment process, with illustrative case studies.
- Peterson, M. S. Augustine, C. H., Einarson, M.K., and Vaughan, D. S. *Designing Student Assessment to Strengthen Institutional Performance in Associate of Arts Institutions*. Stanford, CA: Stanford University, National Center for Postsecondary Improvement, 1999. Similar volumes, also 1999, on Baccalaureate, Comprehensive, and Doctoral/Research universities.
- Upcraft, M. L. and Schuh, J. H. *Assessment in Student Affairs: A Guide for Practitioners*. San Francisco: Jossey-Bass, 1996.
- Walvoord, B. E. "Assessment in Accelerated Learning Programs." In R. J. Wlodkowski and C. E. Kasworm (eds.), *Accelerated Learning for Adults: The Promise and Practice of Intensive Educational Formats*. New Directions for Adult and Continuing Education, no. 97. San Francisco: Jossey-Bass, 2003. An 11-page summary of an early version of Walvoord's *Assessment Clear and Simple*, applicable not only to accelerated learning but also to traditional higher education.
- http: //ericae.net: provides links to what the sponsors consider some of the best full-text books, reports, journal articles, newsletter articles, and papers on the Internet that address educational measurement, evaluation and learning theory
- http: //ts.mivu.org: The on-line journal, *The Technology Source*, sponsored by Michigan Virtual University, contains an online index: look under "assessment—past articles." Practical ideas for classroom and institutional assessment of online courses as well as other computer-based applications such as on-line testing.
- www2 .acs.ncsu.edu/upa/assmt/resource.htm. North Carolina State University maintains a website with links to numerous resources on assessment.

- Subscribe to *Assessment Update* for the most recent examples and developments in assessment. Published monthly, it contains brief case studies of successful practice, updates on new developments, and reflections on issues of theory and practice. Order from the web page (www. josseybass.com) or by phone, 888-481-2665. Back issues are available.
- Conferences:
  - National Assessment Institute, held in Indianapolis under the auspices of the Indiana University-Purdue University Indianapolis, organized by Trudy Banta, one of the leading experts in assessment (www. planning.iupui.edu. Click on conferences).
  - North Carolina State University annual assessment conference. http://www.ncsu.edu/assessment/symposium/
  - Annual conferences of your regional or disciplinary accreditor