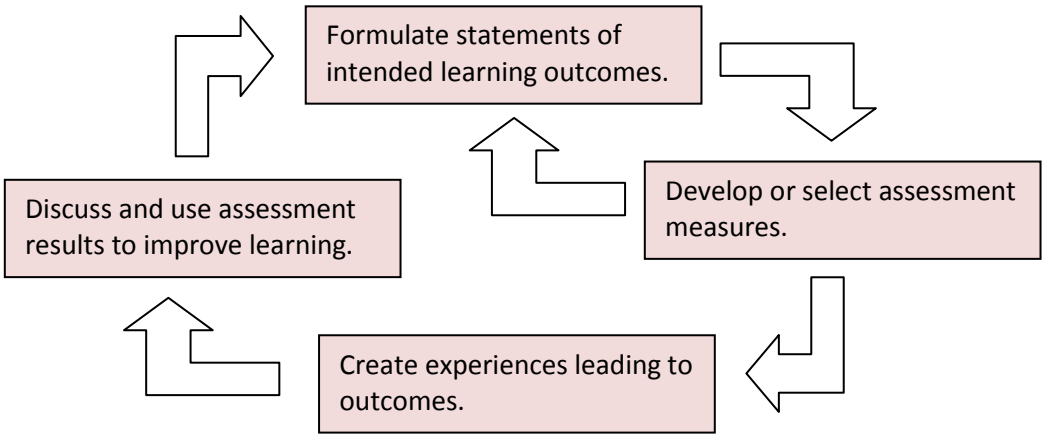
What is assessment of student learning?

"Assessment is the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand, and can do with their knowledge as a result of their educational experiences; the process culminates when assessment results are used to improve subsequent learning" (Huba & Freed, 2000, p.8).

What are the elements of the assessment process?



Huba & Freed (2000, p.10)

What are intended student learning outcomes?

Intended learning outcomes are student centered statements that describe what students should be able to demonstrate, represent, understand, know, do, etc., with the knowledge they have gained as a result of the educational experiences they have had (Huba & Freed, 2000; Maki, 2002).

What are characteristics of student learning outcomes?

Student Learning Outcomes:

- Express what students will be able to know or do
- Focus on the product rather than the process
- Are measurable (i.e., identifiable or observable)
- Are detailed and specific (whereas goals are broad and general)
- Include action verbs such as define, compare, create, design, or develop (Gahagan, Dingfelder, & Pei, 2010, p. 11).

What are action verbs faculty can use to develop intended student learning outcomes?

Bloom's 1956 cognitive taxonomy was updated by Lorin Anderson and David Krathwohl in 2001. The revision came from the "need to refocus educators' attention on…the design and implementation of accountability programs, standards based curriculums, and authentic assessments" (Anderson & Krathwohl, 2001, pxxi-xxii). The pyramid and table below outline the hierarchical nature of the cognitive taxonomy.

Levels of Knowledge	Action Verbs
Remembering: Can the student recall or remember the information?	define, duplicate, list, memorize, recall, repeat, reproduce state
Understanding: Can the student explain ideas or concepts?	classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase
Applying: Can the student use the information in a new way?	choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write
Analyzing: Can the student distinguish between the different parts?	appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test
Evaluating: Can the student justify a stand or decision?	appraise, argue, defend, judge, select, support, value, evaluate
Creating: Can the student create new product or point of view?	assemble, construct, create, design, develop, formulate, write

http://www.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm

What kinds of assessment methods are appropriate?

Formative and Summative

- Formative assessment is “ongoing assessment that provides information, about progress, misunderstandings, need for clarification, and so forth” (Driscoll and Wood, 2007, p. 86) regarding student learning.
- Summative assessment is “conducted after a program has been in operation for a while, or at its conclusion, to make judgments about its quality or worth compared to previously defined standards for performance” (Palomba & Banta, 1999, p. 7-8).

Direct and Indirect

- Direct measures of assessment allow students to demonstrate what they know and are able to do with their knowledge.
- Indirect measures are based on perceived student learning.

The following table provides examples of both direct and indirect measures. This is not intended to serve as an exhaustive list.

Direct Measures	Indirect Measures
• Essay test question • Term paper • Oral presentation/exams • Performance piece (e.g., musical recital) • Case study analysis • Standardized test • Class project (individual or group) • Poster presentation • Clinical evaluation • Portfolio	• Surveys (students, faculty members, internship supervisors, graduates, employers, etc.) • Focus groups • Interviews

References

Anderson, L.W., & Krathwohl, D.R. (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives. New York: Addison Wesley Longman, Inc.

Driscoll, A., & Wood, S. (2007). Developing outcomes-based assessment for learner-centered education: A faculty introduction. Sterling, VA: Stylus.

Gahagan, J., Dingfielder, J., & Pei, K. (2010). A faculty and staff guide to creating learning outcomes. Columbia, SC: University of South Carolina, National Resource Center for The First-Year Experience & Students in Transition.

Huba, M. E., & Freed, J. E. (2000). Learner-centered assessment on college campuses: Shifting the focus from teaching to learning. Boston: Allyn and Bacon.

Maki, P. (2002). Developing an assessment plan to learn about student learning. *Journal of Academic Librarianship*, 28, 8-13.

Overbaugh, R. C., & Schultz, L. (n.d.) Bloom's taxonomy. Retrieved from http://www.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm

Palomba, C.A., & Banta, T.W. (1999). Assessment essentials: Planning, implementing, and improving assessment in higher education. San Francisco: Jossey-Bass.