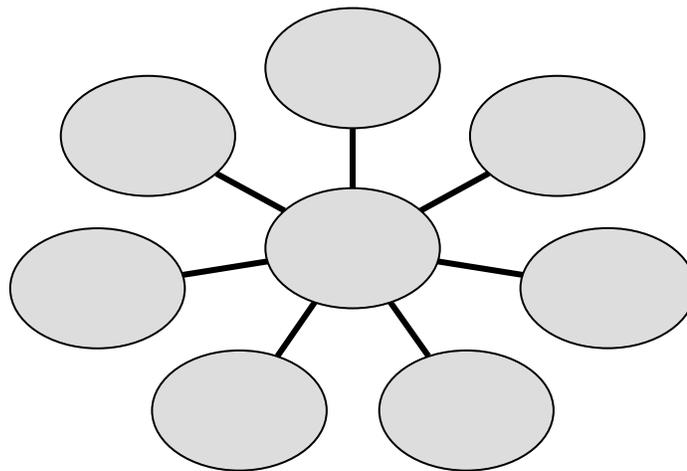


Some Direct and Indirect Methods, including the Use of Technology,  
from Peggy Maki from forthcoming (late 2009) New Edition of *Assessing for Learning*, Stylus  
Publishing, LLC

- Test of knowledge of facts, processes, procedures, concepts, etc.
- Case Study/Problem that requires students to demonstrate how one has integrated outcome-based learning into his or her work
- Summary from homework assignment; summary after a segment of lecturing or other pedagogical method
- Description of what one already knows before movement into a new topic or focus
- Discussion of how one may have changed his or her understanding based on learning more about a topic or engaging in research on a topic
- Group work that emerges from material covered with self-analysis and analysis of others
- Team projects that emerge from material covered
- Self-reflection on what one does and does not understand
- Written assignment that explores a distinctive critical perspective or problem
- Critical incident response
- Representative disciplinary or professional work assignments
- Capstone Project
- Thesis
- Collaborative Project
- Research Project
- Interpretation of unidentified pieces of discourse to ascertain how well students can make inferences about when documents were written and about the beliefs or concepts that underlie each one
- Logbook or journal tasks that explore concepts or problems or situations over time or explores learning against pedagogy such as interactive simulations
- Event analysis
- Interpretation of video clips or visual materials
- Case study or studies examined over time as students move through courses and educational experiences
- Oral examination
- E Portfolio—collection of student work based on selected assignments in the curriculum
- Concept, knowledge or process maps (visual representation)
- Concept inventories, such as in physics and in chemistry
- Knowledge surveys
- Agreed upon embedded assignments or common assignments you will sample such as in a final examination
- Writing, to speaking, to visual presentation
- Observations of interactions, decision making, simulations
- Case study with analysis—use of parallel case studies over time
- Self-reflective writing—especially useful after students have received feedback or have engaged in a sub-task or task
- Externally or internally reviewed student projects
- Locally developed tests or other instruments

- Standardized exams
- Problem with solution and ask for other solutions
- Mining of data such as learning objects at Merlot: students make inferences about original work from a particular period of time, such as from literature, painting, letters and other historical documents
- Observation of a debate (particularly useful for a focus on ethical issues)
- Virtual simulations
- Milestone exams
- Complex problems that can be approached from many perspectives or disciplines
- Revisiting a problem over time to track learning
- Knowledge, decision, or procedural maps [http://classes.aces.uiuc.edu/aces100/mind/c\\_m2.html](http://classes.aces.uiuc.edu/aces100/mind/c_m2.html):

Spider Concept Map



### ■ **Situated Experiences along the Chronology of Learning**

- Community-based projects (research) launched in the first year
- Internships
- Experiments
- Research launched in the first year to solve a relevant problem
- Research with faculty
- Solo or team projects launched in the first year
- Co-designed projects with a mentor or mentors (curricular-co-curricular projects, for example)

- **Chronological use of a case study at significant points in the GE curriculum to assess students' abilities to transfer and apply new knowledge, concepts, etc., to a complex, muddy problem**
  
- **Chronological Use of Complex Problems that Necessitate the Integration of Quantitative Literacy**
  - “Quantitative literacy, the ability to discriminate between good and bad data, the disposition to use quantitative information to think through complex problems—these are capacities that educators across fields should be helping students develop.” From: Burke, Michael C. (October, 2007). “A Mathematician’s Proposal.” *Carnegie Perspectives*.  
[www.carnegiefoundation.org/perspectives/sub.asp?key=245&subkey](http://www.carnegiefoundation.org/perspectives/sub.asp?key=245&subkey)
  
- **E-Portfolios that Store Evidence of Integration over Time against the Background of the Curriculum and Co-curriculum. E-portfolios Should also Include Chronological Self-reflection on How One’s Perspectives, Knowledge, Performance, etc., Changed over Time**
  
- **Smaller Projects over Time that Lead to a Final “Capstone Project”**

Assessment via Technology

- Team work across media (digital media and interfaces) and modes of communication
- Authorship of a simulation or a webpage
- Performance in virtual environments—virtual reality
- Data mining online
- Threaded discussions online
- Creation of wikis
- Gaming accompanied with one’s analysis
  - “critical thinking,” “probing,” “telescoping” From: Holbert, Nathan. (February, 2008). “*Shooting Aliens: The Gamer's Guide to Thinking.*” *Educational Leadership*. Vol. 65. No.5.)

- Podcasts
- Clickers to assess transfer of or new application of learning
- Online exercises
- Online journals
- interactive computer simulated tasks that provide data on patterns of actions, decisions, etc. (for example, eCollege claims it provides these kinds of data)

#### Indirect Methods of Assessment

- \* Surveys, questionnaires
- \* Interviews
- \* CCSSE or NSSE
- \* SALG—Student Assessment of Learning Gains
- \* SGID—small group instructional design
- \* Institutional data (course-taking patterns, audit of syllabi)