



# Module 3: Identifying or Designing Methods to Assess Students' Learning

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# Tasks that Prompt Students' to Represent Their Learning

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“Every assessment is also based on a set of beliefs about the kinds of tasks or situations that will prompt students to say, do, or create something that demonstrates important knowledge and skills. The tasks to which students are asked to respond on an assessment are not arbitrary.”

National Research Council. *Knowing what students know: The science and design of educational assessment*. Washington, D.C.: National Academy Press, 2001, p. 47.

Assumptions Underlying Teaching

Actual Practices

Assumptions Underlying Assessment Tasks

Actual Tasks

# What Tasks Elicit Learning You Desire?

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- Tasks that require students to select among possible answers (multiple choice test)?
- Tasks that require students to construct answers (students' problem-solving and thinking abilities)?

# Approaches to Learning

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- Surface Learning



- Deep Learning



# When Will or Do You Seek Evidence?

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- **Formative**—along the way?  
*For example, to ascertain progress or development*
- **Summative**—at the end?  
*For example, to ascertain mastery level of achievement*

# Direct Methods

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- Focus on how students represent or demonstrate their learning (meaning making)
- Align with students' learning and assessment experiences
- Align with curricular-and co-curricular design verified through mapping

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- Invite collaboration in design (faculty, students, TAs, tutors)



# Standardized Instruments

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- Psychometric approach—historically has valued quantitative methods of interpretation
- History of validity and reliability
- Quick and easy adoption and efficient scoring
- One possible source of evidence of learning

# Do Not Usually Provide

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- Evidence of strategies, processes, ways of knowing, understanding, and behaving that students draw upon to represent learning
- Evidence of complex and diverse ways in which humans construct and generate meaning
- Highly useful results that relate to pedagogy, curricular design, sets of educational practices

# Authentic, Performance-based Methods

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- Focus on integrated learning
- Directly align with students' learning and previous assessment experiences
- Provide opportunity for students to generate responses as opposed to selecting responses
- Provide opportunity for students to reflect on their performance



# Do Not Provide

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- Immediate reliability and validity (unless there has been or will be a history of use)
- Usually do not provide easy scoring unless closed-ended questions are used.

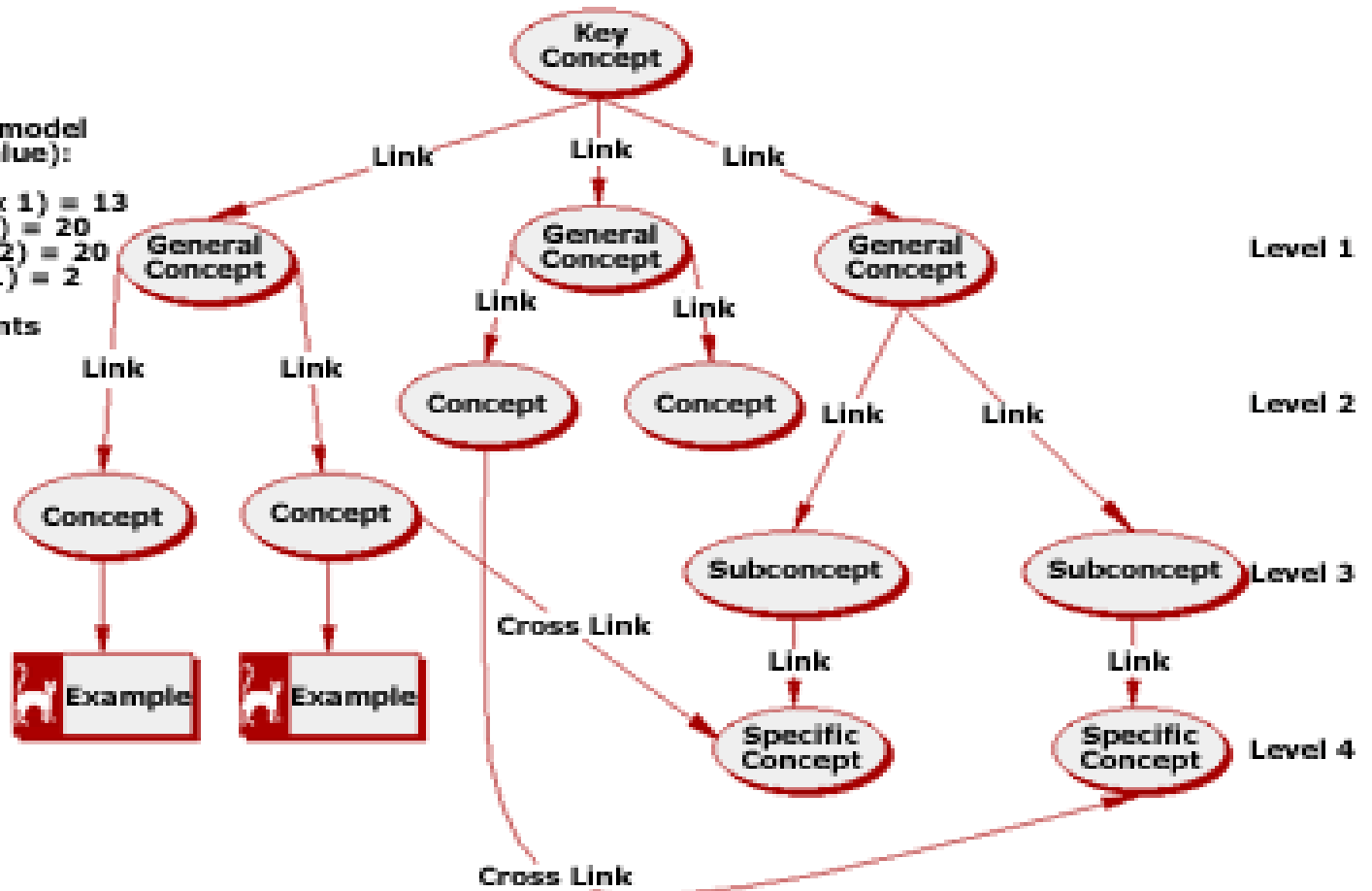
# Some Options


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- E-Portfolios (collections of student work assessed against scoring rubrics)
- Capstone projects (mid-point and end-point) or culminating projects (solo or team-based)
- Performances, productions, creations
- Visual representations (mind mapping, charting, graphing, decision mapping, knowledge or concept mapping of the big picture) *www.inspiration.com*


From: Novak, J.D. & Gowin, D.B. (1984). *Learning how to learn*.  
Cambridge University Press


Scoring for this model  
(# on map x value):  
Relationships (13 x 1) = 13  
Hierarchy (4 x 5) = 20  
Cross links (10 x 2) = 20  
Examples (2 x 1) = 2  
Total: 55 points





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- Disciplinary or professional practices, such as laboratory reports or field reports
  - Agreed upon embedded assignments
  - Writing to speaking to visual presentation
  - One-minute paper—muddiest point; main concept (Angelo)
  - Patterns in clicker responses (class or program level)


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- Team-based or collaborative projects
  - Internships and service projects
  - Critical incidents (national, international, local)
  - Chronological responses to a problem or issue—these also can be timed
  - Written responses to a prompt

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- Externally or internally juried review of student projects
  - Externally reviewed internship
  - Performance on a case study/problem
  - Performance on a case study accompanied with students' analysis (use parallel case studies over time)

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- Performance on national licensure examinations
  - Locally developed tests
  - Standardized tests
  - Pre-and post-tests
  - Thesis or final product or research project

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- Learning Logs or Journals
  - Oral defense/response (sometimes as part of a capstone project)
  - Self-reflective writing (often accompanies student work or occurs after feedback) to demonstrate, for example, that students have internalized criteria and standards of judgment
  - Observation of interactions/questions at Colloquia

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- De-construction of a problem or issue
  - Problem with solution and ask for other solutions
  - Inferences from a discourse selection
  - Virtual simulations
  - Data mining (learning object sites, such as Merlot):  
*Merlot.com*
  - Observations (debate, professional practices, interactions, behaviors, etc.)

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- Interpretation of video clips or visual material
  - Event analysis
  - Questions posed during an oral examination
  - On-line exercises or work on wikis (team sites)
  - On-line discussion board exchanges
  - Team projects

# Indirect Methods (companion with direct methods)

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- Focus groups (representative of the population)
- Interviews (representative of the population)
- Locally designed surveys
- Nationally designed surveys (NSSE)
- SALG—Student Assessment of Learning Gains

# SALG

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- How much each aspect of the class helped your students learn
- How much students gained in understanding, ability, subject appreciation and confidence
- How much the course added to particular skills
- How well student think they will retain material learned

<http://www.wcer.wisc.edu/nise/cl1>

*These kinds of questions can also be used at various points in a program to ascertain chronological progress in learning*



# Other Institutional Data that Contribute to Interpretation

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- Audits of transcripts
- Course-taking patterns
- Achievement according to major program of study
- Participation in co-curricular programs

# Identify Methods to Assess Outcomes

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- Referring to pages 13-23, identify both direct and indirect methods you might use to assess one or more of the outcomes you have developed for project management:
  - Determine the kinds of inferences you will be able to make based on each method.
  - Identify any kinds of institutional data that might be useful in explaining patterns of student achievement



# Make a Case for Another Method

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- After you listen to the method or methods someone has shared with you, make a case for one or more other methods that might also align with teaching and learning and student feedback practices.

# References

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Angelo, Thomas A. and Cross, K. Patricia. (1993). *Classroom assessment techniques: A handbook for college teachers*. 2<sup>nd</sup> edition. San Francisco: Jossey-Bass Publishers, pp. 148-153.

Maki, P. (2004). *Assessing for Learning: Building a Sustainable Commitment across the Institution*. VA: Stylus Publishing, LLC and AAHE and forthcoming edition in 2008.

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