

**MEASURING COMPLEX GENERAL
EDUCATION OUTCOMES
NC STATE UNDERGRADUATE
ASSESSMENT SYMPOSIUM
APRIL 25, 2009**



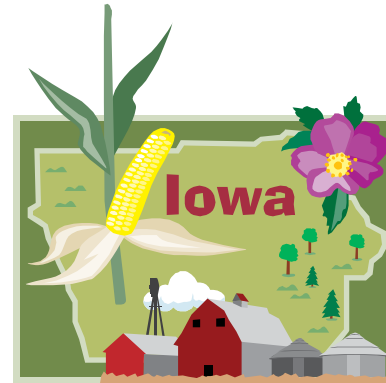
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OR.....

HOW TO MEASURE THE “IMMEASURABLE”

- Background of facilitators



- Collaborating for over 10 years beginning with measuring cognitive and developmental outcomes of service-learning
- Both psychologists



PARTICIPANTS WILL...

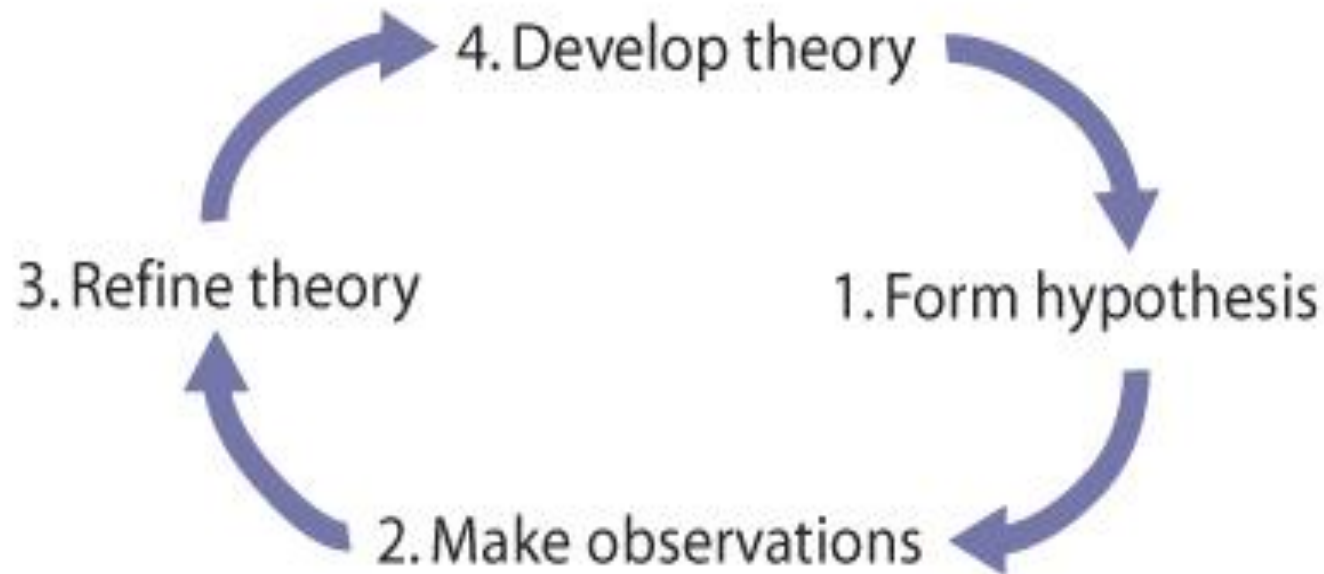
- Understand how psychologists approach measurement of psychological constructs;
- Use the approach on three common General Education outcomes: Global Perspective, Problem Solving, and Aesthetic Appreciation; and
- Apply the approach to other, difficult to measure outcomes.



PSYCHOLOGISTS' PERSPECTIVE

WWW.SPARKNOTES.COM

How Psychologists Do Scientific Research



CAN BE APPLIED TO ASSESSMENT

cycle <http://www.uvu.edu/insteffect/assessmentprocess/index.html>



COMMON PITFALLS

- One Right Way to Assess Everything
- SMART outcomes (are not so smart)
 - Specific, Measurable, Agreed upon, Realistic, Time-bound
- “Can we even measure _____?”
- “We have to use what we are already doing.”
- “We have to measure *everything*.”
- Beware of the “tail wagging the dog.”
- Grades ≠ Assessment
<http://www.web.virginia.edu/iaas/assessment/GradesandAssessment.pdf>



TAIM STEPS

- T = Use Theory to develop or refine outcomes
- A = Map instructional Activities to outcomes
- I = Specify Indicators or criteria
- M = Use Multiple measures to assess outcomes as underlying constructs

Not a linear process

Steinke (2008)



T = THEORY

- Use theory to inform outcome development
- Begin with the broad and meaningful constructs
- Do not ask about measurement up front
- Do come to consensus about what the outcome means to your institution



A = ACTIVITIES

- Map outcomes to instructional activities or pedagogical approaches
- Can specify within curriculum map but goes beyond simply mapping the curriculum
- Requires being intentional about strategies used to meet outcomes



I = INDICATORS

- Specify indicators or criteria for how you will know how well outcomes are being met
- Indicators will help specify measures
- Can be done within a rubric where appropriate
- Indicators change more frequently than outcomes
- May include benchmarks



M = MULTIPLE MEASURES

- Outcomes remain broad and represent complex constructs which require multiple measures
- All outcomes do not need to be measured each year
- Ask whether you have explored:
 - Measures based on theory?
 - Measures based on indicators?
 - Products of instructional activities?
 - Both direct and indirect measures?
 - Both quantitative and qualitative measures?
 - Reflective responses of students?
 - Responses of knowledgeable others?
 - Institutional data?



HOW DOES THIS *REALLY* WORK?

- Global Perspective
- Problem Solving
- Aesthetic Appreciation



GLOBAL PERSPECTIVE: THEORY

- Intercultural development (Bennett)
- Contact theory (Allport)
- Hierarchies of privilege (McIntosh)
- Interpersonal understanding (Barnlund)
- Dimensions of multicultural education (Banks)



GLOBAL PERSPECTIVE: ACTIVITIES

- Study abroad
- Short cultural trips within U.S.
- Attending & reflecting on campus cultural events
- Local cultural awareness experiential activities
- Discussion of current global events



GLOBAL PERSPECTIVE: INDICATORS

- Seek out interactions with people from backgrounds different from own
- Ability to see single issue from multiple cultural perspectives
- Knowledge of current global problems



GLOBAL PERSPECTIVE: MULTIPLE MEASURES

- Global Perspectives Inventory (GPI)
<https://gpi.central.edu/index.cfm>
- Intercultural Development Inventory (IDI)
<http://www.idiinventory.com/index.php>
- AAC&U Intercultural Knowledge and Competence VALUE meta-rubric
<http://www.aacu.org/value/metarubrics.cfm>
- Selected question on the National Survey of Student Engagement (NSSE)
<http://nsse.iub.edu/index.cfm>
- Cross-Cultural Adaptability Inventory (CCAI)
- Reflection journals



PROBLEM SOLVING: THEORY

- Intellectual development (Perry, et al.)
- Critical thinking (Halpern; Paul & Elder)
- Reflective Judgment (King & Kitchener)
- Mindfulness (Langer)
- Successful Intelligence (Sternberg)
- Lateral thinking (de Bono)



PROBLEM SOLVING: ACTIVITIES

- Service-learning
- Case studies
- Problem-based learning
- Action research
- Simulations



PROBLEM SOLVING: INDICATORS

- Recognition/identification of problems
- Transfer of knowledge and skills to novel problems
- Spontaneously generate feasible solutions
- Evaluation of own or group's problem-solving process



PROBLEM SOLVING: MULTIPLE MEASURES

- AAC&U Problem-Solving VALUE Meta-rubric
<http://www.aacu.org/value/metarubrics.cfm>
- Problem-Solving Analysis Protocol (P-SAP)
<http://www.ncsu.edu/assessment/resources/p-sap.htm>
- Reflective Judgment Interview (RJI)
<http://www.umich.edu/~refjudg/reflectivejudgmentinterview.html>
- Collegiate Learning Assessment (CLA)
http://www.cae.org/content/pro_collegiate.htm
- Case studies



AESTHETIC APPRECIATION: THEORY

- Creativity (Gardner; Sternberg)
- Aesthetic literacy (Greene)
- Interpretation of visual culture (Freedman)



AESTHETIC APPRECIATION: ACTIVITIES

- Engagement with others' creations
- Production of own creations
- Critique
 - Own and others' creations
 - Self- and peer-critique
 - Individual and group



AESTHETIC APPRECIATION: INDICATORS

- Voluntary engagement with aesthetic experiences through attendance at galleries, concerts, productions, etc.
- Uses critique to improve own creations
- Critiques reflect understanding of historical and cultural connections, as well as standards for judging the value of creative works (i.e., go beyond mere “liking”).



AESTHETIC APPRECIATION: MULTIPLE MEASURES

- AAC&U Creative Thinking VALUE Meta-rubric
<http://www.aacu.org/value/metarubrics.cfm>
- Multiple Intelligences Developmental Assessment Scales (MIDAS)
<http://www.miresearch.org/>
- Portfolios



APPLYING TO YOUR OWN EXAMPLES

- Small Group- worksheet
- Large Group- discussion



REFERENCES AND RESOURCES

See handout for citations to sources referenced in this presentation and for additional resources.



CLOSING

- General questions or comments?
- Please feel free to contact us!

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- Evaluations

