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Office of Institutional Effectiveness, Research, and Planning
Dickey Hall, Room 257
484-365-7842

Learning Outcomes and Assessment Workshop

Mission: Lincoln University, the nation's first degree-granting Historically Black College & University (HBCU), educates and empowers students to lead their communities and change the world.
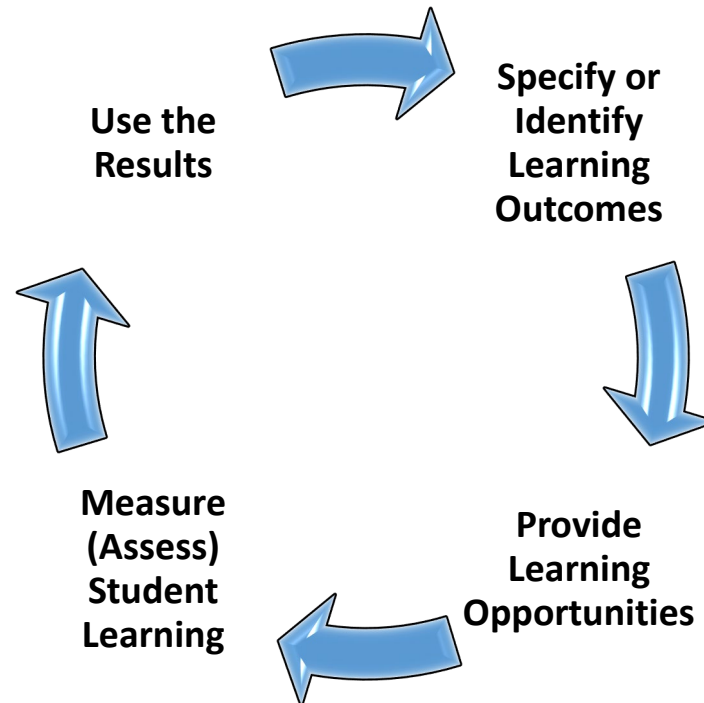
Workshop Learning Outcomes

Attendees will be able to:

- Create measurable learning outcomes
- Identify and access resources

Student Learning Outcomes (SLO)

- Learning outcomes are the result of a person taking in information
- The intended consequence after a learning experience
- What a student will be able to know, do, or show after a learning experience (program, course, workshop, etc.)

Use the Results

Specify or Identify Learning Outcomes

Provide Learning Opportunities

Measure (Assess) Student Learning

Assessment –When/Why?

- **Diagnostic** (entry) – What does a student know *prior* to the learning activity

- **Formative** (development) – Estimate of student learning *during* the learning process
  - Help to understand strengths and weaknesses
  - How to improve over the course

- **Summative** (mastery) – What has the student retained/learned at the *end* of the learning process

Assessment – Evidence

- **Direct measure** – assessing samples of actual student work

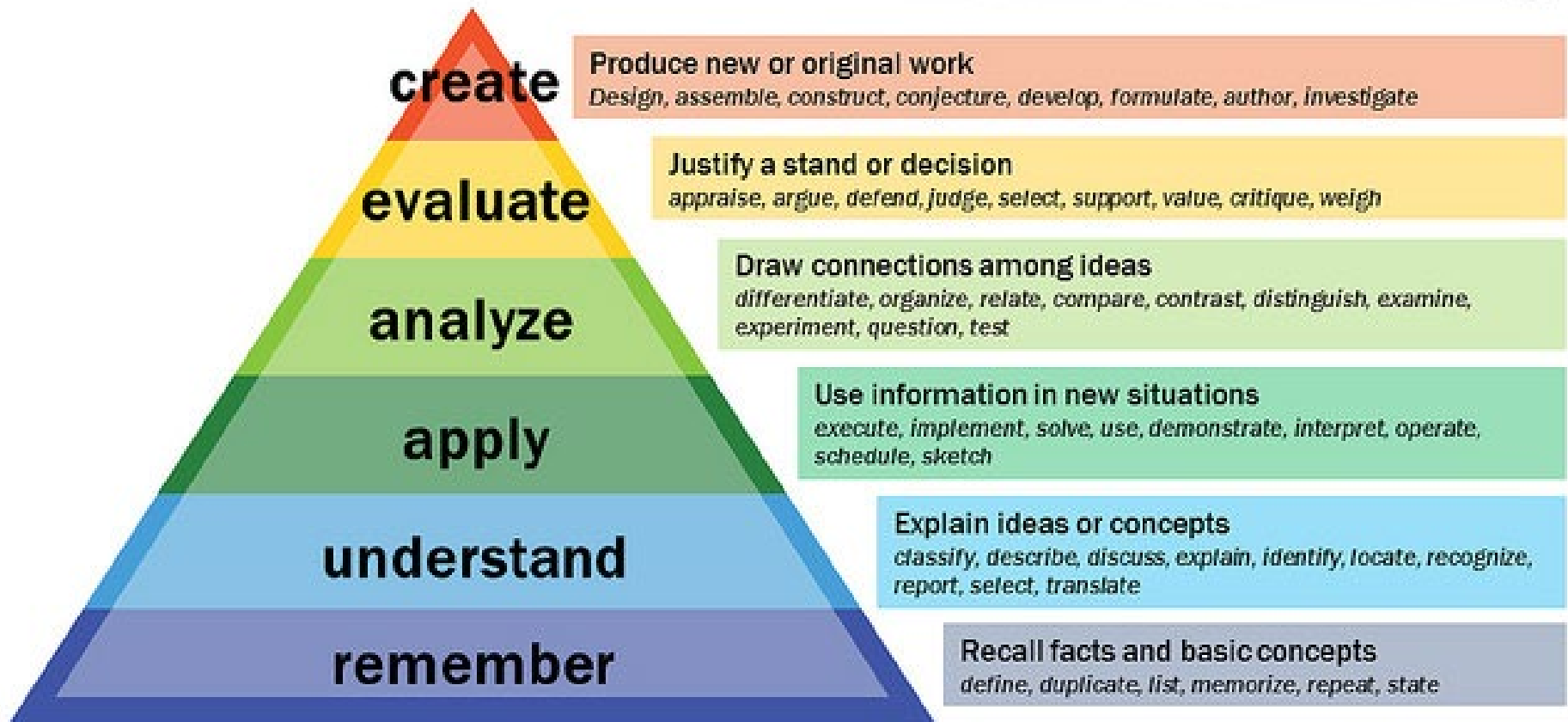- **Indirect measure** – reports of perceived learning (surveys, reflections, time on task)

Level of thinking

- What is the level of thinking expected from lower order to higher order skills (per revised Blooms taxonomy)
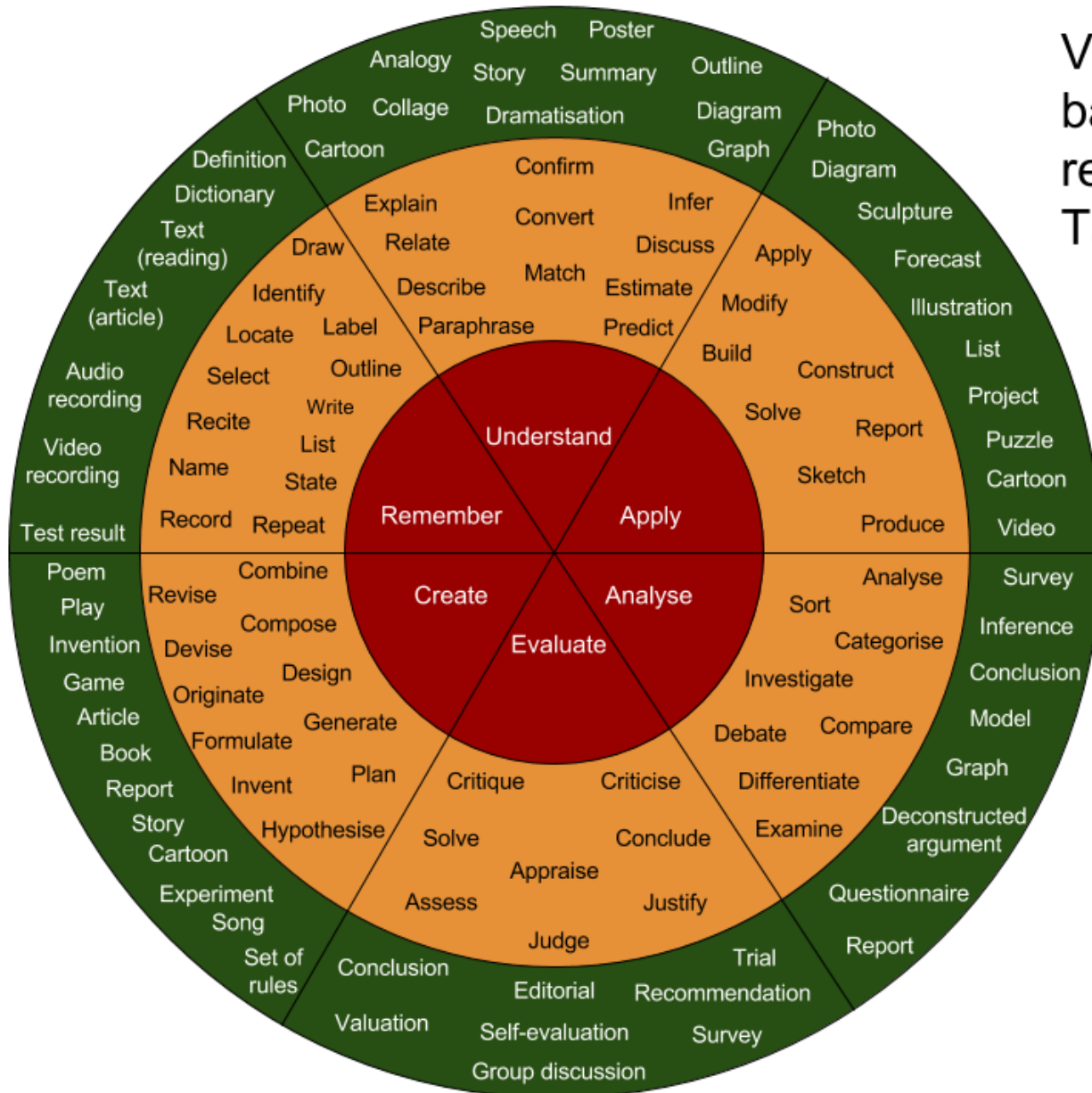
General SLO Format

[Target] will [verb][content or context specific action]

Bloom's Taxonomy

create — Produce new or original work
Design, assemble, construct, conjecture, develop, formulate, author, investigate

evaluate — Justify a stand or decision
appraise, argue, defend, judge, select, support, value, critique, weigh

analyze — Draw connections among ideas
differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test

apply — Use information in new situations
execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch

understand — Explain ideas or concepts
classify, describe, discuss, explain, identify, locate, recognize, report, select, translate

remember — Recall facts and basic concepts
define, duplicate, list, memorize, repeat, state

Verb Wheel

Verb wheel based on the revised Bloom's Taxonomy

- ● Domain
- ● Verb (measureable, observable)
- ● Learner artefact/evidence

- - - - - - - Lower order
- - - - - - - Higher order

Remade by Dr Ashley Tan
Twitter: @ashley

CC BY NC SA

Reference: http://bit.ly/oldbtref
This resource: http://bit.ly/newbtref

Additional Considerations

- Terms such as *know, understand, learn, appreciate* are generally not specific enough to be measurable

- Specify the level by the verb choice
  - Recognize vs. Classify

- Programs ~5-7 PSLOs
  - Some dependent upon external guidelines/requirements

- Courses ~ 3-5 CSLOs

- Workshop ~1-2 Learning Outcomes

Examples

VERY HARD TO MEASURE	RELATIVELY EASY TO MEASURE
Students will be able to	Students will be able to
appreciate the benefits of exercise.	*explain* how exercise affects stress.
access resources in the college library database.	*evaluate* the most appropriate resource that is pertinent to their college concern.
develop problem-solving and conflict resolution skills.	*demonstrate* to classmates how to resolve conflicts by helping them negotiate agreements.
have more confidence in their abilities.	*demonstrate* the ability to analyze and respond to arguments about racial discrimination.

Support Outcomes Taxonomy
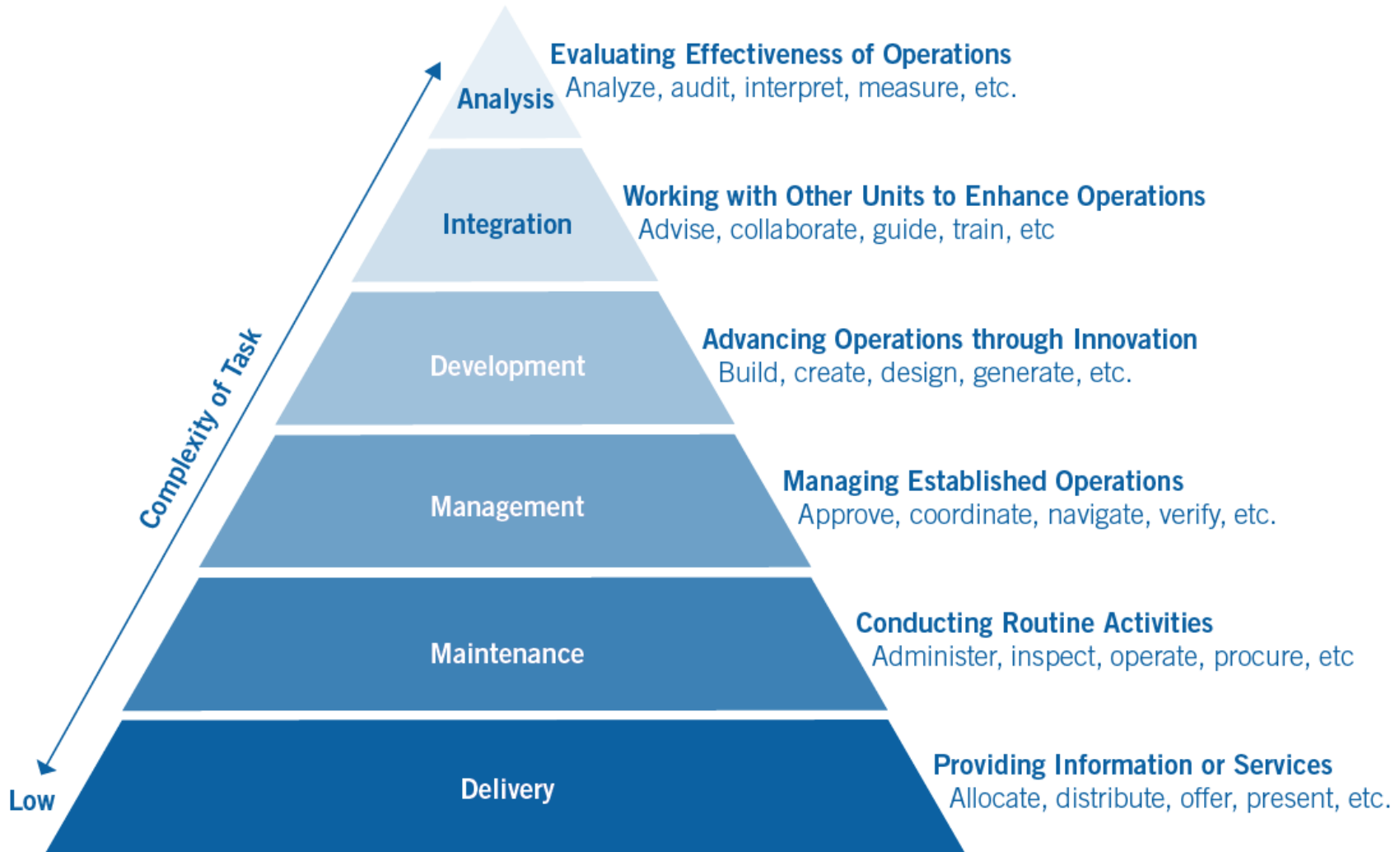

Shults Dorime Williams Support Outcomes Taxonomy

Complexity of Task

Analysis — Evaluating Effectiveness of Operations
Analyze, audit, interpret, measure, etc.

Integration — Working with Other Units to Enhance Operations
Advise, collaborate, guide, train, etc

Development — Advancing Operations through Innovation
Build, create, design, generate, etc.

Management — Managing Established Operations
Approve, coordinate, navigate, verify, etc.

Maintenance — Conducting Routine Activities
Administer, inspect, operate, procure, etc

Delivery — Providing Information or Services
Allocate, distribute, offer, present, etc.

Low

Support Outcomes Verb Wheel

BMCC Support Outcomes Verb Wheel

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Direct Measures	Indirect Measures
Activity Accuracy, Activity Volume, Benchmarks	Focus Groups
Industry standards, Log Data, Pre-test/Post-test	Qualitative Data
Rates, Ratios, Quality Assurance, Transactions	Surveys (e.g opinions, satisfaction

Excellence in Assessment

…recognizes institutions that successfully integrate assessment practices throughout the institution, provide evidence of student learning outcomes, and use assessment results to guide institutional decision-making and improve student performance. (24 criteria)

- Groups & Individuals Engaged in Assessment Activities (2)
- SLO Statements: clearly stated; integrated; posted (3)
- Institution-level Assessment Plan (3)
- Institution-level Assessment Resources (3)
- Institution-level Assessment Activities (3)
- Institution-level Evidence of Student Learning (3)
- Use of Institution-level Evidence of Student Learning (4)
- Reflection and Growth/Improvement Plan (3)

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Learning Outcomes Generator

The links below are to free outcomes generators that are designed to walk you through the process of developing measurable outcome statements.

Learning outcomes generator from Easygenerator.com
https://learning-objectives.easygenerator.com/

Outcome Generator from the University of Nevada, Reno
https://www.unr.edu/student-services/resources-and-downloads/persistence-research/assessment/learning-outcome-generator

Learning Outcomes Resources

- https://academiceffectiveness.gatech.edu/assessment-toolkit/developing-student-learning-outcome-statements/
- https://assessment.provost.wisc.edu/student-learning-outcomes/writing-student-learning-outcomes/
- https://ctl.iupui.edu/Resources/Preparing-to-Teach/Writing-and-Assessing-Student-Learning-Outcomes
- https://web.uri.edu/assessment/files/Bloom%E2%80%99s-Old-and-New-Versions.pdf
- https://web.uri.edu/assessment/slo-examples/
- https://community.pepperdine.edu/graziadio/academics/accreditation-assessment/faculty-resources/how-to-write-plos/
- https://academicprograms.calpoly.edu/program-learning-outcomes
- Stanny, C.J. Reevaluating Bloom's Taxonomy: What Measurable Verbs Can and Cannot Say about Student Learning. *Educ. Sci.* **2016**, *6*, 37. https://doi.org/10.3390/educsci6040037

Verbs - Bloom's Taxonomy

- http://www.apu.edu/live_data/files/333/blooms_taxonomy_action_verbs.pdf
- http://teaching.uncc.edu/learning-resources/articles-books/best-practice/goals-objectives/writing-objectives
- https://www.cloud.edu/Assets/PDFs/assessment/revised-blooms-chart.pdf
- http://www.uni.edu/adp/documents/bloomverbscognitiveaffectivepsychomotor.pdf
- http://www.celt.iastate.edu/teaching/effective-teaching-practices/revised-blooms-taxonomy
- http://unex.uci.edu/pdfs/instructor/blooms_taxonomy.pdf
- http://www.schoolcraft.edu/pdfs/oca/blooms_taxonomy_verb_list.pdf
- http://www.trenton.k12.nj.us/Downloads/blooms%20taxonomy%20verb%20wheel.pdf
- https://www.cmu.edu/teaching/resources/Teaching/CourseDesign/Objectives/BloomsTaxonomyVerbs.pdf
- http://cce.eng.ua.edu/files/2012/06/Bloom%C2%B9s-Taxonomy-Action-Verbs.pdf
- https://web.uri.edu/assessment/the-importance-of-action-verbs/

Resources

- Angelo, T. & Cross, K.P. (1993). Classroom assessment techniques: A handbook for college teachers (2nd Edition). San Francisco, CA: Jossey-Bass.

- Armstrong, P. (2010). Bloom's Taxonomy. Vanderbilt University Center for Teaching. Retrieved [todaysdate] from https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/.

- Barkley, E. F., & Major, C. H. (2016). *Learning assessment techniques: A handbook for college faculty*. San Francisco, CA: Jossey-Bass.

- Administrative and Educational Support Taxonomy: https://www.bmcc.cuny.edu/wp-content/uploads/ported/iresearch/upload/AESTaxonomy_Aug2017.pdf

- Alternative Assessments – Best Practices: https://www.ryerson.ca/content/dam/learning-teaching/teaching-resources/assessment/alternative-assessments.pdf

- Assessment Commons: http://assessmentcommons.org/view-all-resources/

- Assessment tools for the Making SLOs Meaningful for Student Equity workshop: http://www.laspositascollege.edu/slo/assets/docs/assessment_tools.pdf

- Assessing Student Learning and Performance: https://www.cmu.edu/teaching/assessment/assesslearning/index.html

- Authentic Assessment Toolbox: http://jfmueller.faculty.noctrl.edu/toolbox/whatisit.htm

- Bloom's Old and new: https://web.uri.edu/assessment/files/Bloom%E2%80%99s-Old-and-New-Versions.pdf

- Case Studies: National Center for Case Study Teaching in Science: https://sciencecases.lib.buffalo.edu/

- Classroom Assessment Techniques: https://www.cmu.edu/teaching/assessment/assesslearning/CATs.html

- Learning Assessment Techniques (LATs): https://www.celt.iastate.edu/teaching/assessment-and-evaluation/learning-assessment-techniques-lats/

- Interactive Classroom Activities: https://www.brown.edu/sheridan/teaching-learning-resources/teaching-resources/classroom-practices/active-learning/interactive

- Problem Based Learning Clearinghouse: https://www.itue.udel.edu/pbl/problems

- Revised Bloom's Taxonomy: https://www.celt.iastate.edu/teaching/effective-teaching-practices/revised-blooms-taxonomy/

- Self-Reflective Assessments and Rubrics: https://www.youtube.com/watch?v=LC6CGzPAlAg

- Icebreakers: https://offers.tophatlecture.com/rs/566-JGI-821/images/TopHat_Assets_Icebreakers.pdf

- Instructional verbs: https://www.cambridgeassessment.org.uk/Images/295559-linking-instructional-verbs-from-assessment-criteria-to-mode-of-assessment.pdf

Questions/Support?

Contact:

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