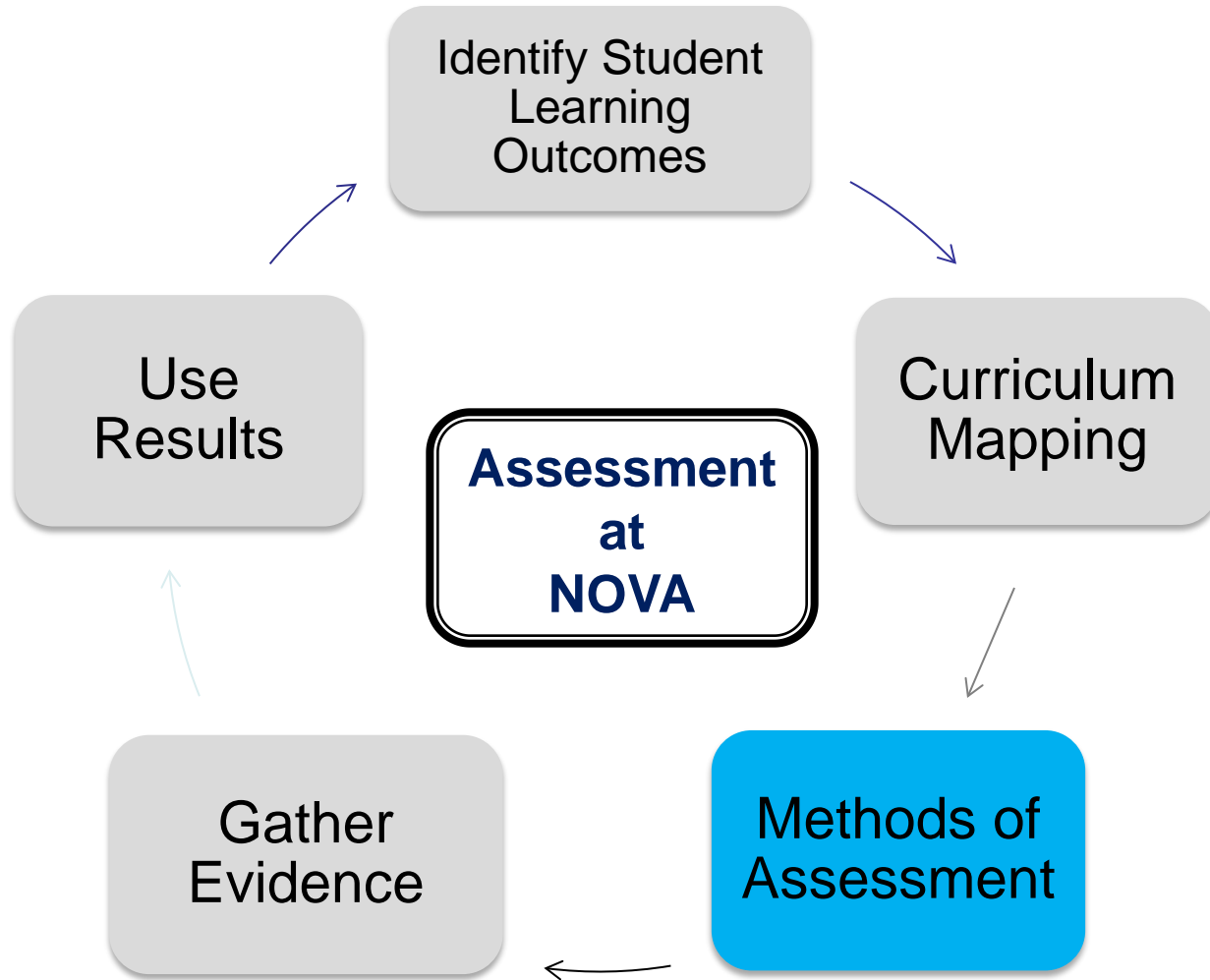




# Methods for Assessing Student Learning Outcomes



**Dr. Jennifer E. Roberts**  
**Coordinator of Academic Assessment**  
**Office of Institutional Research, Planning, and Assessment**  
**Northern Virginia Community College**





# Steps to Assess Student Learning Outcomes

1. Identify student learning outcomes for your program
2. Determine practices used to achieve outcomes through curriculum mapping
3. Determine methods of assessment
4. Gather evidence
5. “Close the loop”
  - Review and interpret results
  - Recommend actions
  - Make changes
  - Measure effectiveness of changes



# Student learning outcomes for today's workshop

After attending today's workshop, you will be able to:

- Identify direct and indirect methods of assessments
- Define what rubrics are and how they can be used
- Explain how course tests can be used for assessment
- Explain how course-embedded assignments can be used for assessing SLOs



# Why assess? Assessing answers questions:

1. What should our students be learning?
2. What are our students actually learning?
3. What can we do to help our student learn?  
What types of changes can we make (to assignments, activities, materials) to increase actual student learning?



# Decisions, Decisions

1. How many of you made a decision about a program/course in the past year?
2. Did you have reasons for the decisions you made?
3. What were you trying to do or achieve with the program/course when you made this decision?



## Decisions, Decisions

1. How many of you made a decision about a program/course in the past year?
2. Did you have reasons for the decisions you made?
3. What were you trying to do or achieve with the program/course when you made this decision?

**Making decisions based on evidence/reasons  
is part of assessment!**



## Decisions, Decisions

1. How many of you have graded an essay/paper/some kind of written assignment in the past year?
2. Did you think about what “A” work is, what “B” work is, what “C” work is, etc.?





## Decisions, Decisions

1. How many of you have graded an essay/paper/some kind of written assignment in the past year?
2. Did you think about what “A” work is, what “B” work is, what “C” work is, etc.?

**You’ve developed grading systems,  
which is also part of assessment!**



# Methods of Assessment



# Direct vs. Indirect



## Indirect Methods ...

- ask students to reflect on their learning rather than demonstrate it.  
(Palomba, C and Banta, T, "The Essentials of Successful Assessment" in Assessment Essentials: Planning, Implementing, and Improving Assessment in Higher Education, Jossey-Bass. 1999.)
- capture students' perceptions of their learning and the educational environment that supports learning.  
(Overview of Types of Measures, Margaret Kasimatis)
- provide signs that students are probably learning, but the evidence of exactly what they are learning is less clear.  
(Suskie, L. "Assessing Student Learning: A Common Sense Guide," Anker Publishing, 2004)



## Indirect Methods

- Surveys
  - Student
  - Alumni
  - Employer
- Exit interviews
- Focus groups
- Job placement rates
- Course evaluations



## Direct Methods ...

- require students to display their knowledge and skills as they respond to the instrument itself.

(Palomba, C and Banta, T, "The Essentials of Successful Assessment" in Assessment Essentials: Planning, Implementing, and Improving Assessment in Higher Education, Jossey-Bass. 1999.)

- look at student work products or performances that demonstrate level of learning.

(Overview of Types of Measures, Margaret Kasimatis)

- are tangible, visible, self-explanatory evidence of exactly what students have and haven't learned.

(Suskie, L. "Assessing Student Learning: A Common Sense Guide," Anker Publishing, 2004)



# Direct Methods

- Locally developed tests/test questions
- Rubrics for evaluating:
  - Essays/Papers
  - Labwork
  - Exam questions
  - Capstone projects
  - Exhibits
  - Performances/Presentations
  - Portfolios of student work
  - Comprehensive exams
- Standardized tests
- Certificate exams



# Using Rubrics to Assess SLOs

What is a rubric?

- A scoring guide composed of
  - the things you are looking for
  - guidelines for evaluating each of those things (Suskie)
- A kind of scorecard that breaks down a written or demonstrated assignment into manageable, observable pieces. (UVA)

Types of rubric

- Holistic – A single score for overall performance
- Analytic – Grading is broken down into specific criteria with levels of performance provided
- Checklist – Indicates if a scoring criterion is present, as opposed to providing a description of performance





# Using Rubrics to Assess SLOs

Why use a rubric?

- If the assignment requires an answer more complicated than one that could be corrected with an answer key.
- When “complex products or behaviors” are being evaluated, which require more than a right or wrong answer.
- Rubrics are often used to assess how well students perform a task (speaking, writing, performing, etc.)
  - as opposed to whether an answer is *right* or *wrong*
  - “quality continuum” from exceptional to not meeting expectations



# Sample Program: German Studies



# Sample Program: German Studies SLO #5

1. Determine which SLOs to assess
  - #5. Identify countries within geography of Europe and major cities in German-speaking countries (GER 125)
    - GER 125 is offered this semester and the geography re: German-speaking countries is covered in the last part of the semester
  
2. Determine how to assess
  - #5 – answers are right or wrong
    - no need for rubric



## Sample Program: German Studies SLO #5 (cont.)

3. Develop assessment method for SLO #5
  - a. Discuss with faculty what assignments they use to evaluate the SLO #5.
    - This already took place in developing the curriculum map.
  - b. Ask faculty to provide any examples of grading systems they would like to share.
  - c. With small group of interested faculty, draft method of assessment.
    - fill-in-the-blank map
  - d. Share with faculty, solicit feedback, finalize.



# Sample Program: German Studies SLO #5 (cont.)

## 4. Determine which sections will take part

- 2 sections of GER 125
- small assessment group decides that all sections will take part, instead of a sample
  - Very few sections
  - Assessment method requires relatively easy to implement



## Sample Program: German Studies SLO #5 (cont.)

5. Use method of assessment and gather data (cont.)
  - b. GER 125 – all sections must include the fill-in-the-blank activity within specified three weeks of semester.
    - i. The activity can be used on a test, as a quiz, or as a graded in-class activity; each instructor decides for his/her individual section.
    - ii. Small assessment group provides instructors with the activity and answer key.
    - iii. Instructors grade assignment and provide results to small assessment group.
      - Each section provides number of students and the average score for the section



# Sample Program: German Studies SLO #1 & 3

## 1. Determine which SLOs to assess

#1. Write with grammatical consistency and stylistic sophistication about difficult German literary and cultural texts (GER 212)

#3. Provide meaningful insight into a variety of topics on current life and civilization in Germany (GER 212)

- GER 212 is offered this semester and the major assignment is not due until the later part of the semester

## 2. Determine how to assess

SLOs #1&3 – open to interpretation, needs more than an answer key

= essay with rubric



# Sample Program: German Studies SLO #1&3

(cont.)

3. Develop assessment method
  - a. Discuss with faculty what assignments they use to evaluate the two SLOs.
    - This already took place in developing the curriculum map.
  - b. Ask faculty to provide any examples of grading systems they would like to share; components of grading systems should relate to SLO #1 and #3.
  - c. With small group of interested faculty, draft method of assessment.
    - rubric with 4 performance levels and 3 criteria for SLO #1 and 2 criteria for SLO #3 and
  - d. Share with faculty, solicit feedback, finalize.





# Rubric for SLO 1 & 3

|                             | <b>1<br/>Poor</b>                       | <b>2<br/>Satisfactory</b>               | <b>3<br/>Good</b>                       | <b>4<br/>Excellent</b>                  | <b>Score</b> |
|-----------------------------|---|---|---|---|--------------|
| <b>Grammatical accuracy</b> | Description of level for this criterion | Description of level for this criterion | Description of level for this criterion | Description of level for this criterion |              |
| <b>Vocabulary</b>           | Description of level for this criterion | Description of level for this criterion | Description of level for this criterion | Description of level for this criterion |              |
| <b>Syntax</b>               | Description of level for this criterion | Description of level for this criterion | Description of level for this criterion | Description of level for this criterion |              |
| <b>Factual accuracy</b>     | Description of level for this criterion | Description of level for this criterion | Description of level for this criterion | Description of level for this criterion |              |
| <b>Critical analysis</b>    | Description of level for this criterion | Description of level for this criterion | Description of level for this criterion | Description of level for this criterion |              |



# Sample Program: German Studies SLO #1&3

(cont.)

## 4. Determine which sections will take part

- Examine various possibilities
  - All sections take part and rubric is used by instructors
  - A certain number of sections take part and rubric is used by instructors
  - A certain number of sections take part, student work is provided to small assessment group, which will apply the rubric
  - Each section provides 8 randomly selected student submissions to small assessment group, which will apply the rubric



# Sample Program: German Studies SLO #1&3

(cont.)

## 4. Determine which sections will take part

- Examine various possibilities
  - All sections take part and rubric is used by instructors
  - A certain number of sections take part and rubric is used by instructors
  - A certain number of sections take part, student work is provided to small assessment group, which will apply the rubric
  - Each section provides 8 randomly selected student submissions to small assessment group, which will apply the rubric



# Sample Program: German Studies SLO #1&3

(cont.)

5. Use method of assessment and gather data
  - a. GER 212 – Based upon enrollments, at least 3 sections must take part. 3 sections already include an essay in last three weeks of semester; those 3 sections will take part.
    - i. Common guidelines for the essay (i.e., length, written outside of class) and three possible topics are provided.
    - ii. Essay is graded by instructor for course however the instructor chooses.
    - iii. Instructors provide essays to small assessment group . The group applies rubric to essays during a 2-hour grading session.



# Important Steps in Choosing Method of Assessment

**Review what you are already doing**

**Involve faculty**



# Using Tests to Assess SLOs

After you decide that using a test is the most effective way to assess an SLO, ...

- Align test items with SLOs
  - Test items match specific SLOs
- Each instructor grades the test for his/her course
- Each instructor provides the SLO-related results for his/her section to program
- Data is aggregated across sections for program assessment
- Criteria for success is determined
  - Ex. The average grade on each SLO should be at least 75%.
- Data is reviewed and discussed
- Efforts to improve student learning are put in place



# Using Rubrics to Assess SLOs

- Review what is already in place
  - Ask faculty how they grade the assignment
  - SLO-related criteria could already exist in their grading systems
  - Use current scoring guide as a building-block for the program's assessment method
- The same assignment is used twice – once for course grading and once for program assessment
- The rubric used for program assessment could also be incorporated into the course grading system used by individual instructors.
- Program decides if all student submissions are used for program assessment or if a sample will be sufficient



# Steps to Using Rubrics to Assess SLOs

- Identify SLO
- Choose student work to be used for assessment
- Specify criteria for successful performance on specific SLO(s)
  - Include various performance levels from poorest to best
- Assign ratings to performance levels and descriptors for each criterion
- Devise a scoring procedure/process for collecting data
  - Using a sample vs. using all submitted work
  - Rubric is used by all instructors vs. small group apply rubric to work
- Determine criteria for success
- Data is reviewed and discussed
- Efforts to improve student learning are put in place





# Example: Using Rubrics to Assess SLOs

- SLO: to provide a persuasive argument that clearly supports a given resolution to an ethical dilemma
- Student work to be used: essay
- Evaluation method
  - For course: determined by course instructor
  - For program assessment: rubric designed to score essay with criteria devoted to SLO; for each criterion, four levels of achievement with descriptions
- Criteria for success
  - For course: to earn a passing grade, a student must receive at least 70%
  - For program assessment: 80% of students must perform at least at “Good” level (with score of at least 3 out of possible total 4)



# Why Use Course-Embedded Assessments



# Benefits of Using Course-Embedded Assessments

- Takes advantage that students are motivated to do well as assignment contributes to course grade
- Does not usually require anything extra of the students
- Is not costly (Instrumentation, Analysis and Reporting)
- Is faculty-driven and therefore more likely to be used to improve student learning



## Benefits of Using Course-Embedded Assessments (cont).

- Feedback to faculty is often quick
- Will likely be used again in future semesters, thus more easily allowing for follow-up assessments
- More easily directly linked to specific SLOs
- Convenience
- Provides students with clear expectations and criteria for assessing achievement of SLO



# Challenges to Using Course-Embedded Assessments

- Faculty involvement and commitment are essential
- Can require extra effort upfront
- There is usually no comparable data



# To Consider When Using Course-Embedded Assessments

- Always look first to see what methods of evaluation your program already uses
- Sometimes only minor adjustments are necessary to gather data on specific SLOs
- Students in the course provide a representative sample of the program
- Application of assessment tool is done consistently across involved sections
- Data will be aggregated and criteria for success will be relate to averages, not individual students, instructors, or sections
- Means of assessment must relate to SLOs
- More than one faculty member should be involved



## Grades vs. Assessment

- Course grades and assessment criteria differ (e.g., attendance, participation, homework completion, etc. may be part of course grade)
- A grade usually takes into account many components and typically does not pertain to only one SLO
- A grade does not provide enough information directly related to specific SLOs
- Grading standards may not be explicitly consistent across sections

Basically – If a grade relates to anything additional to a specific SLO, one cannot accurately tell if student achieved the SLO by the overall grade



# Components of Course Grading Can be Used

- Assignments/quizzes devoted to only one SLO
- Break composite grades into subparts and focus on parts of grade related to SLO
  - Specific test/quiz items targeting SLO
  - Parts of rubric/checklists





# Examples of Using Embedded Assessment Methods



# Example of Using Grading Component for Assessment

SLO: Effectively synthesize past research

Assignment: Report

Components of Report Grade for the Course:

- Effective introduction (10%)
- **Literature review** (20%)
- Appropriate thesis statement (20%)
- Evidence supports hypothesis (20%)
- Conclusion connects to body of report (20%)
- Language/formatting (10%)



# Components of Report Grade

|                | Effective introduction (10 points) | Literature review (20 points) | Appropriate thesis statement (20 points) | Evidence supports hypothesis (20 points) | Conclusion connects to body of report (20 points) | Language/formatting (10 points) | Total Report Grade (100 points) |
|----------------|------------------------------------|-------------------------------|--|--|---|---------------------------------|---------------------------------|
| Student 1      | 9                                  | 20                            | 19                                       | 18                                       | 17  | 10                              | 93                              |
| Student 2      | 8                                  | 18                            | 17                                       | 16                                       | 14  | 8                               | 81                              |
| Student 3      | 4                                  | 10                            | 12                                       | 15                                       | 15  | 7                               | 63                              |
| Student 4      | 5                                  | 13                            | 14                                       | 15                                       | 12  | 7                               | 66                              |
| Student 5      | 7                                  | 12                            | 15                                       | 14                                       | 16  | 8                               | 72                              |
| Student 6      | 6                                  | 14                            | 13                                       | 15                                       | 12  | 6                               | 66                              |
| Student 7      | 3                                  | 4                             | 10                                       | 14                                       | 14  | 9                               | 54                              |
| Student 8 - 45 | :                                  | :                             | :  | :  | :   | :                               | :                               |
|                |                                    | Average = 12.57               |  |  |   |                                 |                                 |



# Aggregated Data on SLO

- SLO: Effectively synthesize past research
- Average: 12.57 (of 20) = 62.85%
- Criteria for success: The overall average for the grading component devoted to synthesizing past research must be at least 15 (of 20) = 75%
- Level of achievement met? No



# Program Assessment Sample #1

- *Intended SLO:* Students will be able to explain basic historical concepts.
- *Related Course:* HIST 201
- *Assessment Method:* HIST students will complete a final examination in which questions related to their understanding of basic historical concepts have been embedded. Members of the program assessment committee will evaluate students' answers to the embedded questions.
- *Assessment Criteria:* At least 70% of students completing the final examination will respond correctly to 80% or more of embedded questions.

Adapted from "Course Embedded Assessment Process" from Larry Kelley, University of Louisiana Monroe



## Program Assessment Sample #2

- *Intended SLO:* Students will be able to incorporate simple research techniques into a project.
- *Related Course:* ENGL 102
- *Assessment Method:* As a course requirement, ENGL 102 students will complete a research project. At least two faculty members will evaluate randomly selected projects using a checklist for determining the appropriate use of simple research techniques.
- *Assessment Criteria:* Evaluators will cite appropriate use of simple research techniques in over 75% of selected student projects.



## Program Assessment Sample #3

- *Intended SLO:* Students will be able to write effectively.
- *Related Course(s):* ENGL 350/351
- *Assessment Method:* As a course requirement, ENGL 350/351 students will complete a formal research paper. At least two faculty members will evaluate the papers using an assessment rubric developed by the program assessment committee.
- *Assessment Criteria:* The average rubric score for use of appropriate written communication skills will be at least 75%.

Adapted from "Course Embedded Assessment Process" from Larry Kelley, University of Louisiana Monroe



## Program Assessment Sample #4

*Intended SLO:* Students will be able to utilize standard scientific format to prepare reports.

*Related Course:* BIOL 404

*Assessment Method:* As a course requirement, BIOL 404 students will prepare weekly lab reports. Five items related to utilizing standard scientific format will be incorporated into checklists developed by individual instructors. Instructors will then submit the average scores for those SLO-specific checklist items.

*Assessment Criteria:* On average, students must receive credit for at least 4 of the 5 SLO-related checklist items.





# General Guidelines for Choosing Methods of Assessment



# Methods should be **MATURE**

- **Matches:** Is aligned with the outcome to be measured
- **Appropriate:** Choose appropriate method
- **Targets:** Indicates desired level of performance
- **Useful:** Will provide you with useful and useable information; methods help identify what is already effective and what can be improved
- **Reliable:** Based on tested, known methods and yields consistent results over time.
- **Effective and Efficient:** Each approach accurately and concisely measures the outcome

Adapted from [http://oeas.ucf.edu/doc/adm\\_assess\\_handbook.pdf](http://oeas.ucf.edu/doc/adm_assess_handbook.pdf)



# Communicate Expectations to Students

- When writing assignments, tell students exactly what they are to do. These “prompts” can:
  - Elicit more appropriate responses to the assignment.
  - Ensure a common basis for response so that the assignment can be scored consistently, using a rubric.
  - Provide clear, written directions for the task.
- Let students know exactly what is expected of them on the assignment and provide precise directions in order to help them complete the task well.



# Assessment: An On-going Process

- Assessment is an on-going process
  - Assessment is an ongoing, iterative process
  - Each assessment is a “pilot test” for the next one
  - Keep a record of what worked...and what didn't
  - There's always error
- Each iteration brings you:
  - The benefit of experience
  - A more accepting environment
  - Baselines for future measurements
- Goal: A valid and reliable assessment
  - Student work: does it reflect the learning outcome?
  - Assessment method: does it measure the learning outcome?  
Does it measure what you intend it to measure?
  - For assessment: is scoring consistent?



# Student learning outcomes for today's workshop

After attending today's workshop, you will be able to:

- Identify direct and indirect methods of assessments
- Define what rubrics are and how they can be used
- Explain how course tests can be used for assessment
- Explain how course-embedded assignments can be used for assessing SLOs



## Future Workshops

- Classroom Assessment Techniques (CATs)
- Developing Rubrics
- “Closing the Loop” – Using Results to Enhance Student Learning
- WEAVEonline – online management tool



<http://www.nvcc.edu/about-nova/directories--offices/administrative-offices/assessment/loop/index.html>

## ASSESSMENT LOOP RESOURCES

```
graph TD; A[Identify Student Learning Outcomes] --> B[Curriculum Mapping]; B --> C[Methods of Assessment]; C --> D[Gather Evidence]; D --> E[Use Results]; E --> A;
```

**Assessment and NOVA**

**Assessment Cycle of Continuous Improvement**  
The loop represents the continuous nature of assessing student learning outcomes. Assessment is comprised of several steps. Click on any step to access information and resources on that topic.

### LEARN MORE

- > [Welcome](#)
- > [For Students](#)
- > [Program Evaluation](#)
- > [Student Learning Outcomes](#)
- > [Assessment Loop Resources](#)
- > [Reports](#)
- > [Resources & Links](#)
- > [Staff](#)
- > [Contact Us](#)

### Offices

- > [College Planning](#)
- > [OIR](#)
- > [OIRPA](#)
- > [ATD Initiative](#)



# Questions?

Contact: Dr. Jennifer Roberts  
Coordinator of Academic Assessment  
Office of Institutional Research, Planning, and Assessment  
703-323-3086  
[jeroberts@nvcc.edu](mailto:jeroberts@nvcc.edu)





# Methods for Assessing Student Learning Outcomes



**Dr. Jennifer E. Roberts**  
**Coordinator of Academic Assessment**  
**Office of Institutional Research, Planning, and Assessment**  
**Northern Virginia Community College**

