



Writing and Mapping Course Objectives and SLOs



**Office of Academic Assessment
Northern Virginia Community College
Spring 2018**



Learning Objectives for this session

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

- Describe what learning objectives are and their role in instruction.
- Identify components of SLOs
- Write useful SLOs for your program
- Begin mapping SLOs to program curriculum



Assessment is:

- **an ongoing process** aimed at understanding and improving student learning. (AAHE Bulletin, Thomas A. Angelo, 1995)
- **an integral component of teaching and learning.**



SLO Assessment is not:

- Faculty assessment
- A here-today, gone-tomorrow fad



Levels of Assessment

- **Classroom**
- **Course**
- **Program**
- **Institution**



Different Levels of Statements of Learning

- **Course**
 - **Course Objectives**
- **Program**
 - **Student Learning Outcomes**
- **Institution**
 - **General Education Goals**



What are student learning objectives (SLOs)?



What are SLOs?

- SLOs are the knowledge, skills, attitudes, and values that students gain from a learning experience, e.g., a program of study.
- SLOs define what students know, are able to do, and value by the end of a learning experience, e.g., a program of study.



Learning objectives ...

- ...answer the question “What is worth teaching?”
- ... are goal posts for students—they provide students with the means to organize their own time and efforts towards accomplishments of those objectives.
- ... describe instructional destinations.
- ... state what it is that learners must do to demonstrate their mastery of the objective.



How do SLOs differ from course objectives?

SLOs:

- represent overarching products of a curriculum
- express higher-level KSAs that represent an important product encompassing content from more than one class
- represent an end-product displayed by something the student can know, can do, values

Course objectives:

- represent valuable skills, tools, or content (nuts and bolts) that enable a student to engage a particular subject
- are building blocks that, together, lead to mastery of a program-level SLO
- focus on content and skills important within the classroom
- can reflect the goals a faculty member has for the course

Source: Janet Fulks, *Assessing Student Learning*, 2004



Where to Find SLOs and Course Objectives

SLOs

- “Student Learning Outcomes for NOVA’s Degree-Awarding Programs and Select Certificates”

Course objectives

- Course Content Summaries for all NOVA courses
- Curriculum Procedures Manual (Section 3.0)



Nota Bene

- Yes, SLOs are here to stay.
- Yes, you have to do this.
- However, this is not assessment for assessment's sake.
- This is about student success.
- Make it worthwhile. Gather useful data in order to support student success.
- Integrate assessment into your teaching practice.



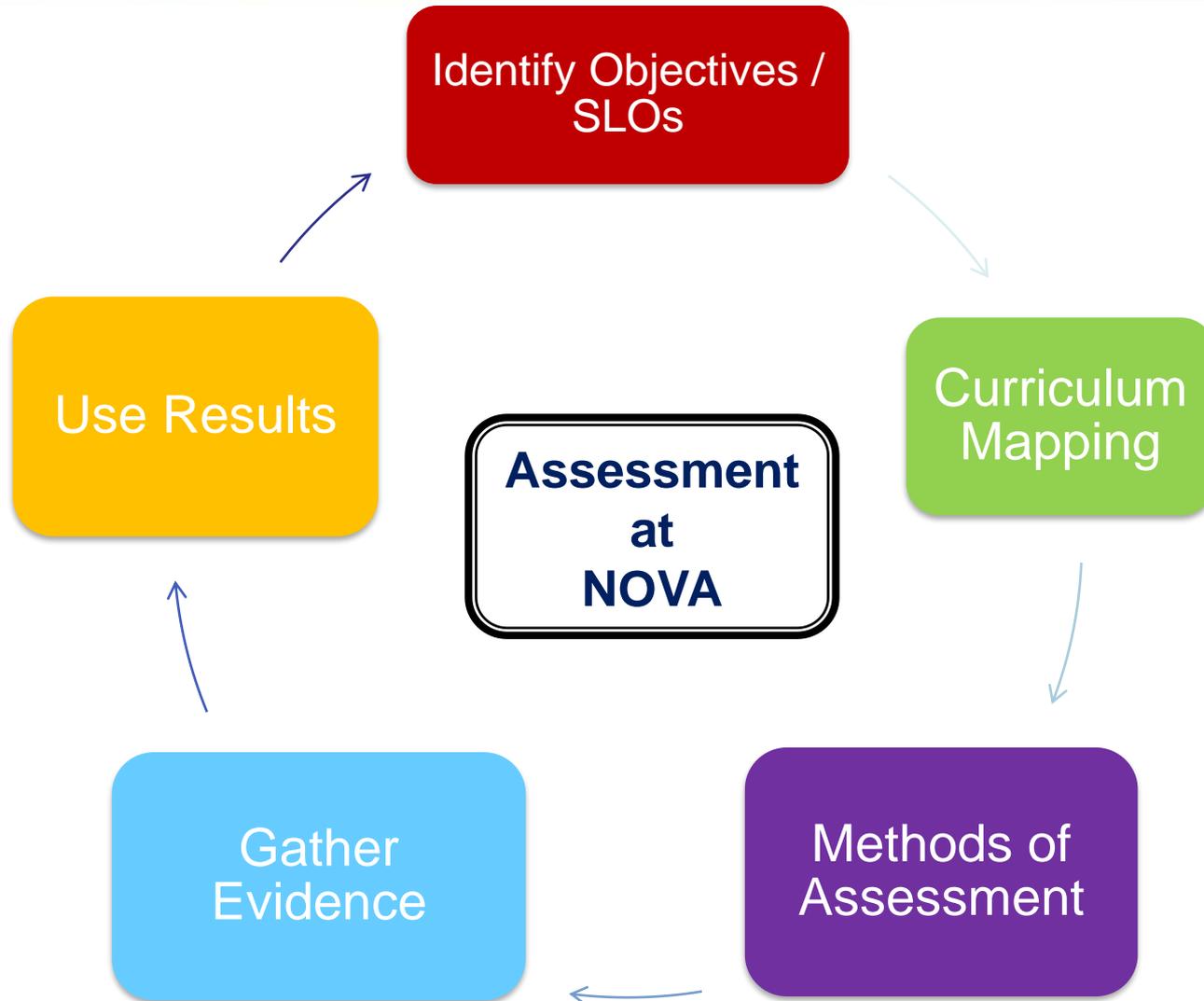
Questions so far?

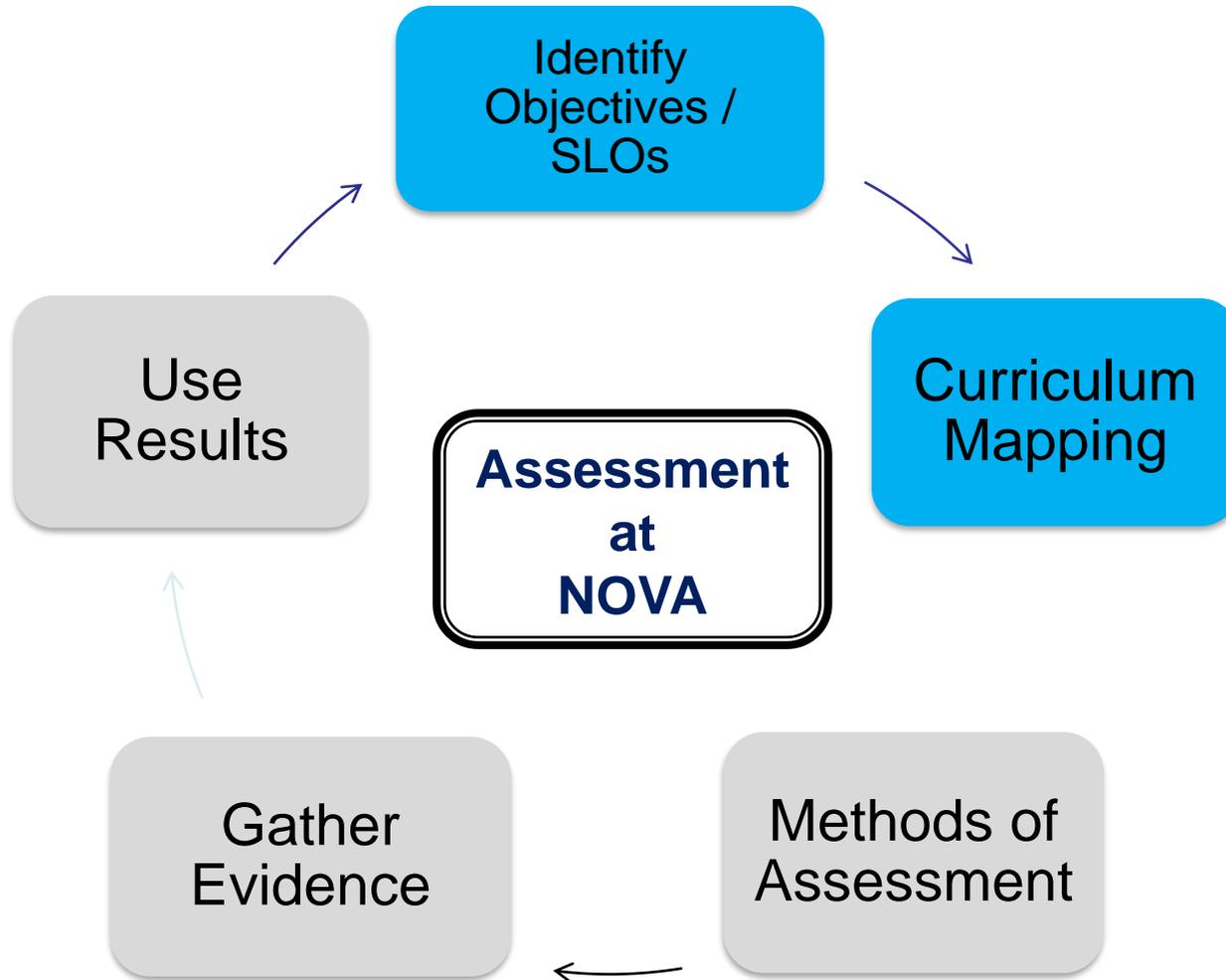
Let's talk about it!



Steps to Assess SLOs

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 and make sense of it
5. “Close the loop”: Use results to continuously improve student learning







1. Identify SLOs

- SLOs should be **SMART**:
 - **S**pecific
 - **M**easurable
 - **A**ttainable
 - **R**esults-oriented
 - **T**ime-bound



Steps in Writing SLOs

1. In one sentence, describe one major piece of knowledge, skills, or attitude/value a student should gain by the end of a program.
2. Use action verbs (see Bloom's Taxonomy) and limit to one verb.
3. Make sure that the knowledge, skill, or attitude/value can be observed and measured. Consider what kind of evidence can be collected.
4. Ensure that SLO is clear and understandable to students.



Measurable?

Refer to Bloom's taxonomy of educational objectives as a resource to help ensure that the SLOs are observable and measurable. In other words, what must the students do to demonstrate that they have learned something?

Bloom's taxonomy (or hierarchy) identifies three learning domains:

- Cognitive (*knowing*)
- Affective (*feeling*)
- Psychomotor (*doing*)



Levels of Bloom's Taxonomy and Common Verbs

(lowest to highest)

Knowledge/Remembering	define, list, recognize
Comprehension/Understanding	characterize, describe, explain, identify, locate, recognize, sort
Application/Applying	choose, demonstrate, implement, perform
Analysis/Analyzing	analyze, categorize, compare, differentiate
Evaluation/Evaluating	assess, critique, evaluate, rank, rate
Synthesis/Creating	construct, design, formulate, organize, synthesize



Make Sure Outcome is Measurable

Not Measurable	Measurable
<i>Know the arguments</i>	<i>Summarize the arguments ...</i>
<i>Think critically</i>	<i>Evaluate evidence... Construct arguments...</i>
<i>Envision solutions</i>	<i>Illustrate solutions ...</i>
<i>Understand principles</i>	<i>Apply principles ...</i>
<i>Understand methods</i>	<i>Describe methods ...</i>



Bloom's verbs help clarify intent

- “A meaningfully stated objective is one that succeeds in communicating your intent; the best statement is the one that excludes the greatest possible meanings other than your intent.”
- In other words, what students should be able to do is not open to interpretation (e.g., to know, to understand, to demonstrate proficiency, etc.).

Mager, Robert. *Preparing Instructional Objectives: A Critical Tool in the Development of Effective Instruction* (CEP Press), 1995.





But is everything really measurable? Of course not. But...

“If you are teaching things that cannot be evaluated, you are in the awkward position of being unable to demonstrate that you are teaching anything at all.”

Mager, Robert. *Preparing Instructional Objectives: A Critical Tool in the Development of Effective Instruction* (CEP Press), 1995.



Components of Course Objectives/SLOs

Action Verb	Product	Context/Condition
Identify	relevant database	for term paper research.
Construct	a research question	that can be investigated using primary archival resources.
Produce	a website	using most appropriate application.
Analyze	global and local environmental factors	in terms of their effects on public health.



Context and Conditions

- Include context/condition if it has an impact on performance.
- What will the learner be expected to use when performing (e.g., tools, forms, etc.)?
- What will the learner not be allowed to use while performing (e.g., checklists or other aids)?
- What will the real-world conditions under which the performance will be expected to occur (e.g., on top of a flagpole, underwater, in front of a large audience, in a retail environment, etc.)?



Examples of Context/Conditions

- Given a list of chemical elements, be able to recall the valences of each.
- Inspect and accurately measure a brake rotor with a dial indicator and micrometer.
- Be able to provide at least seven characteristics of official legal briefs without references.
- Negate a Japanese verb in the past tense without reference to a chart or dictionary. がんばって!



SLOs do NOT

- Describe the procedure by which the objective will be accomplished.
- Address the process or development of the objective (instead, it addresses the end product).



How Many?

As many as you need to describe the instructional results you think are important to accomplish by the end of your program...

...but not so many as to be unworkable.

If there is not a negative consequence of not achieving the objective, perhaps it is not necessary.



Examples of NOVA Student Learning Outcomes

- *Explain* the functions of basic and advanced computer hardware architecture (Computer Science)
- *Apply* developmental knowledge to the creation and implementation of activities and programs which promote physical growth in children (Early Childhood Development, A.A.S.)
- *Analyze* the position of rigid bodies and their applied forces at rest and in motion (Engineering, A.S.)
- *Critically evaluate* artworks in their historical context (Fine Arts, A.A., A.A.A.)



Examples of NOVA Student Learning Outcomes

- *Interpret* a company's profit and loss statement (Hospitality Management, A.A.S.)
- *Apply* technical drawing skills to graphically illustrate design concepts (Interior Design, A.A.S.)
- *Explain* the importance of global marketing and methods of reaching the international customer (Marketing, A.A.S.)
- *Implement* a treatment under the direction and supervision of a physical therapist (Physical Therapist Assistant, A.A.S.)
- *Use* graphical methods to organize and interpret data (Science, A.S.)



Questions so far?

Let's talk about it.



Activity: Revise Examples of SLOs

- Students will think critically about history.
- Students will learn to appreciate Baroque music.
- Students will become able to become better citizens of the world.
- Students will be exposed to ideas about economics, statistics, public health, and related disciplines.
- Students will fill in worksheets demonstrating mastery of the material.

Try writing versions at a high level of learning based on Bloom's Taxonomy.



2. Determine practices used to achieve outcomes through curriculum mapping

- Curriculum mapping is a method for depicting the alignment between the curriculum and the learning outcomes of the program.
- Curriculum mapping helps ...
 - answer the question “What do you do in your program to foster the desired knowledge, skills, and values?”
 - identify “gaps” in a program.
 - refine outcomes.
 - pinpoint potential sources of embedded assessment data.



Curriculum Mapping at the Program Level

- How do you know if a course maps to a specific SLO?
 - Review the course objectives from the course content summary. At least one course objective should map to at least one of the program's SLOs.
- How do you know the extent to which the SLO is addressed?
 - Look at the verb and place it on Bloom's hierarchy.



Quick Word on Methods

- If a learning objective describes a destination, the method of assessment is the means by which you find out whether you arrived.
- A well-written objective will inform the form of the assessment method by which the objective can be assessed.
- Don't expect students to be able to demonstrate they can do Skill B if you have been using only Skill A.
- Methods are not the time when students should do something they have not practiced before.



Mapping Courses in Which SLOs are Addressed

	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6
SLO 1	I		P	M		
SLO 2		I		P	P	M
SLO 3				I	P	M
SLO 4	I			P	M	
SLO 5	I	P	M			



Assignments Used to Assess Student Learning

	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6
SLO 1	I		P	M Essay		
SLO 2		I		P	P	M Test questions
SLO 3				I	P	M Quiz
SLO 4	I			P	M Problem Set	
SLO 5	I	P	M Project			



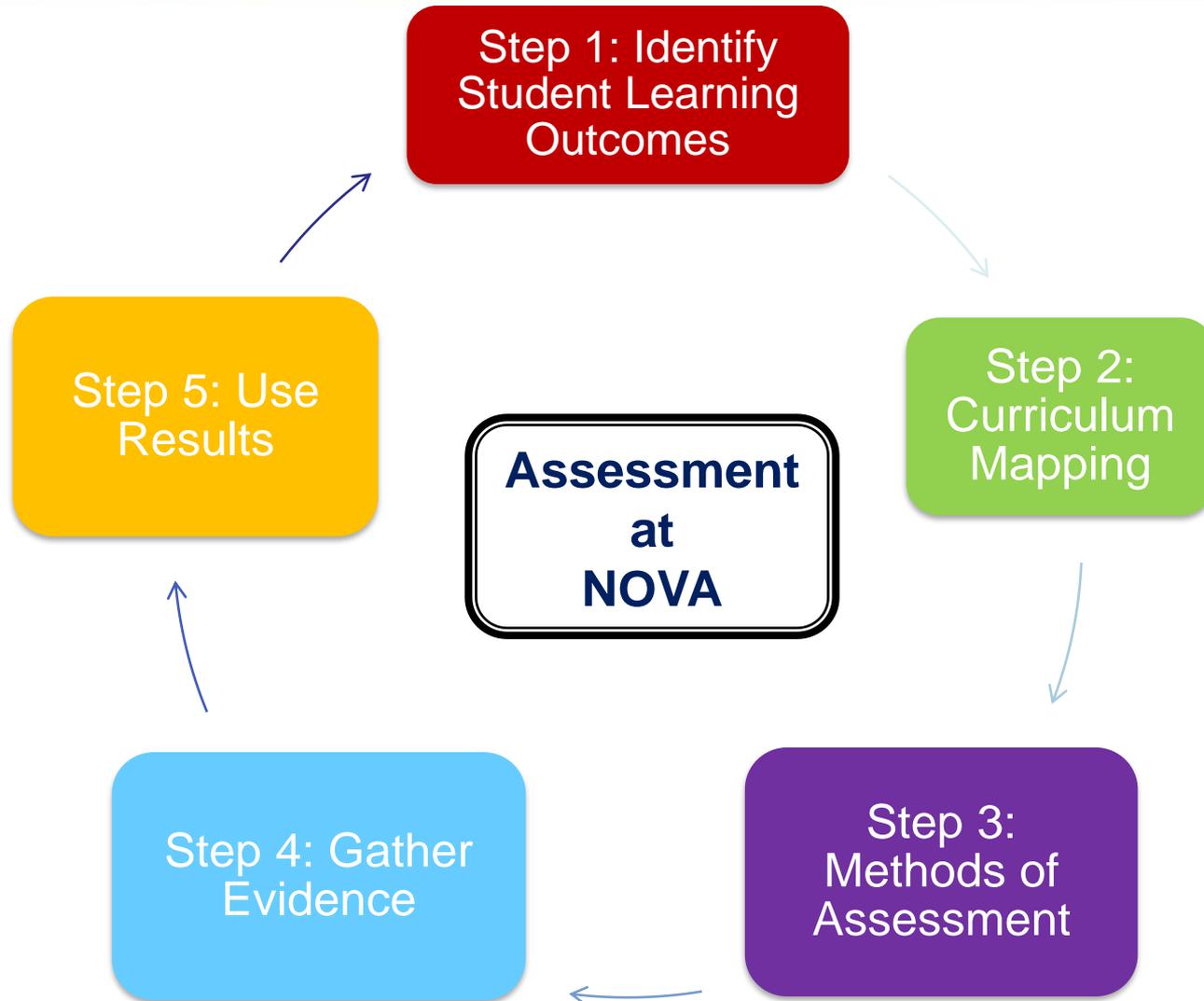
Program-Level SLO	Course Objectives				
	ENG 111	ENG 112	ENG 125	ENG 210	ENG 221
Apply critical thinking and writing skills to make well-organized claims supported by evidence and reason.	Create unified, coherent, well-developed texts that demonstrate a self-critical awareness of rhetorical elements such as purpose, audience, and organization	Employ a clear focus that guides their choices of evidence, language, organization, and rhetorical and persuasive strategies	Effectively apply organizational strategies to open and close their texts and to move the reader between and within main ideas, paragraphs, and sentences	Demonstrate a critical awareness of audience and purpose Write prose that conforms to the conventions of particular discourse communities	Write inverted pyramid and other story structures



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Questions?



Thank You

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