



Office of Assessment  
and Evaluation  
at Virginia Tech

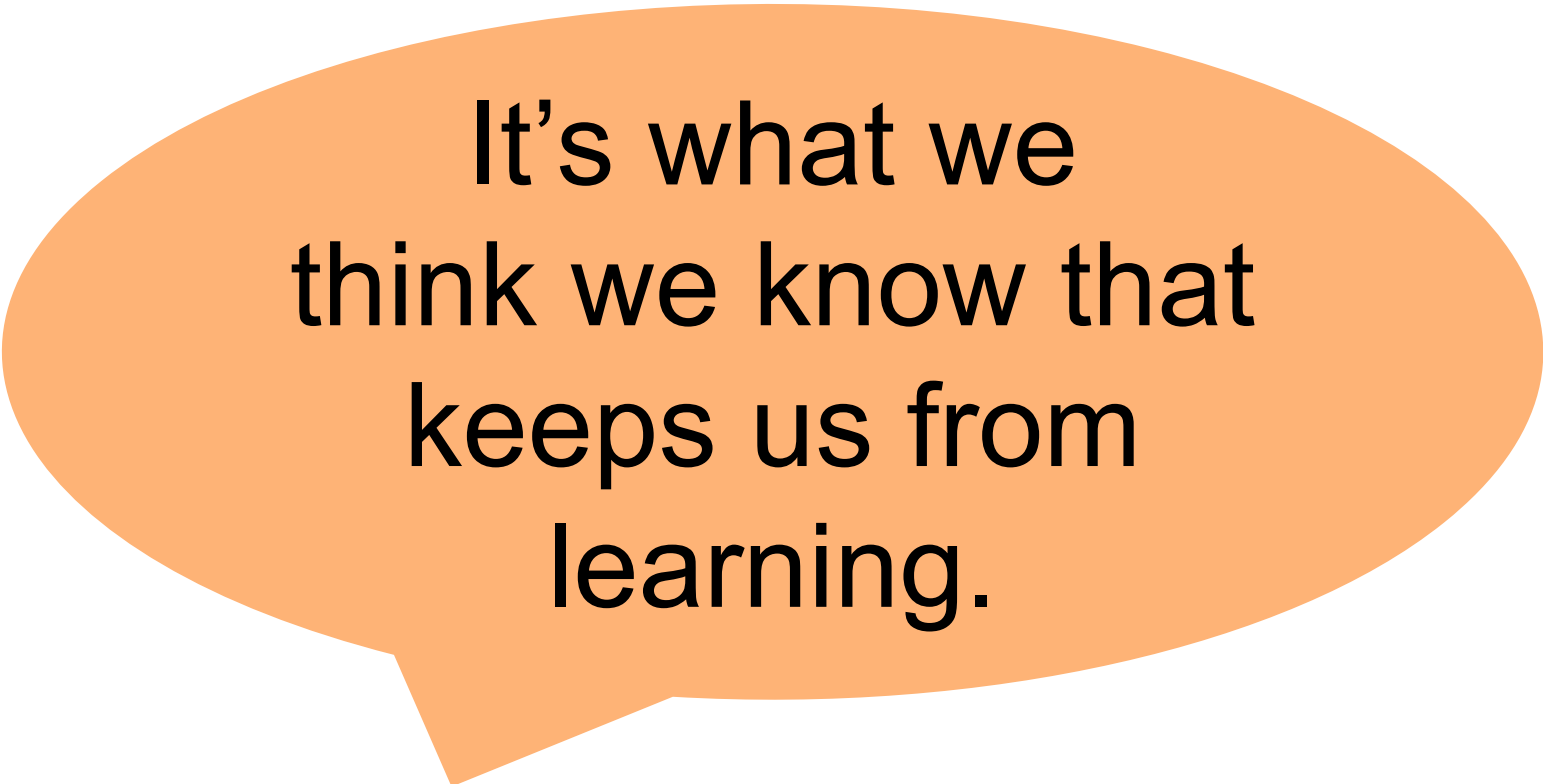

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# ASSESSING CREDENTIALLED CERTIFICATE PROGRAMS

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# PRESENTATION OVERVIEW

- Assessment introduction and requirements for certificate programs
- Student learning outcomes, program outcomes and curriculum mapping
- Assessment measures, developing targets, and presenting findings
- Action planning and closing the loop
- Reporting and documenting requirements
- Discussion and questions



It's what we  
think we know that  
keeps us from  
learning.

Claude Bernard

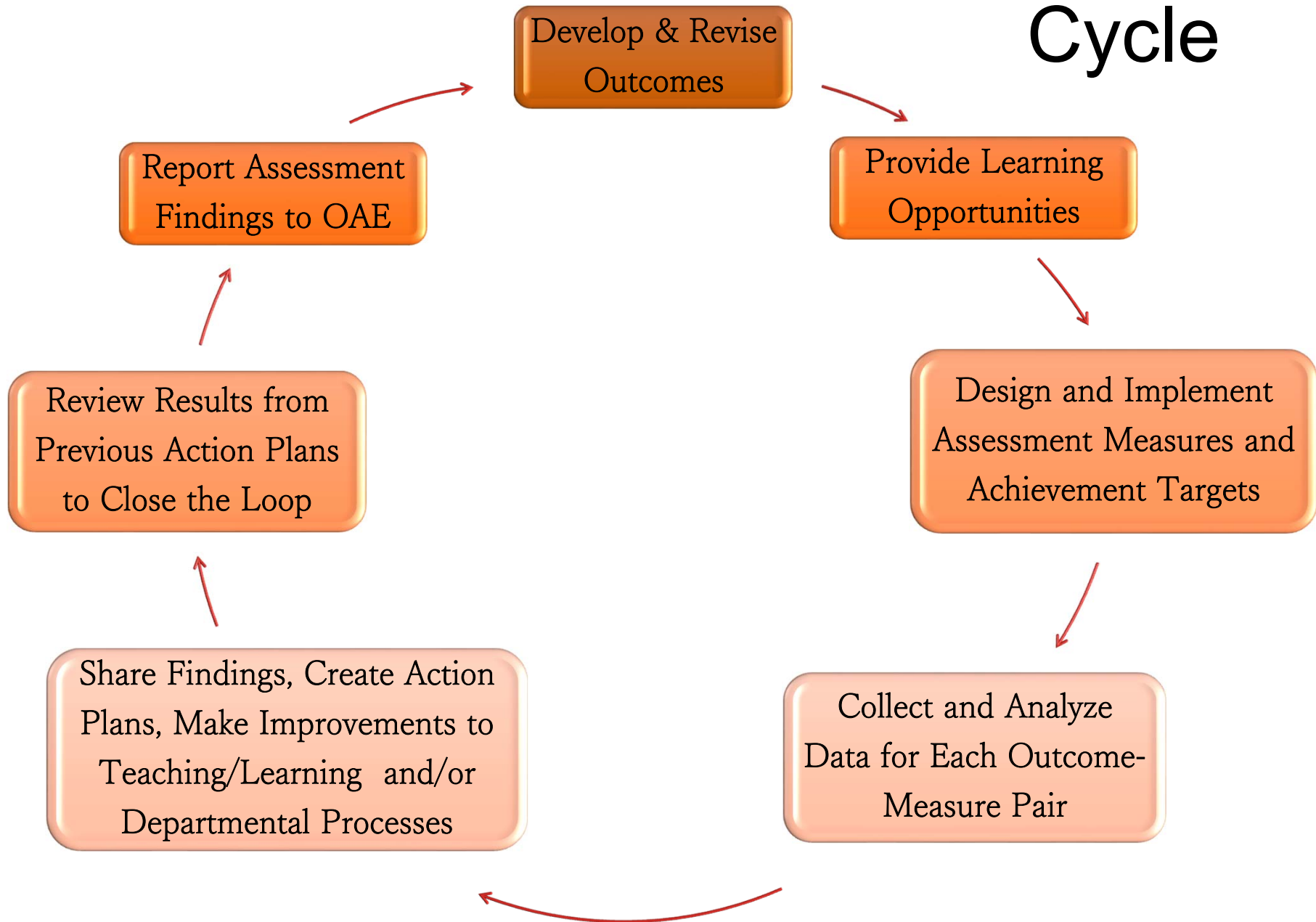
# INTRODUCTION TO ASSESSMENT

Suskie (2009, p.4) defined assessment as an ongoing four-step process:

1. “establishing clear, measurable expected outcomes of student learning;
2. ensuring that students have sufficient opportunities to achieve those outcomes;
3. systematically gathering, analyzing, and interpreting evidence to determine how well student learning matches our expectations; and
4. using the resulting information to understand and improve student learning.”

Suskie, L. (2009). *Assessing student learning: A common sense guide* (2nd ed.). San Francisco: Jossey-Bass.

# The Assessment Cycle



# INTRODUCTION TO ASSESSMENT

Why should certificate programs do assessment?

- Identify strengths and areas for improvement
- Provide student learning evidence and program contributions to stakeholders and accreditors
- Encourage collaboration among program faculty
- Create a program vision and ideal
- Encourage curriculum review

The PRIMARY REASON is to improve the teaching and learning process

# SACSCOC REQUIREMENTS FOR CERTIFICATE PROGRAMS

The Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Comprehensive Standard:

“3.3.1 The institution identifies expected outcomes, assesses the extent to which it achieves these outcomes, and provides evidence of improvement based on analysis of the results in each of the following areas:

3.3.1.1 educational programs, to include student learning outcomes”  
(p.27).

Educational programs implies any credentialed program including certificates.

Southern Association of Colleges and Schools Commission on Colleges (2011, December, p. 27). The principles of accreditation: Foundations for quality enhancement. Retrieved from <http://www.sacscoc.org/pdf/2012PrinciplesOfAcreditation.pdf>

# SACSCOC REQUIREMENTS FOR CERTIFICATE PROGRAMS

What does SACSCOC consider when examining this standard?

- “How are expected outcomes clearly defined in measurable terms for each educational program?”
- What assessment instruments are used and why were they selected?
- Have the programs assessed the extent to which they have been successful in achieving their learning outcomes?
- If called for, have program improvements been made as a result of assessment findings?”

Southern Association of Colleges and Schools Commission on Colleges (Second Edition 2012, p.55). Resource manual for the principles of accreditation: Foundations for quality enhancement. Retrieved from <http://www.sacscoc.org/pdf/Resource%20Manual.pdf>



# STUDENT LEARNING AND PROGRAM OUTCOMES

Why should certificates have student learning and program outcomes?

- Help clarify / reinforce the mission of the program
- Make informed evidence-based changes to the curriculum, program, or student learning
- Focus student learning as core to the educational mission
- Engage faculty in collective ownership of the curriculum, the process of institutional effectiveness, and the use of evidence (not anecdotes) to improve student learning
- Meet SACSCOC or discipline-specific accreditation standards
- Describe the program to stakeholders (e.g., interested students, accreditation agencies, graduate schools, etc.)
- Inform students as to what they are expected to achieve

# STUDENT LEARNING AND PROGRAM OUTCOMES

What is the difference?

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	<u>Program outcomes</u>	<u>Student learning outcomes</u>
Definition	Reflect the services the program provides OR outline specific student achievement areas of the program (e.g., retention, graduation rates, etc.).	Reflect the knowledge, skills, abilities, or competencies that students are expected to acquire as a result of being in the program.
Example	Full-time students who declare XYZ as a major will complete the program in 4 years.	Graduates should be able to explain how past events in the area of XYZ impact society now.

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# PROGRAM OUTCOMES

A program outcome:

- Defines program metrics or services
- Focuses on what your program wants to accomplish or a service it provides
- Specifies student achievement areas for the program

A good program outcome:

- Is a specific action, behavior, or achievement
- Can be validly and reliably measured
- Is related to the program's mission and can be achieved or improved upon if not achieved
- Is meaningful to the program

Certificate programs should have:

- Have 1 to 2 program outcomes
- Should measure at least one program outcome per year
- Should measure all outcomes at least twice in five years

# STUDENT LEARNING OUTCOMES

A student learning outcome:

- Is a specific behavior or knowledge students are expected to be able to do or demonstrate as a result of the program
- Focuses on what you want students to know or be able to do
- Completes the statement: At the end of the program, students will be able to ...

A good learning outcome:

- Addresses an observable, attainable behavior (not a “bundled” statement)
- Is narrowly focused and measurable
- Is stated at the appropriate cognitive level for the degree or expectations of the program

Certificate programs should have:

- Have 2 to 4 student learning outcomes
- Should measure at least one student learning outcome per year
- Should measure all outcomes at least twice in five years

# PROGRAM AND STUDENT LEARNING OUTCOMES

Examples of measurable, specific, and feasible program outcomes:

- The MA program will develop new courses to meet discipline-specific accreditation requirements.
- The department of XYZ will increase its graduation rates.
- Within two years of graduating from the program, students will obtain licensure.

Examples of measurable, observable student learning outcomes:

- Students will be able to explain the XYZ theory
- Students will be able to describe the style and form used in paintings by Monet
- “Explain the logic of the four-field approach to American anthropology.”  
(<http://www.washburn.edu/academics/college-schools/arts-sciences/departments/sociology-anthropology/ba-in-anthropology.html>)

# CURRICULUM MAPPING

## Curriculum mapping:

- Allows programs to align learning outcomes with courses
- Exposes “gaps in the curriculum”
- Assists assessment planning by demonstrating where and when assessments can be effectively implemented
- “improves communication among faculty,” “improves program coherence,” and “increases the likelihood that students achieve program-level outcomes.”

Reference: (<http://manoa.hawaii.edu/assessment/howto/mapping.htm>)

# CURRICULUM MAPPING

<u>Student Learning Outcome (SLO)</u>	<u>Required Introductory Courses</u>		<u>Required Upper Level Courses</u>			<u>Additional Required Academic Experience</u>
	BIOL 1006	BIOL 2010	BIOL 3025	BIOL 4030	BIOL 4064	Internship (required)
SLO#1: Explain the core biological concepts related to evolution and principles of genetics.	I	I		R, A		R
SLO #2: Critically analyze biological research and findings.		I	R		R, A	

“I” indicates where the concept is first being introduced to the students, “R” represents where the concept is being reinforced, and “A” indicates the assessment point.



# ASSESSMENT MEASURES

What should you consider when choosing an assessment measure?

- An assessment measure should be compatible with the outcome
- The measure selected should provide reasonably accurate, useful information
- The measure should yield results specific enough to know where improvements can be made
- An assessment measure should match the cognitive level of the outcome (for student learning outcomes)

Utilize what is already being done:

- Survey faculty on what activities they are doing in their courses
- Find out what is being done locally or institution-wide that might map to your outcomes
- Utilize one activity for several outcomes if possible (ex. capstone projects)



# ASSESSMENT MEASURES

When selecting your measure what should your program ask?

- Is the measure a reasonable indicator for the cognitive level specified in the student learning outcome?
- Would this assessment method assist the program in other ways (meeting accreditation standards, provide feedback to students, etc.)?
- Will results produce trustworthy and understandable data?
- Is the development/preparation time involved in using this measure reasonable?

# ASSESSMENT MEASURES

Direct measures are tangible, visible, and observable indicators of an outcome.

- All outcomes need to have at least one direct measure.

For student learning outcomes:

- It is the direct observation of student learning (e.g., student work from a course)
- It demonstrates student knowledge or skills

Program outcomes:

- It is the indication of a service or activity of the program

# ASSESSMENT MEASURES

## Examples for student learning outcomes:

- Student artifacts (e.g. capstone projects, portfolios, presentations, case studies, etc.) examined by learning outcome and scored with a rubric
- Externally reviewed exhibitions, performances, or projects scored by learning outcome
- Commercially-developed tests, locally-developed tests, national licensure exams or professional exams if examined by learning outcome

## Examples for program outcomes:

- Number of students meeting certain criteria (e.g., % attending graduate school) or number of projects or initiatives implemented (e.g., courses developed, grants obtained, etc.)
- Enrollment numbers / number of majors

# ASSESSMENT MEASURES

An indirect measure is subjective and not directly observable.

- An indirect measure asks students to reflect on their learning or abilities but does not provide direct evidence of the learning
- Indirect measures infer student knowledge
- For each student learning outcome the program can have a combination of both direct and indirect measures.

Examples of indirect measures:

- Survey research: National or local instruments
  - Exit surveys / senior surveys, alumni or employer surveys
  - National Survey of Student Engagement (NSSE), The College Senior Survey (CSS), etc.
  - Faculty surveys
  - Course evaluations
- Employer satisfaction studies and advisory boards
- Exit interviews and student focus groups
- Self-assessments
- Peer ratings

# DEVELOPING TARGETS

## An achievement target:

- Defines the program's achievement expectations for each outcome-measure pair
- Is usually expressed as percentages or numbers expected
- Is achievable but rigorous and realistic for the program level

## Examples:

- Student learning outcome: 80% of students will meet or exceed expectations on the rubric items for this outcome.
- Program outcome: 80% of students who declare XYZ as a major will complete the program in 4 years.

# PRESENTING FINDINGS

Findings presented should be:

- Directly related to the outcome-measure pair and presented on the same scale as the target
- Completed at the end of the assessment period
- Specific enough to examine all components of the learning outcome

Examples:

- Student learning outcome: 75% of the students met or exceeded expectations on the rubric items for this outcome.
- Program outcome: 65% of students who declared XYZ as a major completed the program.

# ACTION PLANNING AND CLOSING THE LOOP

## Action plans:

- Describe the changes a program intends to implement to address curriculum or program deficiencies identified as a result of the assessment
- Describe specific programmatic changes with timelines if possible
- Should be discussed among the faculty to involve them in the improvement or planning process

## Action plans can entail:

- Changes to the curriculum (e.g., course sequencing)
- Changes to the assessment plan or methods
- Changes to pedagogical practices
- Implementation of new technology and / or assignments

# ACTION PLANNING AND CLOSING THE LOOP

“Closing the Loop” is more than action planning.

- It is reexamining an implemented change to see if it had an effect; “return on investment”
- It is a key component of the teaching / learning process and is usually the most difficult step for programs to accomplish

“Closing the Loop” can be accomplished in several ways\*

Process #1: Assessment results show that the program has achieved its outcome.

- Data was collected and the results showed the outcome was achieved.
- The program plans to continue to measure the outcome in future assessment cycles.

\*Adapted from Linda Neavel Dickens (2011) at the University of Texas-Austin:  
<http://www.utexas.edu/provost/iae/resources/pdfs/Handbook%20for%20IE.pdf>



# ACTION PLANNING AND CLOSING THE LOOP

Process #2: Assessment results show that the program has NOT achieved its outcome.

- Data was collected and the results showed that the outcome was not met.
- The program then identified and implemented an action plan to improve performance on the outcome.
- Program collects data and re-measures the outcome in a future cycle to examine the impact of the action plan.
- Program determines if the outcome is being met after the implemented action plan and, if not, takes further action to improve performance.

# ACTION PLANNING AND CLOSING THE LOOP

Process #3: The program determines that the assessment plan is ineffective and needs to be revised.

- The program collected the data and reported the results.
- The program determined that the assessment plan was not accurately measuring the outcome or the outcome needed revision.
- Program documented the changes made to the assessment plan or outcome and re-measured the outcome in a future cycle.

\*Adapted from Linda Neavel Dickens (2011) at the University of Texas-Austin:  
<http://www.utexas.edu/provost/iae/resources/pdfs/Handbook%20for%20IE.pdf>

# REPORTING AND DOCUMENTING REQUIREMENTS

- Certificate programs will collect data every academic year
- The Office of Assessment and Evaluation will review assessment reports and offer feedback
- Assessment reports should include the following information:
  - Certificate name
  - Point of contact regarding certificate assessment
  - Certificate or Department / Program mission statement
  - Table outlining assessment activities

# WHAT DOES THE FINAL REPORT LOOK LIKE?

<u>Student Learning Outcome (SLO)</u>	<u>Assessment Methodology (Measure)</u>	<u>Target</u>	<u>2015-2016 Academic Year Findings</u>  <u>Did you meet your target?</u>	<u>Action Plan (if target was not met or program desires further improvement)</u>	<u>Comments Regarding Previous Action Plan Implemented for this SLO</u>
SLO: Explain the core biological concepts related to evolution and principles of genetics.	Capstone paper. In BIOL 4030, students are required to complete a capstone paper. This paper contains a section for students to explain the core biological concepts related to evolution and principles of genetics. A rubric will be used to evaluate student performance on this aspect of the capstone paper.	80% of the students will meet or exceed expectations on the rubric items pertaining to evolution and principles of genetics (score of 3 or 4 on a 4-pt rubric; 4 = exceeding expectations).	65% of the seniors taking the BIOL 4030 course were rated as meeting or exceeding expectations.  Target: Not Met	Although there was a slight increase in student performance from the previous year, we still are not meeting our target. The program has decided that students need some refresher sessions on core evolution and genetics concepts since this information is mainly covered during their sophomore year in the program. This will be implemented during 15-16 and re-measured in 16-17.	Last year the program decided to review with students what was expected of them in the capstone paper. There was a 10% increase in the percentage of students meeting the target. (2013-2014: 55%)
	Any other methodology that was used measure to SLO#1				

# WHAT DOES THE FINAL REPORT LOOK LIKE?

<u>Program Outcome (PO)</u>	<u>Assessment Methodology (Measure)</u>	<u>Target</u>	<u>2015-2016 Academic Year Findings</u> <u>Did you meet your target?</u>	<u>Action Plan (if target was not met or program desires further improvement)</u>	<u>Comments Regarding Previous Action Plans Implemented for this Program Outcome</u>
PO: Students enrolled in the BS Biology program at the end of their sophomore year will complete the program.	Tracking of students enrolled in the program.	80% of students enrolled at the end of their sophomore year will complete the program.	85% of students who were enrolled in the program at the end of their sophomore year graduated.  Target: Met	NA	The program did not meet the established target for this program outcome in 09-10 (65% in 2009-2010) and decided to require students to complete an additional course prior to moving into the upper division courses.  The findings for this year show an improvement over the findings from 09-10. It took the program a few years to implement this action plan but we feel that it has made a tremendous difference in the number of students completing the program.
	Any other methodology used to measure PO#1				

# DISCUSSION AND QUESTIONS

For more information visit the Office of Assessment  
and Evaluation website or email us at [oea@vt.edu](mailto:oea@vt.edu)



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