Writing and evaluating student learning outcomes and program objectives

Office of Assessment
September 2017

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What motivates your assessment work?
Mission Statement

The Department of Chemistry aims to equip our students with the conceptual and practical tools required to understand and manipulate the molecular world. The department offers classroom, laboratory, and independent study experiences that span the traditional domains of chemistry (analytical, biological, inorganic, organic, and physical chemistry), as well as interdisciplinary frontiers.

Mission

The Center for Documentary Studies at Duke University teaches, engages in, and presents documentary work grounded in collaborative partnerships and extended fieldwork that uses photography, film/video, audio, narrative writing, and experimental and new media to capture and convey contemporary memory, life, and culture. CDS values documentary work that balances community goals with individual artistic expression. CDS promotes documentary work that cultivates progressive change by amplifying voices, advancing human dignity, engendering respect among individuals, breaking down barriers to understanding, and illuminating social injustices. CDS conducts its work for local, regional, national, and international audiences.

Undergraduate Mission & Assessment

The mission of the undergraduate program in the Department of Mathematics at Duke University is to provide students with an understanding of mathematical thought and knowledge; the ability to use this understanding to produce and communicate mathematics; and the preparation to apply these skills in advanced degree programs and/or careers requiring expertise in mathematics.

German Mission Statement

The Department of Germanic Languages and Literature is the University’s center for the study of German culture as well as the German language itself. From the early medieval period, through the Renaissance and Reformation, to the Enlightenment and Romanticism, down to the 21st century and beyond, the course of human civilization is inseparable—both for the language of German and other German-speaking thinkers, writers, artists, and poets. The department views an encounter with this heritage and its transmission to the world of today in a host of different fields as an important element of its education, whatever the particular area of concentration. This includes teaching, scholarly research and publication, and service and engagement as its principal constituencies Duke University students, colleagues in German Studies, both members of the University and its institutions; and individuals, communities, and institutions outside academe with an interest in German history, culture, and society.
What is a “Program Objective”? 

The things that represent changes to the program over time.

• Improve our outreach to first-year students interested in the discipline
• Increase gateway course enrollments by 25%
• Increase the number of students actively involved with the majors union
• Increase the number of students completing honors theses by 10% in the next 3 years
• Hire 1 new faculty with expertise in [something]
• Repurpose lab space to accommodate undergraduate research projects

You might think of then as inputs to learning. They often are related to and support learning.

They inform important decisions about your curriculum.

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What is a “Student Learning Outcome”?

Specific, measurable statements of what students know or are able to do by virtue of participation in your program

Examples:

• Students will identify relevant assumptions underlying an argument in a scholarly paper.
• Students are able to discriminate between relevant and non-relevant information when forming an argument.
• Students will be able to deliver a persuasive argument in an oral presentation.
• Students form and execute well-functioning teams to solve a real-world problem.
## More on Student Learning Outcomes

<table>
<thead>
<tr>
<th>Example</th>
<th>Too general; very hard to measure</th>
<th>Still pretty general; may be tough to measure</th>
<th>Specific; easier to measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Students will have good foreign language skills.</td>
<td>Students can read in the foreign language.</td>
<td>Students will demonstrate strong reading comprehension when engaging texts written in the foreign language</td>
</tr>
<tr>
<td>2</td>
<td>Students will develop problem-solving skills.</td>
<td>Students will be able to solve problems that occur in the field.</td>
<td>Students are able to identify and evaluate multiple strategies for solving a problem.</td>
</tr>
<tr>
<td>3</td>
<td>Students will have strong critical thinking skills</td>
<td>Students show evidence of good critical thinking skills.</td>
<td>Students systematically and methodically analyze their own and others’ assumptions. Students carefully evaluate sources of evidence.</td>
</tr>
<tr>
<td>4</td>
<td>Students can do library research.</td>
<td>Students know how to use library resources.</td>
<td>Students access information using effective, well-designed search strategies and appropriate information sources.</td>
</tr>
</tbody>
</table>

Table derived from resources at the [University of Rhode Island](https://www.uri.edu) and the [AACU VALUE rubrics](https://www.aacu.org/value).

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### More on Student Learning Outcomes: Worksheet

<table>
<thead>
<tr>
<th>Example:</th>
<th>Not useful: Too general</th>
<th>Better</th>
<th>Best: Specific and measureable</th>
</tr>
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<tr>
<td>Students will synthesize evidence to reveal insightful patterns, differences, and/or similarities.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate the ability to analyze case studies of science’s impact on society in written, scholarly form.</td>
<td></td>
<td></td>
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<tr>
<td>Students will reflect critically on theoretical and methodological approaches to topic of research</td>
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<td>Students will demonstrate effective communication skills in oral presentations.</td>
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<tr>
<td>Students will recognize ethical issues when presented in a complex, multilayered context.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Students understand the structure and the elements of expression of [artistic activity].</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students engage in discussions about the institutional, economic, social and political complexities of the role of the [institution] in society.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Students can articulate their individual identifies in a global context.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students will evaluate critically the role of the individual in relationship to the governmental agencies, voluntary associations and nonprofit organizations which help to shape civic life.</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Students will explore politics and praxis of global systems.</td>
<td></td>
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But **how** to write a good learning outcome?

<table>
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<th>Actor</th>
<th>Who is demonstrating the learning or change? This is the student, not the program.</th>
<th>Students will be able to... Graduates can... ★ NOT THE PROGRAM ★</th>
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</table>
| **Behavior** | What will the student be able to do to demonstrate the knowledge or learning? See Bloom’s taxonomy or Google a list of active verbs. | ... analyze ...  
... interpret...  
... design ...  
... defend ... |
| **Context**  | What is the context? What is the thing they are using, making, delivering, or acting upon? | Scholarship in the field  
Oral presentation  
(concrete & observable product, skill, or activity) |

Credit to and adapted from:

[Center for Teaching and Learning](https://ctl.uga.edu), University of Georgia  

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<td>Context</td>
<td>What is the context? What is the thing they are using, making, delivering, or acting upon?</td>
<td>Scholarship in the field Oral presentation (concrete &amp; observable product, skill, or activity)</td>
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**Our graduates are able to apply appropriate laboratory techniques to answer scientific questions.**

**Students in the capstone are able to critique (critically analyze) published scholarship in the field.**

**Students demonstrate understanding of the structure and the elements of expression through a choreographed dance production.**

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Your turn:

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Using the AAC&U VALUE rubrics

https://www.aacu.org/value-rubrics

They help parse nebulous competencies like *integrative learning, critical thinking, and collaboration.*

You can adapt their language into your own Student Learning Outcome.

They give some sample benchmarks which you might use as targets or in your evaluative rubrics.
About Critical Thinking


https://www.tntech.edu/cat/about/skills

Facione & Facione: Critical thinking holistic rubric
What does our accreditor (SACSCOC) have to say about your learning outcomes?

**Principle 1: The role of student learning in accreditation.** The institution defines educational quality—one of its core purposes—by how well it fulfills its declared mission on student learning.

**Principle 2: Documentation of student learning.** The institution demonstrates that student learning is appropriate for the certificate or degree awarded and is consistent with the institution’s own standards of academic performance.

**Principle 3: Compilation of evidence.** The institution derives evidence of student learning from multiple sources, such as courses, curricula, and co-curricular programming, and includes effects of both intentional and unintentional learning experiences. Evidence collected from these sources is complementary and demonstrates the impact of the institution as a whole on the student.

**Principle 4: Stakeholder involvement.** The collection, interpretation, and use of student learning evidence is a collective endeavor, and is not viewed as the sole responsibility of a single office or position. Those in the institution with a stake in decisions of educational quality participate in the process.

**Principle 5: Capacity building.** The institution uses broad participation in reflecting about student learning outcomes as a means of building a commitment to educational improvement.
Back to the relationship between a Program Objective and a Student Learning Outcome...

<table>
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<th>Program outcome</th>
<th>Student learning outcome</th>
</tr>
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<td>The program will increase the number of students completing a distinction project by 10% over 3 years.</td>
<td>Students who complete a distinction project are able to compose a comprehensive literature review of scholarly research on a topic.</td>
</tr>
<tr>
<td>Increase gateway course enrollments by 25%</td>
<td>Students in the gateway course demonstrate high levels of factual knowledge and comprehension of key themes in the disciplines.</td>
</tr>
<tr>
<td>Increase the number of students actively involved with the majors union</td>
<td>Students in the majors union can apply the major methodologies of the field to real world problems.</td>
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</table>
Reminders

• Assessment liaisons should sign up for one-on-one meetings to discuss assessment plans for 2017-18

See Sept. 18 email from Evan Widney, or visit bit.ly/assessment_fall2017

• Upcoming roundtables

Wednesday, October 11
Rubrics for assessment of learning across the program
1:00 – 2:00 pm in Rubenstein 349 (Breedlove)

Monday, October 16
PebblePad information session: Building your program's assessment portfolio
1:00 – 2:00 pm in Rubenstein 349 (Breedlove)
One of two identical sessions for assessment liaisons