

## Assessment Overview & Results Summary

<b>College/School:</b>	College of Arts and Sciences
<b>Measures Used:</b>	Faculty assess results from embedded final exam questions and reflection assignments, observe laboratory technique, and assess the quality of experimental results and written/oral reports.
<b>Process for Interpretation of Evidence:</b>	The Chemistry Program assesses five learning outcomes so that each learning outcome is assessed twice during a six-year cycle. Faculty evaluate the overall quality of student work in areas including knowledge of fundamental concepts; critical thinking and problem-solving skills; laboratory skills; research; and scientific communication. The faculty team that works on the assessment project initially interprets the evidence, which is later shared with the department during the annual faculty retreat. The department decides as a group what improvements, if any, are needed, and plans next steps.
<b>How Findings are Used:</b>	<ul style="list-style-type: none"><li>✓ Changes to curriculum/pedagogy</li><li>✓ Changes to assessment methods</li><li>✓ Changes to student services</li><li>✓ Other: Increased communication across scaffolded courses</li></ul>
<b>Results Summary and Continuous Improvement Actions for AY 2020-2021:</b>	<p>In Spring 2021 (pandemic), we conducted a small project as phase two of testing the use of reflective e-Portfolio reflections to assess LO2: Critical Thinking. As part of their Chem 396: Research Methods course, students were asked to select an assignment from the course that they felt showcased their ability to demonstrate the critical thinking criteria on the AAC&amp;U VALUE rubric for Critical Thinking and then write a metacognitive reflection where they described how critical thinking was demonstrated in that selected piece.</p> <p>High achievement was observed across all five criteria of the critical thinking rubric: Explanation of issues, Evidence, Influence of Context and Assumptions, Student's Position, and Conclusions and Related Outcomes. While this project was small, we were able to obtain useful, actionable information from it: (1) We identified suggested alterations to future similar assignment prompts geared to help students write stronger reflections for better metacognitive impact; (2) We are ready to create a customized critical thinking rubric that better aligns with our LO2: Critical Thinking learning outcome; and (3) Despite its "messiness" when assessing this learning outcome, we reaffirmed our belief that</p>

giving students the autonomy to select an assignment that demonstrates their critical thinking is more valuable than our using one common assignment for all students. The department will discuss in Spring 2022 its next steps regarding the possibility of incorporating a reflective e-portfolio component into more courses in the major.