High-Challenge Gateway Courses CAIT

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The High-Challenge Gateway Courses CAIT looked at some of the courses in the UO curriculum that can be a “barrier” for many students.

Many introductory courses in mathematics, science, computer science, and accounting have high non-success rates, which can dramatically impact student progress toward a degree, thus increasing the cost of their degree.
Graduation Rates

The average 4-year graduation rate for 2011-2015 graduating classes was 48%. What was the 4-year graduation rate for students who failed a course in their first quarter?

a. 53%  
Students who do not fail a course in their first term

b. 18%  
Students in underrepresented minorities

c. 17%  
All students who failed a course in their first quarter

d. 13%  
Pell-eligible students
What is a “High-Challenge Gateway Course”?

- Early in academic career
- Core-education or major prerequisite
- Non-success (DFNW) rate ≥ 20%
## High-Challenge Gateway CAIT’s Charge

<table>
<thead>
<tr>
<th>Self-Efficacy</th>
<th>Student Success</th>
<th>Institutional Change</th>
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<tbody>
<tr>
<td>How can we boost students’ sense of self-efficacy, relevance, and support?</td>
<td>Can these courses and the support services for them be configured, along with student intentionality, to enhance student success?</td>
<td>What institutional policies and practices could shift the culture to create a “student-ready” university?</td>
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EAB Course Completion Playbook

Individual faculty
- Employ early, low-stakes (formative) assessments
- Implement active pedagogy

Institutional or departmental level
- Develop common exams to use across sections
- Encourage supplemental instruction
- Create a culture of the growth mindset
- Use an early warning system

Evidence-Based Teaching Practices

- Research literature on teaching and learning
- Evidence-based practice
- Evidence of student learning in UO courses

What does the literature say?

Maximally-effective instruction

What do I see in my class?

What does the university know?
Meta-analysis of 225 STEM Studies on Active Learning

- Failure Rate
  - Lecture: 33.8%
  - Active Learning: 21.8%
  - 36% decrease
  - +1/2 letter grade

## CAIT Fellow Instructional Examples

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td>Active learning</td>
<td>Small group discussion/problem solving in all four courses</td>
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<tr>
<td>Metacognition and reflection</td>
<td>Class period on metacognition in CH 222, written reflections in MATH 242</td>
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<tr>
<td>Formative assessment</td>
<td>Clickers in MATH 242 and CH 222</td>
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<tr>
<td>Undergraduate-assisted learning</td>
<td>Class Encore in ACTG 211, CIS 210, MATH 242, and CH 222</td>
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<tr>
<td>Structured out-of-class learning</td>
<td>Homework due 3x per week in MATH 242</td>
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Recommendations for Individual Faculty

- Participate in pedagogical professional development.
- Implement evidence-based pedagogy.
- Include student metacognition and growth mindset activities.
Recommendations for the Institution

Pedagogy Support

Program Support

Campus Culture
Recommendations for the Institution

Pedagogy Support

- Fund and encourage pedagogical development for ALL faculty and GEs.
- Create team teaching opportunities with embedded educational experts.
- Develop and enforce common learning outcomes, aligned assessments.
- Build capacity for scholarship of teaching and learning.
Recommendations for the Institution

Program Support

- Grow undergraduate assisted learning programs with centralized support.
- Revise and expand first-year and targeted support programs.
- Build capacity for instructional program assessment and evaluation.
Recommendations for the Institution

Campus Culture

- Support a culture that reinforces student metacognition and growth mindset.
- Prioritize the development of students as intentional scholars.
- Institute a Senate “teaching and learning best practices” committee.
References


