Faculty as Learning Scientists: Using D2L and Data to Enhance Student Learning

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Learning science is an interdisciplinary approach to researching the process of learning and the design of innovative learning environments (Digital Promise, 2020).

Seeks to use and design innovative approaches to learning and assessment.

Assessments are critical components of learning environments (International Society for Learning Scientists, 2023).

As you will see from this presentation, KSU is seeking to promote the concept of faculty being learning scientists and that has specific implications for assessment.
Differences & Similarities

Teaching

Learning
Learning science is an interdisciplinary approach to researching the process of learning and the design of innovative learning environments (Digital Promise, 2020).

Seeks to use and design innovative approaches to learning and assessment

Assessments are critical components of learning environments (International Society for Learning Scientists, 2023).

KSU is promoting Faculty as Learning Scientists
Assessment of Learning (AoL): KSU’s Approach to Academic Program Assessment and Continuous Improvement
Course Assessments and Program Assessments

• **Course-Level Assessments:** Collecting, analyzing, and using information about student learning to guide instructional decision-making (formative assessment) and determine the extent to which students have achieved the course learning outcomes (summative assessment).

• **Program-Level Assessments:** Collecting, analyzing, and using information about student learning to determine the extent to which students have achieved the program student learning outcomes (PSLOs) and to determine if any improvements are needed in the program curriculum to improve student achievement of the PSLOs.

• Since courses and their associated student learning outcomes were designed to provide students with sufficient learning opportunities throughout the program to learn, practice, and achieve the PSLOs, programs often use common assessments (specific course assessments administered in all sections of a course) to assess both course student learning outcomes and program student learning outcomes.

• For additional information, see: [https://learning.northeastern.edu/explore/assessment/](https://learning.northeastern.edu/explore/assessment/)
Know How Your Course and Course Assessments Contribute to the Overall Degree Program
Program Mission, Program Student Learning Goals, Program Student Learning Outcomes, and Core/Required Courses

- **Program Mission**: A brief, general description of the purpose of your program.

- **Program Student Learning Goals**: Broad statements that describe essential learning (the main content knowledge, critical thinking skills, systematic inquiry or research, communication skills, etc.) students are expected to accomplish in your program.

- **Program Student Learning Outcomes (PSLOs)**: Specific, measurable statements about what students should be able to know, do, and/or value by the time they complete the program.

- **Core/Required Courses**: The courses in a degree program that all students must complete to graduate. Certain courses may be designed to introduce or reinforce the program student learning outcomes.

  - **Course student learning outcomes** are established when a course is created by the program. The original set of course learning outcomes must be addressed and assessed every time the course is taught. Faculty can add additional outcomes, but they cannot remove original outcomes.
# Program Curriculum Map Example: Connecting Course Assessments to Program Assessment

## Program Overview

**Mission**

The B.S. in Sociology prepares students to understand and deal with diversity, modernization, and social change ranging from the local to global scale. The core competencies of the program prepare students to enter careers requiring technological facility, communication skills, data gathering and analysis skills, community awareness and involvement, problem-solving, critical thinking, an understanding of the structure and functioning of groups and organizations, greater awareness of their environment, critical self-reflection, and interpersonal and intercultural skills. Besides career preparation, specific concentrations in the major also provide background for graduate study in sociology and other related disciplines.

**Program Goal 1:** Students will be able to summarize basic questions, issues, and current research, and theory relative to cultural diversity, modernization, and social change ranging from a local to a global scale.

**Program Goal 2:** Students will be able to demonstrate competence in research.

**Program Goal 3:** Students will be able to demonstrate communication skills, including spoken and written communication.

## Curriculum Map

<table>
<thead>
<tr>
<th>Program Student Learning Goals</th>
<th>Program Student Learning Outcomes (PSLOs)</th>
<th>SOCI 1101</th>
<th>SOCI 2210</th>
<th>SOCI 2253</th>
<th>SOCI 3300</th>
<th>SOCI 3305</th>
<th>SOCI 3314 or 3350</th>
<th>SOCI 3396, or 3398, or 4840</th>
<th>SOCI 4409</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome 1:</td>
<td>Students will be able to define and give examples of basic concepts such as: culture, social change, stratification, social structure, institutions, socialization, differentiation by race, ethnicity, gender, age, class, etc.</td>
<td>I</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R, A</td>
<td>R</td>
<td>R</td>
<td>R, A</td>
</tr>
<tr>
<td>Outcome 2:</td>
<td>Students will be able to explain sociological theories and apply theories to at least one area of social reality.</td>
<td>I</td>
<td>R</td>
<td></td>
<td></td>
<td>R, A</td>
<td>R, A</td>
<td>R</td>
<td>R, A</td>
</tr>
<tr>
<td>Outcome 3:</td>
<td>Students will be able to think critically about social issues, for example, being able to present opposing viewpoints and alternative hypotheses.</td>
<td>I</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R, A</td>
<td>R, A</td>
<td>R</td>
<td>R, A</td>
</tr>
<tr>
<td>Outcome 4:</td>
<td>Students will be able to exhibit international and cross-cultural awareness, focusing in particular on diversity (race, class, gender, age, and religion) in society.</td>
<td>I</td>
<td>R</td>
<td></td>
<td></td>
<td>R, A</td>
<td>R, A</td>
<td>R</td>
<td>R, A</td>
</tr>
</tbody>
</table>

**Program Goal 5:** Students will be able to design a research study in an area of choice and explain why various decisions were made.

**Program Goal 6:** Students will be able to critically assess a published research report and explain how the study could have been improved.

**Program Goal 7:** Students will be able to exhibit specific marketable skills, including posing social, cultural and spatial questions, finding data to answer questions, using the internet and other technologies, evaluation research, analysis of data, and dealing with diversity.

**Program Goal 8:** Students will be able to demonstrate a facility in speaking before groups.

**Program Goal 9:** Students will be able to write correctly and document properly according to proper social science format.

<table>
<thead>
<tr>
<th></th>
<th>Assessment Schedule</th>
<th>Assessment Tools (Direct Measures)</th>
<th>Assessment Tools (Indirect Measures)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome 5:</td>
<td>2023-2025</td>
<td>Exit Exam</td>
<td>Exit Survey, Item 1</td>
</tr>
<tr>
<td>Outcome 6:</td>
<td>2026-2028</td>
<td>Research Methods Paper, Rubric Item 1</td>
<td>Exit Survey, Item 5</td>
</tr>
<tr>
<td>Outcome 7:</td>
<td>2026-2028</td>
<td>Research Methods Paper, Rubric Item 2</td>
<td>Exit Survey, Item 6</td>
</tr>
<tr>
<td>Outcome 8:</td>
<td>2023-2025</td>
<td>Senior Seminar Paper, Rubric Item 4</td>
<td>Exit Survey, Item 8</td>
</tr>
<tr>
<td>Outcome 9:</td>
<td>2023-2025</td>
<td>Senior Seminar Paper, Rubric Item 5</td>
<td>Exit Survey, Item 9</td>
</tr>
</tbody>
</table>

* I - Introduced, R - Reinforced, A - Assessed for Program Assessment
If you are teaching a core/required course in your program, we recommend asking your program coordinator the following questions:

• What is the official course description and the established course student learning outcomes?

• Which program student learning outcomes (PSLOs) should be addressed and assessed in the course.

• Is there a common assessment that is used in this course to assess one or more of the program student learning outcomes (PSLOs)?

• May I review sample syllabi for the course?
Minimum D2L uses

• D2L Uses as KSU Faculty
  • Gradebook: Data preserved by the institution and accessible in case anything happens to you. Students can get an idea of their success as the semester progresses and as you enter grades.
  • Announcements: Students who enroll late get all historical messages; accidental FERPA violations are avoided by mistyped email addresses.
  • Syllabus Posting: House the syllabus in the D2L course shell provides a permanent record and ensures all students have the latest draft.
  • Assignment Submission: Clocked record of student submission or lack of submission; prevents accusations of lost work.
  • Attendance Record: Data preserved by the institution and accessible in case anything happens to you.
Undergraduate Student Modalities

Fall 2022 Undergraduates
- 16.07% All Online
- 18.99% All FTF
- 64.94% Mixed

### Undergraduate Student Modalities

<table>
<thead>
<tr>
<th>Year</th>
<th>All Online</th>
<th>All FTF</th>
<th>Mixed Modality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2017</td>
<td>2448</td>
<td>14364</td>
<td>16105</td>
</tr>
<tr>
<td>Fall 2018</td>
<td>2684</td>
<td>13175</td>
<td>16408</td>
</tr>
<tr>
<td>Fall 2019</td>
<td>3302</td>
<td>10485</td>
<td>20696</td>
</tr>
<tr>
<td>Fall 2020</td>
<td>12592</td>
<td>1409</td>
<td>23385</td>
</tr>
<tr>
<td>Fall 2021</td>
<td>8435</td>
<td>8435</td>
<td>24308</td>
</tr>
<tr>
<td>Fall 2022</td>
<td>6216</td>
<td>6279</td>
<td>25290</td>
</tr>
</tbody>
</table>
Graduate Student Modalities

Fall 2022 Graduate Modalities:
- 57.40% All Online
- 23.62% Mixed
- 18.98% All F2F
### Course Registrations by Level of Instruction

<table>
<thead>
<tr>
<th>Year</th>
<th>Lower, 1000-2000 level</th>
<th>Upper, 3000-4000 level</th>
<th>Graduate, 5000-9999</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>15.98%</td>
<td>18.49%</td>
<td>9.53%</td>
</tr>
<tr>
<td>2019</td>
<td>19.13%</td>
<td>18.76%</td>
<td>11.58%</td>
</tr>
<tr>
<td>2020</td>
<td>27.47%</td>
<td>30.79%</td>
<td>16.93%</td>
</tr>
<tr>
<td>2021</td>
<td>27.99%</td>
<td>32.22%</td>
<td>17.63%</td>
</tr>
<tr>
<td>2022</td>
<td>32.40%</td>
<td>34.29%</td>
<td>16.16%</td>
</tr>
</tbody>
</table>

### Course Registrations by Division

<table>
<thead>
<tr>
<th>Year</th>
<th>Lower, 1000-2000 level</th>
<th>Upper, 3000-4000 level</th>
<th>Graduate, 5000-9999</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>77.45%</td>
<td>37.50%</td>
<td>4.13%</td>
</tr>
<tr>
<td>2019</td>
<td>69.52%</td>
<td>37.00%</td>
<td>4.13%</td>
</tr>
<tr>
<td>2020</td>
<td>69.57%</td>
<td>37.00%</td>
<td>4.13%</td>
</tr>
<tr>
<td>2021</td>
<td>59.27%</td>
<td>32.40%</td>
<td>5.49%</td>
</tr>
<tr>
<td>2022</td>
<td>58.73%</td>
<td>31.19%</td>
<td>5.49%</td>
</tr>
</tbody>
</table>
Not Sustainable
• Training on:
  • Asynchronous online teaching
  • Synchronous online teaching
  • 66% Hybrid
  • 33% Hybrid
  • Flipped Hybrid
  • Synchronous Hybrid
  • Emporium Lab
  • Technology Enhanced F2F
  • ...

Sustainable
• Training on:
  • Designing
  • Facilitating
  • Responding to Instructional Data
The Approach: Faculty as Learning Scientist

- Faculty facilitate course design in multiple modalities
- Provide ease in reviewing learning analytics using uHoo Analytics
- Course fidelity through Sustainable Course Design
- Faculty employ research skills for course optimization
Faculty Training

Sustainable Course Design Workshop (SCD)

The SCD workshop is a 3-week, online, asynchronous course designed to provide participants with technical and pedagogical skills for designing and facilitating sustainable courses.

Essential Course Facilitation Strategies (ECFS)

Essential Course Facilitation Strategies (ECFS) is a three-week workshop designed to introduce faculty to course facilitation strategies needed to teach a course in any modality, such as hybrid, online synchronous, asynchronous, or face-to-face.

Session Duration: 3 weeks.
uHoo Analytics for Student Success
Become a Better Instructor Through Data Analysis

Kennesaw State University is excited to announce an upcoming D2L learning tool in partnership with Microsoft that will allow professors to analyze [3CI] valuable data from all their students, in one location, all at once.

With uHoo, you will never have to worry about:
- What is working or not working in your classroom.
- Which students are showing up and doing well and which ones are falling behind.

Use uHoo Analytics to seamlessly become an advocate for student success by using data to:
- Discover a more streamlined, effective classroom curriculum.
- Better support your students and learners in the moment, throughout each semester and each class.

Benefits of Using uHoo Analytics

What's in it for you?
Contact Us

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