

2014

2013-14 Annual Report to the Board of Regents: Course-Level Continuous Improvement Plans

University of Northern Iowa

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Recommended Citation

University of Northern Iowa, "2013-14 Annual Report to the Board of Regents: Course-Level Continuous Improvement Plans" (2014). *Institutional Effectiveness & Planning Documents*. 261.

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UNIVERSITY OF NORTHERN IOWA
2013-14 Annual Report to the Board of Regents
Course-Level Continuous Improvement Plans

Executive Summary

In compliance with Iowa Code, in Fall 2013 and Spring 2014, the Office of the Executive Vice-President and Provost at the University of Northern Iowa requested faculty who teach courses with annual enrollments of 300 or more to report on their processes of continuous improvement for their courses.

The analysis revealed ongoing assessment being done by instructors at the University of Northern Iowa across all academic colleges. Faculty and administrators reported a variety of types of assessment methods used to improve courses with annual enrollments of 300 or more. The most common assessment methods faculty reported using were locally developed tests, comparison of course syllabi, regular faculty discussion of student performance, and end-of-course surveys.

In all of these courses, faculty were already collecting and analyzing student learning data to make improvements in their courses. The most common strategies faculty reported using to improve courses were employing clearer explanations of problematic topics, providing more guided hands-on practice for learning, incorporating formative assessments before the end of the semester to identify where students are struggling, choosing different materials to teach or assess the course, and building in more peer review and individual meetings with students.

We will continue to encourage faculty to use the data collected through assessment processes to improve their teaching and courses. We will coordinate with the Center for Excellence in Teaching and Learning, as well as the Office of Academic Assessment, to help faculty in bettering their courses.

Methods

There were a total of 64 distinct courses offered at the University of Northern Iowa in both Fall 2013 and Spring 2014 with enrollment greater than 300. There were 39,565 students enrolled in various sections of these courses.

Instructors of course sections, working in individuals or groups, provided a report for their department or program head that included the following information in both Fall 2013 and Spring 2014: (a) strategy/strategies employed to collect information on student learning (from a list of possible strategies provided to them), (b) what was learned about student performance from the strategies that are used, and (c) action steps taken to enhance student performance in future offerings of the course. Department and program heads then summarized the information from the instructor reports to provide a report for their College Dean. College Deans then summarized the information across their departments and programs for the University Provost, who is providing the summary from the university.

Descriptive statistics were computed for strategies, and themes identified from open-ended questions.

Results

The summary table below provides information on the results of the survey across the university. Many courses used multiple strategies. All of the courses surveyed used at least one of the strategies below.

Table 1: Department/College/University Summary Form

Continuous Improvement in University of Northern Iowa Courses	
<i>August 2014</i>	Report Date
<i>Fall 2013 & Spring 2014</i>	Report Period
Number of Courses, Students Enrolled	
64	Total Number of Courses Offered in both Fall & Spring with enrollment greater than 300
39,565	Total Student Enrollment in Courses
Number of Courses¹ Utilizing Continuous Improvement Strategies	
55	Locally-developed tests
44	Faculty comparison of course syllabi across sections and student performance related to course outcomes
42	Regular faculty/instructor discussion of student performance
41	Use of an end-of-course survey on student perceptions of their learning and course factors affecting their learning
31	Faculty/instructors meet at the end of each semester and/or periodically during the semester to discuss strengths and weaknesses in students' performance related to course outcomes, identify key factors related to student performance, and develop action plans for maintaining and improving the level of student performance in future offerings of the course.
22	Standardized tests
17	Regular faculty/instructor discussion of student performance related to national and/or state standards for professional competency
15	Analysis of data on student performance gained through the use of selected questions from course unit tests
13	Analysis of results from the use of agreed-upon rubrics for evaluating student performance on a major or culminating assignment across sections of a course
12	Other – examples included: <ul style="list-style-type: none"> • Pre- and post-tests • Faculty surveys • Field experience evaluation forms • Clicker questions/polling

Over Fall 2013 and Spring 2014, faculty from across the colleges identified over 100 ways that information collected through already existing assessment of courses is being used to improve teaching and learning in their classes. A theme analysis revealed five common strategies faculty use to improve their classes, through the use of assessment data: (a) clearer explanations of problematic topics; (b)

¹ Total number of strategies in use is greater than the total number of courses because many courses employ more than one continuous improvement strategy.

more guided hands-on practice for learning; (c) formative assessments before the end of the semester to identify where students are struggling, in order to help them sooner; (d) choosing different materials to teach or assess the course (e.g., assignments, readings, supplementary materials, etc.); and (e) building in more peer review and individual meetings with students.

Sample responses from faculty illustrating these themes include the following.

- Increase the time given to topics that presented the most difficulty.
- Reorder topics in the sequence of classes to allow more time to be spent on particular topics.
- Assign additional problems to improve problem-solving skills.
- Provide more performance experiences.
- Implement a formative mid-course survey to better assess the first half of the semester.
- Develop a progressive kind of learning instrument to make sure students know the basics and then move on to perceiving the same principles in more complex contexts.
- Provide practice tests and individualized help sessions.
- As a group, review the textbook selections based on pedagogic needs and student feedback to better meet the needs of the students.
- Use feedback from monthly meetings to modify course content in order to stay current and be authentic.
- Schedule individual appointments with peer mentors or instructors to review drafts of assignments.
- Incorporate peer review.

Specific examples of courses are provided below to illustrate how data is being used to improve our courses at the University of Northern Iowa.

- *Children's Literature*: The five instructors involved in this course in Fall 2013 met with the coordinator of the Literacy Education program in September of 2013, followed by regular meetings of the faculty to discuss the content of the course, the purpose of the course, and the intent of assignments. In this process, the five instructors agreed to use the culminating assignment of a collection of 40 book reviews for assessment purposes using an agreed-upon rubric, as well as an end-of-course student survey. By combining the rubric results with the survey data, the instructors developed a focus on three core required assignments that will be the cornerstone of the course and will enable them as instructors to spend more time addressing literary aspects of literature and making connections between literature and curriculum.
- *First-Year Cornerstone*: Over the past three years, the First-Year Cornerstone course faculty have assessed the writing and speaking goals of the course, through the use of pre- and post-course surveys, as well as a random sample of portfolio artifacts (i.e., papers and video-recorded speeches) from multiple sections of the course. Faculty use AAC&U VALUE rubrics to assess students' writing and speaking, and have found that students believe they are improving in both their writing and speaking competencies over time. One of the ways in which this data has been used to improve the course came when faculty realized that students' comfort levels in giving speeches could be benefitted from providing more low-stakes speaking assignments throughout the semester, which they were able to incorporate during the last academic year. Another place faculty discovered could use more work was in the area of organization and having a specific thesis. As a result, assignments this year were tailored to work more specifically on these things.

- *Human Relations:* The Human Relations: Application and Awareness class is required for all teacher education candidates, with 8-9 sections offered each semester. During the 2013-2014 school year, different pilot instruments were tested to gather student input on their current awareness of and interaction with diverse populations. From the pre- and post-surveys, students were able to assess their awareness of, attitude toward, and engagement with diverse populations. The survey was designed using the six state-mandated objectives for the human relations course. As a result of the surveys, faculty members engaged in ongoing improvements to the course based on reviews of the data. These changes included survey statement clarification and identification of areas that the students identified as strengths and needing most improvement.
- *Introduction to Psychology:* Over 1000 students take Introduction to Psychology each year, with most sections being relatively large (an average of approximately 125 students per section). Instructors of this course use several assessment approaches to identify problems in the course and evaluate solutions to those problems. For example, in multiple sections of Introduction to Psychology, an Item level analysis of exam questions is used to identify poor questions (an assessment problem) or indications of poor learning/teaching. Recent results suggested that students were having difficulty describing classical conditioning in writing. To address this, the course was changed to dedicate extra class time to working with classical conditioning, including breaking down the components of classical conditioning in an in-class lab activity. Analysis of exams indicated that students were better able to describe classical conditioning and its components as a result of these changes.
- *Introduction to Statistical Methods:* As part of the ongoing assessment activities of the Liberal Arts Core (LAC) Category 1C courses by the faculty, the Department of Mathematics has in the last few years been undertaking a complete review of the Introduction to Statistical Methods course. The department typically offers seven to nine sections of the course each semester.

The first phase of the review resulted in the development of a topical outline for the course, which is based on the recommendations of mathematics professional organizations and amounts to a common syllabus to be used across all sections of the course. The outline lists topics which must be covered in the course and topics which are optional.

The second phase of the review took place over the last two years and focused on developing assessment tools for the course. This past spring the department's LAC Category 1C Committee, in collaboration with the LAC Director, presented to the department faculty a draft of the LAC Category 1C Goals and Outcomes as well as a draft of an accompanying common rubric for the course. The rubric was modeled on the American Association of Colleges and Universities (AAC&U) Value Rubrics. It will be used to measure whether the course is meeting the intended learning outcomes.

The last phase of the review, which begins in AY 2014-15, will include the creation of common test items for the course, testing, implementation of the rubric, and analysis of the results. Once a workable cycle is determined, the LAC Category 1C Committee will lead the department in discussions over assessment results and will recommend possible improvements/changes to the course and thereby close the loop on assessment.

- *Life: The Natural World:* Natural World Lab (BIOL 1013) is a non-Biology major course that fulfills a Liberal Arts Core requirement in the Sciences. The lecture portion of Life: Natural World (BIOL 1012) involves interactive lectures where students are frequently queried for their

answers relevant to lecture topics. This allows for feedback on student understanding of the topic, and if appropriate, results in changes in how the material is presented in the future. Along the same lines, clickers are used to keep students focused during lecture and when a significant percentage of students are not understanding correctly, the instructors go back to clarify ideas, resulting in changes in how the material is presented in the future.

Feedback for this course is gleaned from students weekly and at the end of the semester, as well as via weekly laboratory instructor meetings, and by occasional lecture/laboratory instructor group think tanks. The current feedback mechanism for the course enables instructors to modify the course as necessary. Examples of such modifications include changes to their customized lab manual, to increase clarity, visualization, and connecting principles in biology to aspects of the real world. Furthermore, pre-laboratory demonstrations and group problem solving activities have been added to help facilitate critical thinking and public speaking skills. Finally, they have increased supplemental web-based study aid materials to their eLearning course site.

- *Macroeconomics*: Wherever possible, the Economics faculty try to integrate their Outcomes Assessment program with their AACSB Assurance of Learning accreditation requirements. While they do have, maintain, and use their outcomes assessment program through their departmental Directed Research in Economics class, they also rely on the AACSB End-of-Program (EOP) exam. This is a comprehensive exam given to almost all business majors in the senior level course, Business Policy and Strategy. Over several iterations of the EOP exam, it became apparent many graduating seniors were not clearly remembering a fundamental economic distinction they were learning as freshman in the Principles of Macroeconomics classes - the difference between monetary and fiscal policy. Few things in macroeconomics are as basic as that, and they were startled to see this. While they have multiple sections of the course and teach between 700 and 800 students per year, the three primary faculty members got together and examined how they were teaching macro policy and discovered they were not appropriately emphasizing the difference. As a result, they agreed to alter their presentations, create handouts, and more carefully focus on the student understanding of how both policies are used and the entities responsible for implementation. They have now done this in all sections of Principles of Macroeconomics. As a result, scores on these questions on their EOP exam have improved. Success!
- *Organizational Management*: Organizational Management is in the business core, which means that it is required of all business majors. Additionally, this course, which provides an introduction to management and is seen as the foundation course within management, is required for several other programs across campus. Typically, around 18-20 sections of this course are offered each year with an average enrollment of 35 to 40 students per section. Faculty teaching Organizational Management meet each semester to discuss the learning objectives of the course and to review syllabi to identify the link between course outcomes and course assignments. Based on prior discussions, a standard list of course topics was developed, and faculty developed course materials based on these agreed upon topics. Course exams cover the topic areas, and faculty discuss student learning related to the common objectives. Additionally, all graduating students from the College of Business are given an end-of-program exam, which includes questions from a broad range of business classes, including Organizational Management. Every year, the entire management faculty review the questions related to all topic areas covered in management classes, including Organizational Management. Student responses on these items are evaluated, and changes to course material are made when warranted.

- *Soundscapes*: A December 2012 report outlined a number of initiatives that faculty identified as beneficial to the goal of improving student performance in the course. The faculty have taken specific actions on some of those initiatives, and have a plan in place to continue the conversations and to encourage the free exchange of ideas and materials.

During the 2013—2014 academic year, UNI School of Music faculty members used discussion, correspondence, and document sharing to gain a better sense of their common purpose and challenges for the course. Syllabi for Soundscapes classes were collected from faculty who offered the course during the Fall 2013 semester, and new contributions to this syllabus bank were made at the end of the Spring 2014 semester. In November 2013, the LAC music faculty identified four shared course goals, derived from the course description and other catalog passages. These goals appeared in some form in the majority of syllabi for Spring 2014 sections of Soundscapes. Additionally, the archive of shared materials has been expanded to include documents pertinent to writing assignments and rubrics. This repository of documents has been posted to Google Drive where it constitutes a resource for participating faculty.

Music faculty have designed and re-designed a wide variety of assignments and assessments that engage students in written work. They also have identified a variety of concerns and frustrations regarding the deficiencies of student writing skills and experiences. Through conversations and shared course materials, the faculty have become more aware of the diversity of approaches they employ to engage those challenges and achieve those goals. The music faculty are now positioned to take a closer look at specific elements of their curricula and assessment practices, and the first such element to be taken up will be student writing. Faculty members are also ready to begin working on the development of diagnostic instruments that permit some meaningful and confidential analysis of our efficacy.

- *Visual Perceptions*: As part of an ongoing review of the Visual Perceptions course, the Department of Art experimented with alternate assignments over the past three years. These assignments explored the possibility of including hands-on projects within a traditional lecture format. While the size of each class section (90 students) made this challenging, the use of online resources (Facebook, YouTube) yielded success. Based on feedback gathered from student surveys, the course has been furthered altered to include a collaborative group presentation.

Discussion

The processes provided by the Iowa Code required continuous improvement initiative revealed faculty at the University of Northern Iowa who are engaged in assessing learning in their classes and actively interested in improving teaching and learning.

We are exploring ways to enhance the process of collecting and analyzing data for this initiative in future years, in order to make this data gathering process as useful as possible for our faculty and students. Some of the enhancements being considered include the following:

- Using an online survey of faculty (such as Qualtrics) to make it easier for faculty to report on their work on assessment;
- Providing more specific response options on the survey for how faculty improve their courses, using this year's data themes;
- Determining ways to collect more success stories;

- Figuring out when the best time is to administer the survey, based on course offerings;
- Determining how best to communicate the results back to faculty;
- Determining how to archive the information gathered; and
- Providing continued support for faculty to help encourage collaboration in teaching these courses.

Overall, we are pleased with the results of this continuous improvement process, as it has revealed a faculty that is committed to assessing learning in their classrooms, and willing to make changes based on data collected. We look forward to seeing how this process can be used to increase conversations and collaboration across campus about using data to improve learning.