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January 7, 2016

Mr. Michael E. Marshall  
Secretary of the Senate  
Second Floor, State Capitol  
Des Moines, IA 50319

Ms. Carmine Boal  
Chief Clerk of the House  
Second Floor, State Capitol  
Des Moines, IA 50319

Dear Mr. Marshall and Ms. Boal:

In accordance with 2015 Iowa Code §262.9.36 (which was enacted in 2012 by SF 2284), the Board of Regents, State of Iowa, has prepared a report describing the implementation of continuous implementation of courses with a combined enrollment of 200 or more students in 2014-2015. Enclosed is the annual report for FY 2015.

The strategies used to collect data included faculty review of student portfolios, faculty review of student performance in subsequent courses, faculty review of scored term papers, and faculty comparison of course syllabi across sections and student performance related to course outcomes.

Some of the improvements made as result of the data collection and analysis included modifying subsequent course assignments and exams, adding new content modules to courses, restructuring courses to improve student preparation for required subsequent course, and incorporating innovative teaching strategies to increase student participation, critical thinking, and problem-solving skills.

Please let me know if there are any questions concerning this report.

Sincerely,

Dr. Robert Donley  
Enclosure

cc: Legislative Log  
Legislative Liaisons  
dg/h/aa/CI/legislog15-16/doc

2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION  
January 2016

**UNIVERSITY OF IOWA**

The following is a report of the University of Iowa's compliance with Iowa Code Section 262.9(36). This report follows the reporting structure that was developed in July 2013. It presents the total number of courses, the total number of student enrollments in those courses, the number of courses using each of the identified continuous improvement strategies, and one page of selected examples illustrating ways in which these strategies have contributed to course improvements.

This information was collected from academic departments by colleges during Fall 2014 and Spring 2015. The report shows that in the majority of courses, decisions about improving course quality are based on the review of student learning demonstrated through the work they do for the course. In addition, most courses consider multiple streams of information when reviewing course quality. An average of four distinct continuous improvement strategies per course were identified for courses with annual enrollments of 200 or more students.

Other frequently used CQI strategies include reviewing end-of-course student ratings related to course objectives, comparing student learning and progress in multiple sections of the same course, and examining student performance in subsequent courses. Examples of improvements made based on these CQI strategies (p. 3) include modifying content in subsequent offerings of the same course, incorporating innovative teaching strategies to increase student problem-solving skills, and revising curriculum to better align courses with requirements and expectations of subsequent courses..

We found this process to be informative, and we believe it will be sustainable next year when we will be required to report on courses enrolling more than 100 annually.

2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION  
January 2016

**UI CQI Strategies 2014/15**

<b>Continuous Improvement in University of Iowa Courses</b>	
<i>June 2015</i>	Report Date
<i>2014-15</i>	Report Period <sup>1</sup>
<b>Number of Courses, Students Enrolled</b>	
<i>216</i>	Total Number of Courses
<i>118,379</i>	Total Student Enrollment in Courses
<b>Number of Courses<sup>2</sup> Utilizing Continuous Improvement Strategies<sup>3</sup></b>	
<i>199</i>	Faculty review of student work during the course
<i>34</i>	Faculty evaluation of student performance in subsequent courses
<i>23</i>	Faculty review of student cohort in multiple courses
<i>90</i>	Faculty review of multiple sections of same course
<i>90</i>	Faculty review of student ratings items related to course outcomes
<i>41</i>	Faculty Course Assessment Report
<i>168</i>	Faculty review of midterm and final grade distribution
<i>115</i>	Department monitoring of DFW rates
<i>52</i>	<p>Other - <i>Examples of other continuous improvement strategies cited by departments:</i></p> <ul style="list-style-type: none"> <li>○ "All department undergraduate offerings are individually discussed at faculty meetings on a rotating schedule."</li> <li>○ "Meet with other faculty members who teach more advanced and related coursework to see if the students have a proficient understanding of foundational concepts."</li> <li>○ "We conduct mid-semester course feedback to ensure that student learning is meeting course objectives and adjust planned course activities as necessary."</li> <li>○ "Course objectives aligned with accreditation standards and learning objectives."</li> <li>○ "Compare course content with current research to make sure foundational concepts are being taught."</li> </ul>

<sup>1</sup> Legislation requires Regents Universities to report on continuous improvement in all courses with enrollment greater than 300 during 2013-14. Courses with enrollment greater than 200 are added to the reporting requirement during 2014-15, and courses with enrollment greater than 100 are added during 2015-16.

<sup>2</sup> Total number of strategies in use is greater than the total number of courses because many courses employ more than one continuous improvement strategy.

<sup>3</sup> The list of strategies identified for the Regents Summary may be extended as additional common strategies are identified by colleges and departments.

2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION

January 2016

**Examples** of ways that information collected through continuous improvement has been used to develop or improve courses include:

**Biochemistry (BIOC 3110)**

Biochemistry is taught as both a live-lecture and on-line course each year. To improve the educational experience of the on-line course, the instructors have been working with the Division of Continuing Education to implement computerized testing. **Trial exams** have been given and based on experience and **student feedback**, are being revised and expanded.

**College Expectations (CSI 1300)**

Each semester all new first-year students are required to take College Expectations, which is composed of three online components. The **content is reviewed by staff** in Student Health and Wellness, Academic Support and Retention, the Division of Student Life, the Academic Advising Center and University College to ensure that student learning meets course objectives and **aligns with requirements based on university policies**. As a result of these reviews, for the 2014-15 academic year the sexual violence component was adjusted to include training on bystander intervention. In addition, for the 2015-16 academic year the course will be further developed with several new components added to increase students' awareness of university expectations and help to initiate a successful transition to college.

**Engineering Fundamentals I: Statics (ENGR 2110)**

Statics is the third required course for all undergraduate engineering students. Approximately 400-500 students take it each year. It is offered in both semesters. Each year the course coordinator evaluates the course and prepares a Course Assessment Report (CAR) that is published for college use.

This course has made substantial changes in pedagogy in recent years, motivated by finding about student learning. For example, instructors deployed a **pretest** to assess student learning in prior courses, and successfully **used results to improve student recall of prior learning** and fill some gaps. Another example is based on one instructor's efforts to "**flip the classroom**." The instructor provided the basic information normally given during the lectures in a video made available to students prior to class, and class time is used for interactive problem-solving and application of information presented in the lecture. Initial assessment of student performance in this course has shown that this experiment did not negatively affect student learning. The method continues to be assessed with respect to improvements in student learning.

**English as a Second Language (multiple courses)**

ESL Programs has made significant changes to its curriculum to address the needs of the undergraduate international population. The Oral Skills class has been changed to provide more experience with small group discussions and formal academic presentations. An academic listening and note-taking class has been added. Greater articulation with the Rhetoric Program has been enhanced which has been mutually beneficial for evaluating student performance. The ESL program has done this by reviewing **student feedback**, student

2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION

January 2016

**performance in courses after ESL** courses such as Rhetoric, monitoring subsequent **grades earned** by students, and by testing student achievement.

**Professional Role II: Research (NURS 3460)**

In Fall 2014, **review of student learning in online sections** showed difficulty understanding content related to the statistics concept “level of measurement.” In Spring 2015, an assignment was added focusing on the level of measurement for various study variables. A trend of improved understanding of this concept is noted. The faculty will maintain or revise the assignment/content for this concept based on exam data.

In Fall 2014, **review of student learning in faced-to-face section** identified a weakness differentiating sample techniques frequently used in qualitative and quantitative research. In Spring 2015, an experienced qualitative researcher specifically addressed the different types of qualitative sampling strategies and the inappropriateness of “generalizable knowledge” as a goal in qualitative research. The sampling concepts were reinforced in subsequent lectures. The course content will be maintained or revised as necessary based on exam result.

2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION  
January 2016

**IOWA STATE UNIVERSITY**

Executive Summary

For academic year 2014-2015, Iowa Code Section 262.9(36) required that all undergraduate courses enrolling 200 or more students annually have continuous improvement plans implemented. At Iowa State University, 285 different courses enrolled more than 200 students. Those continuous improvement plans were therefore in place during AY14-15 with a focus on student achievement of outcomes, assessment strategies used, plans for improvement, and impact of their plans on student success. Both summative and formative assessment strategies were used in the improvement plans. The most frequent changes planned to improve student learning in the courses are: changing student learning experiences and activities, modifying class assignments, modifying the time spent on specific course content, and changing course delivery methods and pedagogy. These changes are consistent with the other improvement plans developed from the prior academic year's implementation of the continuous improvement strategy.

Findings

The survey instrument used in AY13-14 was again used for this year's data collection. The survey was completed by a single point of contact for each course, therefore establishing beneficial collaboration across multi-instructor courses. The results of the survey are shared with departments as a part of ISU's continuous improvement and course refinement process. The following two pages summarize the findings:

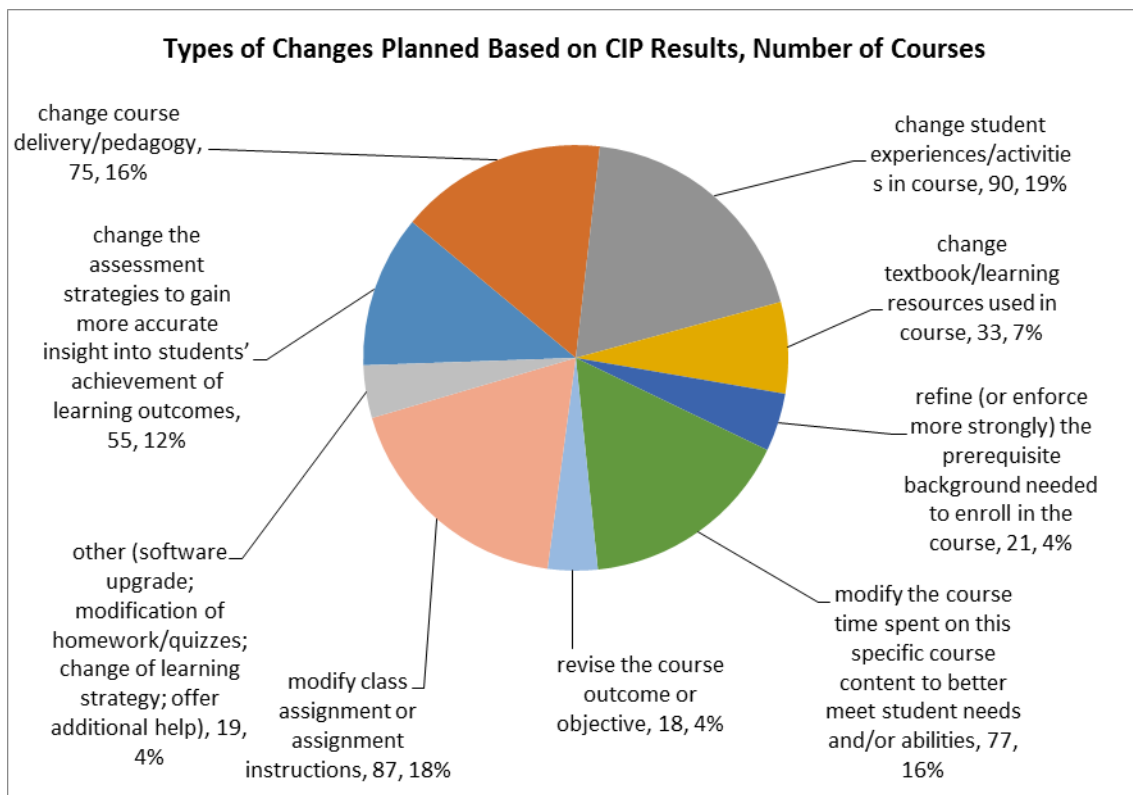
- Data on student enrollment in courses covered under the legislation,
- Data on the types of assessment approaches used within the continuous improvement plans,
- Data on the types of changes faculty are planning to make based on the results of the plans, and
- Examples of responses to the open-ended question related to the impact of the continuous improvement plans.

2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION

January 2016

**Summary of Continuous Improvement Plan (CIP) Impact Results**

<b>Continuous Improvement in Iowa State University courses</b>	
Report Date	August 2015
Report period	AY 2014-2015
<b>Number of courses, enrollment, and students</b>	
Total number of courses	285
Total student enrollment in courses	181,757
Number of unique students enrolled in courses	30,075
<b>Number of courses utilizing various continuous improvement assessment strategies</b>	
Faculty review of exam or quiz grades	229
Faculty review of scored term paper	50
Faculty review of juried exhibit or performance	5
Faculty review of student portfolio	11
Faculty review of presentation or project	88
Faculty review of licensure or standardized tests scores	5
Faculty review of student survey/evaluation of course outcomes	75
Faculty evaluation of student performance in subsequent courses	15
Faculty monitoring of course grades and D/F/W rates	114
Faculty discussions across multi-section courses	38
Formative assessments such as clicker and quizzes	221



2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION  
January 2016

### Examples of Impact

**Econ 301:** A prerequisite course has been refined as a result of the analysis from the continuous improvement plan, and that change made a positive impact. The instructors of *Intermediate Microeconomics* (Econ 301) assessed learning objectives through a series of questions on midterm and final exams. In the Fall 2014 semester, results were lower than desired, with the average score on the series of questions being 65% at the first midterm and 66% on the final. In other words, two-thirds of the students had mastered the material by the first midterm, and there was improvement for the students that did not know the material by the first exam. Upon investigation of contributing factors, the instructors learned that a prerequisite class was not teaching optimization methods and partial derivatives (key prerequisite content areas for Econ 301) as was expected. Students were therefore entering Econ 301 underprepared. For the spring 2015 semester, the Econ 301 instructors purposefully reviewed those methods in the labs and emphasized to students that they need to be comfortable with the expected prerequisites or they should take additional coursework to prepare. The same series of questions were evaluated in Spring 2015. Average scores over this material were 77% on the first midterm and 87.5% on the final, compared to 65% and 66% respectively from the previous semester, indicating a 10-point improvement in student achievement. In future semesters, faculty teaching the prerequisite course will more diligently cover the expected mathematical tools.

**EM 327:** Implementing the continuous improvement plan has encouraged faculty members to seek improved facilities for better student outcomes. For example, new equipment was introduced in the course *Mechanics of Materials Laboratory* (EM 327), and the results have been positive. The changes in equipment have made it easier for students to acquire and to analyze data. They also reduced and in some cases eliminated excessive time students had been spending overcoming equipment malfunctions. These changes resulted in higher levels of student understanding, and they allowed for adjustment in course goals and activities that lead to greater learning by reducing the amount of time students spend getting equipment to function properly.

**AGRON 154:** Through analysis in the continuous improvement plan, faculty teaching *Fundamentals of Soil Science* (Agronomy 154) implemented a new homework assignment policy to encourage students to keep up with homework assignments and stay engaged with the course through the entire semester, therefore developing the skills necessary to be successful. In previous years, students were allowed to earn makeup points that could be applied towards missed assignments. In 2013, 16% of the class took advantage of this old homework policy to avoid doing one or both of the last two homework assignments. Under a new homework policy implemented in 2014 (where the lowest score of the 10 homework assignments was dropped), only 8% of the students did not complete the last homework assignment – a 50% improvement from the previous percentage.



2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION

January 2016

**Focused Attention:** Across the university, one of the common impacts reported by faculty is that the use of structured continuous improvement plans and reporting requirements has encouraged them to constantly monitor student outcomes and make adjustment to improve student success. For instance, the instructor of Corporate Finance (FIN 310) gave more focus in the spring semester to a learning outcome where student success was lower than anticipated in the fall semester. Improvement in student achievement in the spring, compared with the fall, of that outcome was significant, increasing from 51% to 69%. Similarly, instructors of *Abnormal Psychology* (PSYCH 460) plan to add diagnostic case studies to exams or as additional assignments based on observation of students' learning process in class.

2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION  
January 2016

**UNIVERSITY OF NORTHERN IOWA**

**Executive Summary**

In compliance with Iowa Code §262.9(36), in Fall 2014 and Spring 2015, the Office of the Provost requested faculty who teach courses with annual enrollments of 200 or more to report on their processes of continuous improvement for their courses.

In addition to requesting information on the types of course-level assessments being implemented and the kinds of improvements made in response to what was learned from the assessments, the survey also requested information related to the ways in which learning outcomes were communicated to students. Data showed that 95% of the faculty responding to the survey included learning outcomes for their courses on the course syllabus. Learning outcomes were also communicated verbally (84%), on a course website or eLearning course web page (70%), and on separate handouts or student guides (50%).

When asked to respond regarding the types of changes they would make as a result of their assessments of student learning, faculty listed several factors that are identified in Table 1. These include: enhancing specific student experiences/activities, modifying time spent on specific course content to better prepare students, providing more guided, hands-on practice to improve learning, changing assessment strategies to gain more accurate insight into what students are learning, changing textbook/learning resources, and including more formative assessments earlier in the semester to better identify where students may be struggling.

**Methods**

Information for this report was gathered through a Qualtrics survey administered in March 2015. The survey was given to UNI faculty teaching courses enrolling 200 or more students in all sections during the 2014-2015 academic year. Faculty were invited to respond to the survey individually or in collaboration with other faculty teaching the same course.

In addition to the specific course examples provided for UNI, several themes appeared in the examples and are worth noting. First, faculty frequently mentioned their efforts to keep course materials up-to-date through the selection of up-to-date textbooks, supplementing texts with recent articles or web resources, and incorporating current issues and information into class lectures and student assignments. Second, faculty worked to increase hands-on learning in their courses by adding discussion and in-class activities, even in large lecture sections, and creating assignments that required students to apply the concepts they learned in class to real-life situations. Third, faculty regardless of discipline showed a desire to increase their students' writing and critical thinking skills. They worked to increase opportunities for writing and provided detailed feedback on student writing, along with specific instruction in writing skills appropriate to the discipline.

The Continuous Quality Improvement process has confirmed the university's belief in the value placed upon teaching at UNI and encouraged conversation among faculty as they share the goals and strategies that support their work in the classroom.

2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION  
January 2016

**Results**

Table 1 provides information on the types of assessment strategies used during 2014-2015. An overview of the types of course improvements undertaken by faculty and examples of assessments and related activities in selected courses is also included.

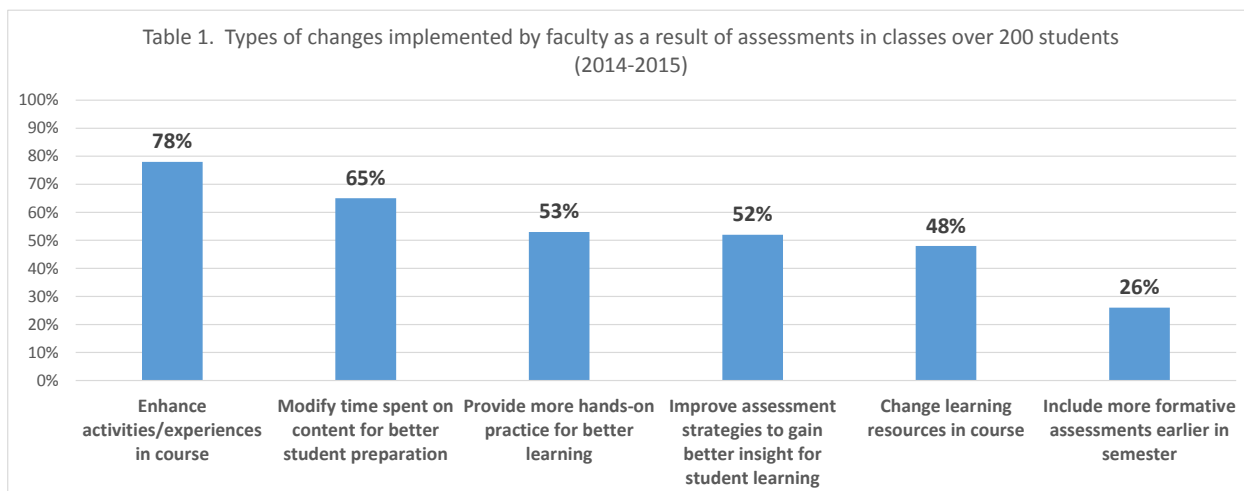
**Table 1: Department/College/University Summary Form**

<b>Continuous Improvement in University of Northern Iowa Courses</b>	
<i>August 2015</i>	Report Date
<i>Fall 2014 &amp; Spring 2015</i>	Report Period
<b>Number of Courses, Students Enrolled</b>	
98	Total Number of Courses Offered in both Fall & Spring with enrollment greater than 200
47,587	Total Student Enrollment in Courses
<b>Number of Courses<sup>4</sup> Utilizing Continuous Improvement Strategies</b>	
144	Locally-developed tests or quizzes
60	Faculty/professional assessed presentation or project
58	Faculty discussion of student performance across sections of course
56	Rubrics or evaluation sheet on some culminating project
50	Survey of student perceptions of their learning
34	Comparison of course syllabi across sections
29	Journaling about difficult topics
26	Pre- and post-tests
25	Peer-assessed presentation or project
20	Review of student portfolio
15	Student performance in subsequent courses
11	Clicker questions/polling
5	Field experience evaluation forms
3	Meeting of licensure requirements
37	Other responses include: <ul style="list-style-type: none"> <li>• Commercial program culminating exam</li> <li>• Written assignments, lab reports, and homework assignments</li> <li>• Class discussions and formative assessments</li> <li>• Simulation exercises</li> <li>• Student-led discussions; Reflection and discussion boards</li> </ul>

<sup>4</sup> Total number of strategies in use is greater than the total number of courses because many courses employ more than one continuous improvement strategy.

2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION  
January 2016

As part of the Qualtrics survey administered in March 2015 to faculty teaching courses serving 200 or more students per academic year, one question asked faculty what kinds of changes they were making as they gathered assessment information and worked on continuous improvement. The graph below summarizes their responses.



### Selected Examples of Assessment

The Qualtrics survey responses for the 2014-2015 academic year included many examples of the efforts made by faculty to keep their current and engaging and to support student learning. The examples below are just a very small sample of those provided.

#### Level One Field Experience: Exploring Teaching (TEACHING 2017)

The team of instructors for the Exploring Teaching course, which has over 500 students each year, has split the large course section (80-125) into smaller learning sections based on the elementary schools or secondary content areas where students are placed for the field experience requirements of the course. The small group sessions now include a microteaching assignment, with students planning and teaching to their peers a short lesson which they hope to teach later in their field experience classroom. As a result, all students have the opportunity to teach and to receive both peer and instructor feedback to improve their performance and planning. Level 2 instructors are already reporting that the students are now more prepared and confident in their teaching.

#### General Biology: Organismal Diversity (BIOL 2051)

Realizing that advanced in the field of biology are frequent, instructors monitor the primary literature and seek to incorporate into their courses material that has not yet been included in their textbooks. In addition, when topics are particularly timely, for example, the latest Ebola outbreak in Africa, such topics are often incorporated in the course to take advantage of the heightened awareness and increased level of student interest. The lecture textbook has also recently been switched to a publication that connects well with course learning outcomes and is available as a completed free pdf of the students.

2014-2015 ANNUAL REPORT ON COURSE-LEVEL COMPLIANCE WITH QUALITY  
IMPROVEMENT LEGISLATION

January 2016

**Introductory Seminar for Business Professionals (BUSINESS 1000)**

This class is the first-level course of three workshop-based, 0-credit professional readiness seminars required for all new business students. Weekly student evaluation and surveys from mentors are used to assess student learning and make course adjustments as needed. For example, students are paired with a businessperson to practice professional email and phone conversation skills taught during the course. This year, variance in students' skills in writing thank you emails to their mentors showed up in evaluations, so more emphasis on thank you letters will be included in course workshops during the coming year.

**Personal Wellness: Dimensions of Well-Being (HPELS 1059)**

As part of the Liberal Arts Core required for all undergraduate degrees at UNI, students are required to take one physical activity course and one Dimensions of Well-Being course. The Dimensions courses cover a variety of topics – e.g., Personal Fitness Plan Design, Stress and Coping, Motivation and Well-Being, Personal Nutrition Philosophy, and a variety of other topics. Faculty from the School of Health, Physical Education and Leisure Services worked together to design common learning outcomes, common assignments, and shared rubrics to assess student learning through evaluation of student work samples. This spring in an assessment retreat, faculty discussed the first year's implementation of the rubric and identified changes to increase its usefulness, as well as creating a checklist to share with students to help them enhance their writing skills.

**Religions of the World (RELS 1020)**

To determine the effect of technology on student learning, a faculty member is utilizing the Collaborative, Active Learning, Transformational (CAT) classroom. In CAT classrooms, technological tools are combined with face-to-face teaching, through use of a Smart Board, networked laptops at six-person tables, a wall monitor, and an instructor's station. The faculty member I engaged in a multi-year research project to compare learning in this Liberal Arts course for students in the CAT vs. a traditional classroom. The instructor is blind-reading all students' essay exams to see if the CAT classroom experience enhances the learning of students of comparable abilities (class year and GPA) and helps students sustain their learning over the semester.

**Developmental Psychology (PSYCH 2202)**

The instructor for this course strives for mastery learning through several strategies to increase student understanding of the material. First, chapter examinations have been put online to free up more class time for lectures, demonstrations, discussions and class activities. Second, students extend their learning outside of class by posting online blogs with links to articles and YouTube videos on topics relevant to the class. Third, if exam scores and blogs suggest a need for additional instruction on key topics, the instructor approaches the topics again with direct instruction or additional classroom discussion, demonstrations, or activities, and then re-tests to ensure that student grasp of the concepts has increased.