

## MyNursingLab educator study documents an increase in exam scores and final course grades at University of Nebraska Medical Center

<p><b>School name</b> University of Nebraska Medical Center, Scottsbluff, NE</p> <p><b>Course name</b> Patient Centered Care II</p> <p><b>Course format</b> Lecture, activity-based</p> <p><b>Course materials</b> MyNursingLab with <i>Nursing: A Concept-Based Approach to Learning</i>, Editors: Trakalo, Horowitz, and McCulloch</p>	<p><b>Timeframe</b> Spring 2014 and Spring 2015</p> <p><b>Educator</b> Susan Wilhelm, Assistant Professor and Assistant Dean Kim Rodehorst-Weber, Associate Professor</p> <p><b>Results reported by</b> Candace Cooney, Pearson Customer Outcomes Analytics Manager</p>
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### Key Findings

- Data for this course show an increase in average exam scores of four percentage points after implementation of MyNursingLab.
- Data indicate that after implementation of MyNursingLab, the percentage of students earning an A as a final grade for the course increased 12 percentage points, while the percentage of students earning a C declined 15 percentage points.
- Instructors report increased classroom engagement when MyNursingLab is used in the classroom as well as for formative assessments.

### Setting

University of Nebraska Medical Center is a public center of health sciences research, patient care, and education located in Omaha, NE, and one of the University of Nebraska's four campuses, enrolling approximately 3,800 students in Fall 2015. The University of Nebraska Medical Center College of Nursing-West Nebraska Division is located in Scottsbluff, NE, and was opened in the Fall of 1987 to prepare nurses for a Bachelor of Science or Master of Science in Nursing degree. The College of Nursing currently enrolls approximately 165 full-time nursing students and a total of 349 graduate nursing students. Almost 93 percent of students are female.

## About the Course

Both Susan Wilhelm and Kim Rodehorst-Weber have been teaching full-time for 35 years, and both have been at the University of Nebraska Medical Center for the past 30 years, where they teach multiple courses in the Nursing curriculum. Patient Centered Care II is a one-semester, four-credit course that is part of a four-semester sequence, enrolling approximately 36 students each cohort. The course also includes a three-credit clinical co-requisite and is required for students wishing to earn a Bachelor of Science in Nursing.

The course focuses on exemplars illustrative of the identified concepts using the life course perspective. Secondary prevention strategies to promote well-being for individuals, families and groups across the life course are also introduced. Students analyze selected nursing concepts and related research, focusing on primary and secondary prevention and the disease process. Collaboration with other health professionals to facilitate patient transition from illness to optimal health is emphasized.

Course competencies include:

- Integrating knowledge from prerequisite and concurrent courses to support clinical reasoning
- Analyzing evidence-based nursing care for patient-centered care across the life course
- Applying concepts from this course to support clinical reasoning for patients across the life course with disease, injury or disability with predictable outcomes and/or life transitions

## Challenges and Goals

A lack of student preparedness in lecture led Wilhelm and Rodehorst-Weber to search for a digital course companion that would encourage and compel their students to work independently with the course content prior to attending class. In order for their activity-based course to run efficiently, students had to take responsibility for learning outside the classroom so they could participate in and learn from the active-engagement work taking place inside the classroom. MyNursingLab offered Wilhelm and Rodehorst-Weber the opportunity to provide students with interactive assignments before lecture that led to increased engagement and deeper analysis in the classroom. They chose to pilot MyNursingLab in Fall 2014 with the intention of requiring it in Spring 2015.

## Implementation

MyNursingLab is required; the program is used by students both at home on a personal computer and in class where students also use their own computers. MyNursingLab is used to help students learn new concepts, for homework assignments prior to lecture, and for interactive activities in class. The goals for assigning work in MyNursingLab are to get students to read the textbook and use the various multimedia assets available to them, practice key concepts, as well as to help students assess their own understanding of the course material and track their progress. As course instructors, Wilhelm's and Rodehorst-Weber's role is to assign content, homework, and assessments in MyNursingLab, introduce new concepts in lecture, and provide opportunities to apply the students' clinical work to the course material through case studies, concept mapping, and other collaborative activities in class.

Wilhelm and Rodehorst-Weber teach a concept-based program; the content is grouped by concept rather than by body systems or individual courses. They take a deep dive on each concept only once

and then show students how the concepts are connected as they move through the curriculum; foundational material is reinforced via in-depth and active-learning activities that are built upon in subsequent courses. The last course is a synthesis course so only two new concepts are introduced at this stage. MyNursingLab is being introduced in several courses in the curriculum.

Student engagement activities in this course follow a structured weekly format; these active-learning activities take place both outside and inside the classroom. Students participate in the following individual and group activities:

- Reading the appropriate textbook chapters and completing the baseline MyNursingLab pre-test
- Remediating pre-test results in the MyNursingLab study plan
- Completing MyNursingLab post-test prior to attending lecture
- Participating in lecture strategies that include class discussion, case studies, video exercises, role playing, group discussions, simulations, projects, and other student-centered activities that enable students to apply their clinical experience to real-world applications
- Engaging in group assignments that include individual rapid assessment tools, such as 10-question quizzes where students work together to learn from and teach one another immediately following the delivery of new chapter content

The instructors expect students to spend at least 1–1.5 hours per week working in MyNursingLab. Students confirmed this on a Spring 2016 voluntary, end-of-semester survey (78% response rate)—54% of students spent one to two hours per week working in MyNursingLab and 36% of students spent two to four hours per week working in MyNursingLab.

Students complete one MyNursingLab assignment per week, consisting of a pre-test, remediation in the Study Plan, and a post-test, prior to attending lecture; the instructors modify these tests to include only the exemplars covered in class.

- Pre-test: Results of the pre-test give the student a baseline assessment of their knowledge and students have only one attempt at the 6–10 question pre-test, which consists of 4–5 Remember questions and 3–4 Apply questions; the test is not timed. Since the pre-test is a diagnostic assessment, the score is recorded in the gradebook but does not count as part of the final grade.
- Study Plan: Once the student completes the pre-test, MyNursingLab provides each student with an individual adaptive learning path (Study Plan), offering specific 'Remember' and 'Apply' assessments that help them focus on the learning outcomes they did not master in the pre-test.
- Post-test: After student remediation, they are required to take a similar post-test, also consisting of 6–10 Remember and Apply questions; students have unlimited attempts at completion, and must score at least 70% on the post-test to earn points. The post-test is scored as a completion assessment, so points are earned on an all-or-nothing basis.

As one student commented on the end-of-semester survey: "The pre-test gives you a good idea of the things you need to really focus on as you read, and the post-test was challenging enough to ensure you retained what you read." Additionally, student survey responses regarding the MyNursingLab assignments include:

- 89% of students agreed or strongly agreed that the pre-test in MyNursingLab helped them identify areas of chapter content that they did not completely understand.
- 96% of students agreed or strongly agreed that after completing the pre-test, the follow up Study Plan helped them focus only on the chapter material and learning objectives they had not yet mastered.
- 89% of students agreed or strongly agreed that the post-test in MyNursingLab gave them a clear understanding of how well they mastered and understood the chapter material.

The pre- and post-tests in MyNursingLab are due 12–24 hours before lecture; Wilhelm and Rodehorst-Weber will frequently use the gradebook to identify which concepts students seem to be struggling with. This enables them to alter their upcoming lecture content to focus attention on the material students need additional explanation and remediation on.

Exams comprise a variety of question types and often include real-world applications of the material; the questions are a combination of self-created questions and those selected from the Pearson test bank. Students have 60 minutes to complete each 50-minute exam that is administered through Blackboard.

### Assessment

- 60% Exams (four midterms and a comprehensive final)
- 30% Evidence-based projects and presentations
- 5% ATI Assessment (Assessment Technology Institute exam)
- 5% MyNursingLab

### Results and Data

A comparison of exam, final exam, and average exam grades before and after implementation of MyNursingLab indicates that exam scores improved (figure 1):

- Before MyNursingLab implementation, 3% of students earned an A on the final exam and 18% of students earned a B on the final exam.
- After MyNursingLab implementation, 17% of students earned an A on the final exam and 47% of students earned a B on the final exam.
- Final exam average increased by six percentage points.
- Average exam grade increased by four percentage points.

Data show that final course grades also improved appreciably (figure 2) after implementation of MyNursingLab, with the percentage of students earning an A increasing by 12 percentage points (from 11% to 23%) and the percentage of students earning a C decreasing by 15 percentage points (from 34% to 19%).

For students, the formative MyNursingLab assignments are intended to help them identify where they are in terms of successfully completing the summative exams. As a best practice, MyNursingLab assignment grades are intended to help Wilhelm and Rodehorst-Weber identify students early on who are struggling and might be in need of intervention.

**Average scores before and after implementation of MyNursingLab**

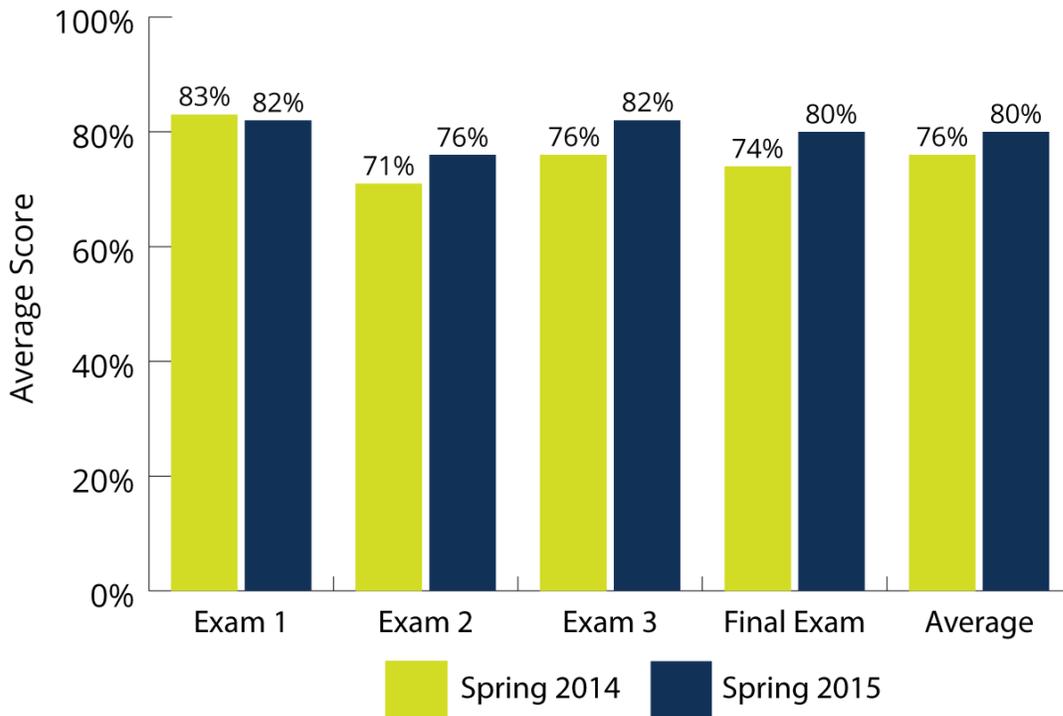


Figure 1. Exam, Final Exam and Average Exam Scores before and after Implementation of MyNursingLab, Spring 2014 (n=34) Spring 2015 (n=30)

**Final course letter grades before and after implementation of MyNursingLab**

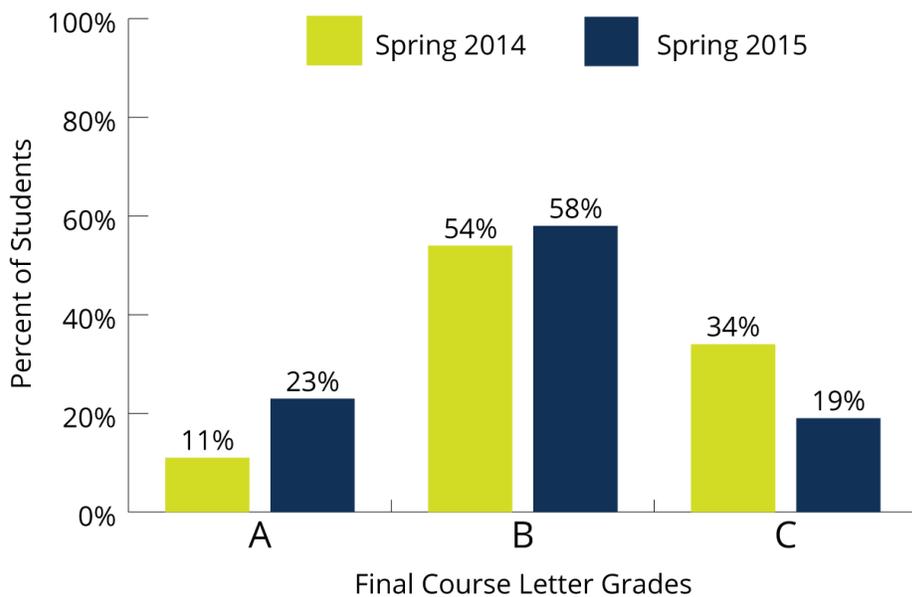


Figure 2. Final Course Letter Grades before and after Implementation of MyNursingLab, Spring 2014 (n=34) Spring 2015 (n=30)

## The Student Experience

Responses from a Spring 2016 end-of-semester, voluntary student survey (82% response rate) indicate that the majority of responding students recognize the value of MyNursingLab:

- 82% of students agree or strongly agree that MyNursingLab provided additional resources that helped them learn more than they would have from more traditional pencil and paper homework.
- 72% of students agree or strongly agree that the use of MyNursingLab positively impacted their quiz scores.
- 86% of students agree or strongly agree that their understanding of the course material increased as a result of using MyNursingLab.
- 79% of students agree or strongly agree that they would recommend MyNursingLab to another student taking this course.

Student survey responses to the question, “What did you like most about MyNursingLab?” include:

- “It helped me connect concepts learned in class to application based scenarios.”
- “I liked that it was an additional resource, it was extremely helpful. It is a better way of learning for me personally.”
- “I REALLY liked the review that it provides. The important information is right there for you instead of having to search through the whole Pearson textbook.”
- “I like how MyNursingLab gave feedback as to why the answers were or were not correct. This helped me to choose an answer and understand why that answer was correct.”

## Conclusion

In Wilhelm and Rodehorst-Weber’s active-learning environment, students engage in activities like case studies, concept mapping, role playing, simulations, group projects and other student-centered activities that promote analysis, synthesis and evaluation of class content, also empowering them to apply their clinical experience to real-world applications. Successful implementation of this format requires that students are ready to work in MyNursingLab immediately so they can prepare for the first weekly lecture. Following a Pearson best practice, the instructors have a required assignment due the first week of class; students are supported with a ‘how-to’ pdf, and then partnered so that more technically savvy students can assist other students needing more start-up guidance. This helps to ensure that all students are ready and working at the start of the semester.

“Start slowly,” cautions Wilhelm, “make things simple at first by using an ‘all-or-nothing’ scoring approach, for example. Use MyNursingLab in the classroom, too; this engages students and helps them connect the MyNursingLab assignments to the course content.” The instructors also advise that a new adopter of MyNursingLab should be careful assigning exemplars; too many can easily overwhelm and lead to less production overall. Wilhelm emphasizes that Pearson has many options for start-up support, technical help, and program assistance for both instructors and students; as a new adopter, Wilhelm says, “It is important to know that there is a system in place for encouragement and corroboration when it is needed.”