I am delighted to share our second E-Learning Impacts & Outcomes Report with you.
Since our inaugural report, E-Learning has become firmly established as an integral part of the educational culture and a vehicle for innovation on campus.

Our primary goal in designing the E-Learning Program was to increase student engagement and promote active learning and flipped classroom models that better fit the learning style of our millennial students.

In this report, you will read about the exponential increase in student engagement, with almost 6,000 students not only being the primary beneficiary of the modules, but also many of them now serving as co-creators of modules with faculty mentors.

Students have brought creativity, digital aptitude, and a unique understanding of learners’ needs, which have proven pivotal to the expansion of our impact.

Over 400 modules have now been created since the Program’s inception, with almost one-third of these being produced through the individual initiatives of faculty members. We also successfully launched the E-Gallery this year, making modules available on-demand to all of our students, irrespective of their location within the state, nation, or the world.

The modules have also promoted a burst of educational scholarly work, with faculty and students presenting at local, regional, and national meetings. Many presentations have led to national recognition, through either grant funding or special awards.

E-Learning has also opened up collaborative opportunities with other institutions including Mayo Clinic, George Washington University, and the University of Gitwe, Rwanda. Our instructional designers are now supporting major regionally and nationally funded grants and projects. Additionally, along with the University of Nebraska Online Worldwide, we hosted the OLC Collaborate conference focusing on online health science education.

None of this work would be possible without the strong efforts of our dedicated faculty, staff, and students.

I would especially like to thank all the members of the Interprofessional E-Learning Steering Committee, particularly the Co-Chairs, Peggy Moore and Dr. Betsy Becker. I also want to thank our excellent External Advisory Board Members, Dr. Brad Fenwick, Dr. Nick Lorenzo, and Ray Schroeder for their ongoing sage advice, and our skilled E-Learning Program Team including Peggy Moore, Megan Blusys, Ashley Hamernik, and April Elker.

Finally, the program has blossomed because of the leadership and strong support of Chancellor Jeffrey P. Gold, MD, and the support of all the Deans and Directors at UNMC.
PROGRAM OVERVIEW: Impacting faculty, students, and staff

Centralized Efforts Lead to Greater E-Learning Impact
Since its inception in 2013, the Interactive E-Learning Program centralizes UNMC’s e-learning efforts under the guidance of Academic Affairs. This centralization provides all the colleges with greater access to e-learning expertise and resources on campus.

Further, the E-Learning Program has become an integral part of the university’s strategic implementation of more interactive curricula utilizing technology to better fit the learning style of millennial students. By engaging learners through these interactive modules, we aim to increase their retention and higher order thinking, ideally leading to improved patient care.

Over the first four years of the Program, more than 70 projects have been completed by 323 participants through direct funding support from Academic Affairs. While the majority of faculty participants every year are new to the Program, there has been a consistent increase in the number of returning faculty — demonstrating those who do participate recognize the value it brings to their curriculum and the students’ learning experience.

Although there was a total of 73 projects funded over the course of all 6 initial cohorts, many teams created more than one module as part of their project. This demonstrates participants have a passion for e-learning and a drive to do more than what is expected or required.

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Participants by rank

- 1% of faculty participants hold a high-level rank, showing innovation is driven by experienced educators who have a rich understanding of the learning process.
- 5% of faculty participants hold other ranks.
- 21% of faculty participants hold instructor ranks.
- 36% of faculty participants hold assistant professor ranks.
- 18% of faculty participants hold professor ranks.
- 14% of faculty participants hold other ranks.
- 5% of faculty participants hold non-UNMC ranks.

Participants by college

- Allied Health: 59 participants
- Dentistry: 41 participants
- Graduate Studies: 31 participants
- Medicine: 134 participants
- Nursing: 66 participants
- Other: 12 participants
- Pharmacy: 13 participants
- Public Health: 3 participants
- 52% female driven

Although women are often severely underrepresented in the technical industry, they are the majority drivers of innovation in e-learning at UNMC.
The E-Learning Initiative encourages educators and students at UNMC to be creative and innovative in promoting independent and active learning in their education program. The modules have a positive impact on our students’ education and greatly complement our curriculum.

I’ve actually found the student program to be more valuable for me, as well as for the students. Working with the students has provided me with an opportunity to understand what they would like to see in the module, as well as how they would like to use them. It is great to see students take leadership roles, express innovative ideas, and make the modules more creative and interactive. I have also observed them realize the value of team work. Above all, the pride I see in each student’s eyes when they display their completed work, is priceless!

Maheswari Mukherjee, PhD, MS, BPT, CT (ASCP)
Faculty and Student Cohort Participant, College of Allied Health Professions

Students increase efficiency in faculty’s development time
Faculty who participated as advisors on student cohorts are able to leverage students’ creativity and technical aptitude, thereby increasing the faculty member’s own efficiency in time spent on e-module development. This highlights the benefits of the collaborative partnership between faculty advisors and student developers.

Instructional designers pivotal to faculty success
Access to instructional design support was one of the top benefits faculty derived from participating in the program. This demonstrates the growing need for instructional designers and technologists across campus and supports the growth of the E-Learning Program staff.

Faculty pleased with team dynamic
9 of 10 faculty were satisfied with the faculty-to-student interaction within their team on their project.

Reasons faculty participate
- Desire to enhance the curriculum
- Desire to develop e-learning skills
- Desire to work with students as e-learning developers

3 of 4 faculty would participate or be an advisor in another cohort.
PROGRAM OVERVIEW: Impacting faculty, students, and staff

5,717 total students impacted

70% of faculty participants strongly agree or agree learner assessments were positively impacted

81% of faculty participants report a positive impact in learner satisfaction

Innovation Continues Beyond the Funded Programs

Faculty and staff continue developing e-modules after their participation in the E-Learning Program ends, adhering to the quality and best-practices developed through participating in our early initiatives, which shows faculty recognize the value the e-modules bring to their courses and their students’ overall learning.

Ways modules are being utilized

- Assigned as prework in preparation for class
- Replaced lecture and used time for active learning
- Supplemental material or study aid

E-Gallery Offers Easy Access to Faculty, Students, and Staff

The E-Gallery, a collection of e-modules created through the Interactive E-Learning Program, launched in January 2017. Representatives from across campus spent more than a year researching and developing the proper platform to best deliver the content.

Through the E-Gallery, the E-Learning Program fulfills our goal of making our modules accessible to every student registered at UNMC, irrespective of their location in Nebraska or around the world.

- Access e-modules anytime, anywhere
- Available to all UNMC faculty, staff, and students
- 150 modules featured
- 26,618 page views since its launch in January 2017

To access the modules, go online to unmc.edu/egallery

As the College of Medicine implements a new curriculum, we are finding these modules to be a very effective way of introducing students to new concepts or to review previously covered material.

The projects are very valuable resources for individual and group study. Particularly impressive to me are student projects, which are unique in their ability to communicate vital information to other students.

I view the E-Gallery as a future ‘one stop’ educational center for students as the content is further developed and expanded.

Jay Moore, MD
Senior Associate Dean for Academic Affairs
College of Medicine

199 E-modules created through the program

211 E-modules created outside of program

TOTAL e-modules created

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Jay Moore, MD
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College of Medicine
RECOGNITION FOR INNOVATION IS EXPANDING

28% of faculty participants have earned awards, funding, or other recognition as a result of the modules. Additionally, faculty and students continue to expand their presence on a national level through presentations at conferences regarding e-learning.

Daniel Colonno
College of Medicine

Allison Dering-Anderson, PhPhd, RB
College of Pharmacy

Jennifer K. Kallio, DDS
College of Dentistry

Mary Lynn Froeschle, DDS, MBA
College of Dentistry

Sara Barres, MD
Uriel Sandkovsky, MD
College of Medicine

Betsy J. Becker, PT, DPT, CLT-LANA
College of Allied Health Professions

Sara Bills, PT, DPT, GCS
College of Allied Health Professions

Clay Chaperon, PhD, APPhn, GNP-BC
College of Nursing

Claudia Chaperon, PhD, APPhn, GNP-BC
College of Nursing

Charity Evans, MHCM, FACS
College of Medicine

$100,000 Comprehensive Geriatric Assessment Practice Interprofessional Education Grant from the National Center for Interprofessional Practice and Education

Funding from UNMC Department of Surgery to create a comprehensive online surgical curriculum

$100,000 Comprehensive Geriatric Assessment Practice Interprofessional Education Grant from the National Center for Interprofessional Practice and Education

The E-Learning Program at UNMC positively affected my professional growth. It connected me in ways I couldn’t have predicted, it’s relevant and a hot topic nationwide. It has led us to put UNMC College of Dentistry on the map and gain national recognition.

Jennifer K. Kallio, DDS

E-LEARNING IMPACTS & OUTCOMES REPORT 2017

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Jennifer K. Kallio, DDS
CLAUDIA CHAPERON, PhD, APRN, GNP-BC  
Student Cohort Faculty Advisor, College of Nursing

Many aspects of the educational modules we are providing through our Interprofessional Education Grant from the National Center rely on parallel principles with UNMC’s E-Learning Program. Since our UNMC module was also part of the educational grant, its contribution is always acknowledged in all of our reports and presentations, furthering the Program’s reputation.

The use of the module has been noticed by student participants and some faculty for use as a beginning for their own projects. In addition, students have approached me to gain permission to use the current complete module as a template for their project.

We plan to prepare another e-learning module for the IPE grant. The learning we have received on the previous funded E-Learning project will aid in this next training module. Many thanks to the E-Learning Program for offering this great opportunity for interprofessional education of students and community partners.
E-Learning Serves as a Catalyst for National and Global Collaborations

Training, Simulation, and Quarantine Center
The E-Learning Program was contracted to provide full-time instructional design consultation, support, and development of the e-learning training for federal personnel to complete prior to participating in immersive training and simulation training at UNMC iEXCEL.

Rwanda Medical Education Collaboration
Two cohorts of 13 UNMC students received training and utilized E-Learning Studio resources to develop e-modules, which are used by both UNMC and the University of Gitwe, Rwanda. The e-modules increase academic potential for both universities.

Nebraska Health Information Exchange Guide
The E-Learning Program developed “The HIE Guide: A provider’s guide to navigating the Health Information Exchange.” We also provided project management of scripting, audio and video recording, graphic design, VideoScribe creation, module design, and development for a video-based module.

Antimicrobial Stewardship in Long-Term Care Facilities
The E-Learning Program provided the recording and post-production editing of the educational videos for health care providers in long-term care facilities.

High-Level Biocontainment for Health Care Facilities — University of Nebraska
The E-Learning Program was contracted to provide instructional design consultation, VideoScribe creation, audio recording, and curriculum development support for this four-week, Coursera MODC.

Clinical Educator Enhanced Medical Education Track
Throughout the four-year EMET curriculum, students will utilize E-Learning resources to develop interactive e-modules. E-Learning will collaborate and teach EMET scholars on educational theory and best practices in instructional design when using technology for teaching and learning.

OLC Collaborate
The UNMC E-Learning Program hosted OLC Collaborate in June 2017, in collaboration with University of Nebraska Online Worldwide. This regional conference focused on solving challenges in online health science education.

- 115 registrants from 18 different institutions, including Mayo Clinic, George Washington University, University of Northern Colorado, University of North Texas, and Bay Path University
- 1st Innovation in Teaching with Technology Showcase at an OLC Collaborate event
- Content areas included technology and pedagogy, equity and access, education innovation, and education in 2027
- Keynote speakers included Paige McDonald, PhD, from George Washington University and Jorge M. Zuniga, PhD, from University of Nebraska Omaha

E-Learning has also played a collaborative role in supporting the following initiatives:

- Canvas Conversion
- Digital Initiative
- iEXCEL
- Master’s of Health Professions Teaching and Technology
- Teaching the Physicians of Tomorrow

The hard work that goes into creating an e-module cannot be underestimated. Yet faculty are not alone on this journey. As you explore new teaching ideas, integrating technology and pedagogical approaches for your curriculum, the Interactive E-Learning Program can help you navigate the best course for your students.

As a centralized resource for the campus, our staff is committed to providing support for faculty along each step of the development process, from strategizing on educational theory to instructional design and technology expertise.

Peggy Moore, MSEd
Director of E-Learning & Instructional Designer
Academic Affairs
Curricula Reach a New Peak in Active Learning Incorporation

Faculty members from four different colleges tackled the challenge of re-imagining how an existing course could be redesigned to include substantial active learning components. These two-year-long curricular redesign projects required extensive planning and development to incorporate a variety of e-learning, simulation, flipped classrooms, and blended learning into a course.

This curricular redesign will allow us to discover how learner experience changes with the incorporation of e-learning into the classroom environment.

Unique Aspects of Faculty Cohort 3

**Extensive curricular integration**

While earlier cohorts focused their projects on enhancing a specific topic in an individual course, Faculty Cohort 3 redesigned curricula to include substantial active learning components, which included a variety of e-learning, simulation, flipped classrooms, and blended learning.

**Additional development time**

Due to the complexity of incorporating active learning components into an entire curriculum, faculty were given an extended development time of two years (previous faculty cohorts completed projects in one year or less).

**Colleges matched funding**

The participating colleges committed matching funds to support the redesign of these courses. This is further testament to the growing support of e-learning across campus.

69 modules created

Even though the projects required a time investment that was more than expected, the majority of project directors are interested in or have already developed additional e-learning modules.

The curricular redesign project was a wonderful and challenging opportunity. We set out to create 13 modules based on organ systems. We quickly realized the number of case studies was too great to be limited to 13 e-modules and we needed to focus the material into 15 to 20 minute segments for optimal learning. Therefore, we redesigned to 53 e-modules to better meet our learners' needs. This change had a huge impact on the time of the study, but it created a much better and more diverse product.

The case study-based e-learning modules were the first of their kind at UNMC, and we continue to explore ways to expand their use, both internally and externally. We have also disseminated what we have learned about creating e-modules and their effect on our curriculum.
Simulation of Workplace Walkthroughs

> FACULTY DIRECTOR: Chandran Achutan, PhD, CIH
College of Public Health

> PROJECT MEMBER: Zachary Fowler, MS
University of Nebraska Omaha

In this project, common processes that occur in a manufacturing facility were animated. The purpose was to show students the processes, work practices, potential hazards experienced by workers, and ways to control these hazards. After experiencing the animation, students in the environmental and occupational discipline will be able to critically assess hazards in a workplace. This, in turn, will lead to better decisions on how to measure workplace exposures and eventually prevent workplace illnesses.

Case-Based Interdisciplinary Team Approach to Treatment Planning

> FACULTY DIRECTOR: Mary Lynn Frosche, DDS, MBA
College of Dentistry

> PROJECT MEMBERS: 
  Joan Sivers, DDS
  Myhanh Phan-Rinne, DDS
  Gwen Hlava, RDH, MS
  Sheela Premaraj, DDS, PhD

Diagnosis and treatment planning skills are a necessary foundation for successful dental care. Utilizing a multi-disciplinary approach along with the best available evidence is paramount for optimal outcomes in general dentistry practices. Case-based e-learning modules are used to emphasize these concepts as well as to enhance comprehension and retention of didactic principles. Students discuss their findings in a blended classroom setting to better prepare them for live patients in the clinic.

Case Study-Based E-Learning Modules Utilizing the Anatomage Virtual Dissection Table and InVivo5 Software: Is It Effective in the Blended Learning Environment?

> FACULTY DIRECTOR: Kimberly Michael, MA, RT(R), RDMS, RVT, FSDMS
College of Allied Health Professions

> PROJECT MEMBER: Tanya Custer, MS, RT(R)(T)

A combination of a virtual dissection table, unique case studies, and interactive radiology images provided the foundation for creating 53 modules. The goal was to use case study-based pedagogy to provide a comprehensive means to review anatomy, teach pathology, and improve critical thinking for health professions students.

Since 2013, I have witnessed the incredible energy and commitment of the institution to building a world-class e-learning education system and the willingness to embrace risk and change to create many groundbreaking learning modules. In addition, the enthusiasm of multiple UNMC groups has also been marshaled in this process to temper or even eliminate siloing of efforts that can be a chronic and persistent problem in the academic setting.

The sky is the limit with regard to future opportunities for the E-Learning Program!
Students Bring Energy, Creativity, and Technology Aptitude

There has always been a high level of interest in e-learning among students. The first student cohort included 21 student innovators — but Student Cohort 2 almost doubled participation with 40 student innovators. This increase shows students desired a more active role in enhancing the curriculum. Therefore, in Cohort 2, students took the lead in project development while faculty provided assistance as needed. Following the conclusion of Student Cohort 2, we uncovered an opportunity for improved curricular integration and development, which was implemented in following cohorts.

Unique Aspects of Student Cohort 2

Multi-campus, large student cohort

The second student cohort was also the largest, and the first multi-campus student group, with participants on both the Omaha and Lincoln campuses.

Instructional designer collaboration

The E-Learning Program collaborated with instructional designers across campus to ensure each student team had additional e-learning design support.

Stipend is of limited importance

40% of students report receiving a stipend played limited to no role in their decision to participate — showing their desire to develop is not tied to monetary gain.

Reasons students participated

- Desire to contribute to curriculum
- Desire to improve curriculum
- Desire to develop e-learning skills

95% of student developers report an improved mastery of the project topic.

As part of one of the earlier and largest student cohorts to participate in the program, I think we helped foster a culture of involving students in developing learning technologies across campus, both through the e-learning student program and otherwise.

Student developers are, unsurprisingly, primarily learners. We bring a very realistic view on what a learner can derive from a module. Additionally, students are often the most fluent digital users, which gives us a critical eye for the functionality of the module. These two things together enable us to develop modules in areas we know to be difficult to learn and then execute the production of those modules at the highest professional level.

Daniel Cloonan

Former Student Senate President and UNMC Student Regent

College of Medicine, Class of 2018
Taking an active role in enhancing the curriculum

STUDENT COHORT 2:

Introduction to Psychiatry
> STUDENT PARTICIPANT: Shinnyi Chou
> FACULTY ADVISOR: Dr. David McMillan

A Clean Getaway: Scrub Technique and Operating Room Etiquette
> STUDENT PARTICIPANTS: Daniel Cloonan, Andrew Hollins
> FACULTY ADVISOR: Dr. Lisa L. Schitzkus

Rapid On-Site Evaluation (ROE) of FNA Specimens in Cytology
> STUDENT PARTICIPANTS: Haleigh Delavan, Jordan Hopkins, Sarah Hove
> FACULTY ADVISORS: Dr. Amber Donnelly, Dr. Maheswar Mukherjee

The Glycolysis Module
> STUDENT PARTICIPANTS: Joseph M. Pachunka, Shannon K. Haines
> FACULTY ADVISOR: Dr. Justin Mott

Symptom Management at the End of Life
> STUDENT PARTICIPANTS: Shana Peper, Dr. John Anderson
> FACULTY ADVISORS: Dr. Andrew Moellering, Dr. Sarah Richards

Cardiac Function as Described by the Pressure-Volume Loop
> STUDENT PARTICIPANTS: Adam Kohle, Richard Poppe
> FACULTY ADVISOR: Dr. George J. Rozanski

Hepatic Vascular Anatomy with Pathologic and Clinical Correlation
> STUDENT PARTICIPANT: Joe Marion
> FACULTY ADVISOR: Dr. Christopher Varga

EKGs: An Introduction to Normal EKGs
> STUDENT PARTICIPANT: Dr. Cory Rohlfson
> FACULTY ADVISOR: Dr. David O’Dee

Peri-Operative Evaluation: A Primary Care Clinicians Guide to Evidence-Based Care
> STUDENT PARTICIPANT: Dr. Cory Rohlfson
> FACULTY ADVISORS: Dr. Chad Vokoun, Dr. Jason Shiffmiller

Telecytology
> STUDENT PARTICIPANTS: Ibrahim Saad, Andrew Johnig
> FACULTY ADVISORS: Dr. Maheswar Mukherjee, Dr. Amber Donnelly

Good Vibrations: Interpretation of Fremitus and Percussion in a Chest Examination
> STUDENT PARTICIPANTS: Jamie Straube, Jana Mizer
> FACULTY ADVISOR: Dr. Sara Bils

Clinical Management of Common Medical Problems: Treating Diabetes, Dyslipidemia, and Hypertension
> STUDENT PARTICIPANTS: Dr. Lance Vilenneuve, Michael Visenio
> FACULTY ADVISOR: Dr. Audrey Pauman

Connecting the Dots: Online Case-Based Modules Integrating Basic Disease Processes
> STUDENT PARTICIPANTS: Anthony White, Carl Post, Ethan Schneider
> FACULTY ADVISOR: Dr. Geoffrey A. Talmon

View the modules at unmc.edu/gallery
Predetermined Topics Ensure Greater Utilization and Impact

Where the first two student cohorts acted autonomously — choosing their topic and faculty advisor based on their interests — the third cohort had pre-identified content areas and advisors. The goal was to create content that more strategically supported curricular programs with an interdisciplinary focus, allowing for broader reach than previous cohorts.

The modules will all be implemented in courses impacting multiple disciplines, and they are scheduled to be utilized within the upcoming academic year. However, predetermining challenging topics with a specific focus impacted student application response for the program.

Unique Aspects of Student Cohort 3

Predetermined topics and faculty advisors
Three areas (biology of disease, pharmacology, and pathophysiology) were identified by faculty as challenging, interprofessional topics students found difficult to master. Faculty had also agreed ahead of time to participate.

Student consultants from past cohorts offer insights
Students from previous cohorts offered advice at the beginning and/or throughout the project.

E-Learning Studio resources utilized
95% of the projects were created with resources provided through the E-Learning Studio, including in-lab equipment, software, the audio recording room, and checkout equipment.

Reasons students participated
- Desire to contribute to curriculum
- Interest in working with a faculty advisory
- Desire to improve curriculum

TOP 3

- 68% of the project leaders report time spent on the project was expected or less than expected (compared to 34% from Cohort 2). This could be due in part to the guidance of the past cohort collaborators.

David McMillan, PhD
Faculty and Student Cohort Participant, College of Medicine

The last cohort of student projects had topics that were well chosen and filled a need for supplemental material that reinforced what was presented in lecture.

I’m a big proponent in student-driven modules because students are much more creative than I am, and they have a better idea about how to explain things from a student perspective. I also think the opportunity for students to create these modules gives them something impressive to add to their applications for residency.

Some of the reasons why I choose to continue to participate in the e-learning program are because I like working with students and because they create content I’m not able to create on my own. It is a win-win!
STUDENT COHORT 3: Strategic focus for ensured curricular integration

Effects of Acid-Base Status on Drugs Distribution
> STUDENT MEMBERS: Bobby Barnes, Thomas Enke
  College of Medicine
> STUDENT CONSULTANTS: Dr. Cory Rohlfson, Michael Visenio
  College of Medicine
> FACULTY ADVISOR: Dr. David McMillan
  College of Medicine

The Mechanics of Breathing in Obstructive and Restrictive Diseases
> STUDENT MEMBERS: Kendra Frantz, Audreas Aguilar
  College of Allied Health Professions
> STUDENT CONSULTANTS: Shinnyi Chou, Austin Svec
  College of Medicine
> FACULTY ADVISOR: Dr. Sara Bills
  College of Allied Health Professions

Overview of the Immune System
> STUDENT MEMBERS: Matthew Knosek, Alexander Meckelburg, Blake Rose
  College of Allied Health Professions
> STUDENT CONSULTANTS: Daniel Cloonan
  College of Medicine
  Rajvi Wani
  College of Public Health
> FACULTY ADVISORS: Dr. Geoffrey Thiele
  College of Medicine
  Dr. Maheswari Mukherjee, Dr. Amber Donnelly
  College of Allied Health Professions

Thyroid Droid
> STUDENT MEMBERS: Adam Kaftan, Jacob Franklin, Mitch Nohner
  College of Medicine
> STUDENT CONSULTANTS: Daniel Cloonan, Dr. Cory Rohlfson
  College of Medicine
> FACULTY ADVISORS: Dr. John J. Baker
  College of Medicine
  Dr. Maheswari Mukherjee, Dr. Amber Donnelly
  College of Allied Health Professions

The Sugar-Coated Truth of Diabetes
> STUDENT MEMBERS: Amanda Lauer, Jennifer Lauer, Alyssa Zumpe
  College of Allied Health Professions
> STUDENT CONSULTANTS: Caitlin Fee, Austin Svec
  College of Medicine
> FACULTY ADVISOR: Dr. Joyce Black
  College of Nursing

Beating Cancer for Biology of Disease
> STUDENT MEMBERS: Britney Peterson, Justin Schiess, Halle Swann
  College of Allied Health Professions
> STUDENT CONSULTANTS: Shinnyi Chou, Daniel Cloonan
  College of Medicine
  Morgan Leder
  College of Allied Health Professions
> FACULTY ADVISORS: Dr. John J. Baker, Dr. James Newland
  College of Medicine

Antibiotic Resistance in Transitional Care
> STUDENT MEMBERS: Paige Poppo, Tim Baack, Paula Schaefer
  Graduate School, College of Nursing
> STUDENT CONSULTANTS: Shinnyi Chou, Caitlin Fee
  College of Medicine
> FACULTY ADVISORS: Dr. Claudia Chapron, Dr. Jessica Nelson
  College of Nursing
  Dr. Dean S. Collier
  College of Pharmacy
  Dr. Trevor Van Schooneveld
  College of Medicine

Drugs of the Autonomic Nervous System
> STUDENT MEMBERS: Aaron Prihuck, Maria Podariu, Valery Tran
  College of Medicine
> STUDENT CONSULTANTS: Michael Visenio
  College of Medicine
  Rajvi Wani
  College of Public Health
> FACULTY ADVISOR: Dr. David McMillan
  College of Medicine

Cardiac Supply and Demand
> STUDENT MEMBERS: Samantha Salerno, Anna Calgaard, Kristine Polacek, Elizabeth Damman, Naleigh Frandsen
  College of Allied Health Professions
> STUDENT CONSULTANTS: Caitlin Fee, Austin Svec
  College of Medicine
> FACULTY ADVISOR: Dr. Sara Bills
  College of Allied Health Professions

View the modules at unmc.edu/egallery
Assessment and Scholarship Take an Active Role Going Forward

The Interactive E-Learning Program has taken a very active role in assisting developers initially with their project innovation and then ensuring implementation. Now, we are expanding our focus to encompass the third aspect of creation — scholarship.

To support the next cohort in their scholarship endeavors, the E-Learning Program has partnered with Interprofessional Academy of Educators research scholars and College of Public Health statisticians to ensure projects are designed from the start with proper research questions and outcome measures to help facilitate future dissemination.

Our seventh cohort is a collaborative partnership between faculty and students. Faculty will lead the projects with the commitment to incorporate the e-modules into their courses and consult with students to generate creative ideas. In turn, students will offer engagement options and content development skills. The seventh cohort, therefore, combines the implementation success from faculty cohorts with the passion from the student cohorts.

Our research team studied the effectiveness of e-learning modules to supplement traditional instruction for range of motion (ROM) examination, a clinical examination skill required for students. The modules were developed in collaboration with students and include videos and interactive quizzing with immediate feedback.

Our results show the positive impact e-learning has on both faculty and students, including high student satisfaction with the modules, an increase in first-time skills assessments pass rates, a decrease in faculty time needed to remediate students, and improvements in student confidence with ROM skill performance. As we get close to publishing, I am again reminded of the reasons why it is so vital to properly design an educational study and assess the outcomes from implementing the modules into curriculum, especially when the results prove highly impactful.

Betsy J. Becker, PT, DPT, CLT-LANA
Faculty and Student Cohort Participant, E-Learning Steering Committee Co-Chair
College of Allied Health Professions
## Interprofessional Steering Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betsy J. Becker</td>
<td>Assistant Professor, College of Allied Health Professions</td>
</tr>
<tr>
<td>Peggy Moore</td>
<td>Director of E-Learning &amp; Instructional Designer, College of Public Health</td>
</tr>
<tr>
<td>Christine M. Arcari</td>
<td>Associate Dean for Academic and Student Affairs, &amp; Associate Professor, College of Public Health</td>
</tr>
<tr>
<td>David G. Brown</td>
<td>Executive Associate Dean for Academic Affairs, College of Dentistry</td>
</tr>
<tr>
<td>TANNER CLARK</td>
<td>Student Senate, College of Public Health</td>
</tr>
<tr>
<td>Melissa A. Diers</td>
<td>Senior Instructional Designer, Information Technology Services</td>
</tr>
<tr>
<td>William Glass</td>
<td>Director, Visualization and Technology (iEXCEL)</td>
</tr>
</tbody>
</table>

## External Advisory Board

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAD FENWICK</td>
<td>DVM, PhD, Senior Vice President for Global Strategic Alliances at Elsevier</td>
</tr>
<tr>
<td>NICHOLAS LORENZO</td>
<td>MD, MHCM, CPE, Founder, CEO, and Chief Medical Officer of PHLT Consultants, Chief Medical Officer at MeMD Inc.</td>
</tr>
<tr>
<td>RAY SCHROEDER</td>
<td>Associate Vice Chancellor for Online Learning at the University of Illinois, Springfield</td>
</tr>
</tbody>
</table>

## Interactive E-Learning Program Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. DELE DAVIES</td>
<td>MD, MS, MHCM, Senior Vice Chancellor for Academic Affairs</td>
</tr>
<tr>
<td>PEGGY MOORE</td>
<td>MSEd, Director of E-Learning &amp; Instructional Designer</td>
</tr>
<tr>
<td>MEGAN BUSYS</td>
<td>Communications &amp; Media Coordinator (publication writer and designer)</td>
</tr>
<tr>
<td>ASHLEY HAMERNIK</td>
<td>E-Learning Instructional Technologist II</td>
</tr>
<tr>
<td>APRIL ELKER</td>
<td>REDCap data collection director</td>
</tr>
</tbody>
</table>

Seventy-three e-learning projects have been funded. In a survey sent to faculty representatives from each project, 43 individuals responded (61.4% response rate). Implementation and impact data does not include massive open online course (MOOC) results from Faculty Cohort 1; learners were not identified as unique or repeat.

E-Learning Program study data was collected and managed using REDCap electronic data capture tools hosted at UNMC. REDCap (Research Electronic Data Capture) is a secure, web-based application designed to support data capture for research studies, providing 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources.

The E-Learning Program is your partner for digital education. We provide expertise and strategies in educational theory and instructional design to assist you in enhancing your teaching.

**Peggy Moore, MSEd**
Director of E-Learning & Instructional Designer
Academic Affairs

unmc.edu/elearning