Practical Tools for Providing High-Quality and Engaging Online Education

By:
Patricia Davidson DCN, RDN, CDCES, LDN, FAND, CHSE
Kristen Hicks-Roof PhD, RDN, LDN, CLC, FAND
Learning Objectives

∙ Upon completion, participant will be able to understand the value and effectiveness of high-quality online nutrition education content on student learning outcomes.

∙ Upon completion, participant will be able to compose high-quality and accessible online nutrition education content.

∙ Upon completion, participant will be able to articulate strategies to create competency-based instructional materials and modalities.
Evolution of Online Learning

- **late 1800's**: Snail mail correspondence education
- **1920's to 1980's**: Radio and television broadcasts
- **1990's**: Recorded and live-streamed broadcasts via computers
- **early 2000's**: Online collaborative and interactive learning
- **2018**: Nearly 35% of all university students in the US have been enrolled in at least one online course (NCES)
Value of Online Education

- Access
- Physical separation ≠ digital separation
- Flexible learning
- Wider array of learning options
- Consistent curriculum
- Cost-effective

Benefits of High-Quality Course Design

Easy course navigation (Rios et al., 2018)

Greater student-faculty and student-student interactions (Zhang et al., 2020; Roddy et al., 2017)

Increased quality and consistency of course development and delivery (Budden et al., 2013)

Better course evaluations in areas across the board (FIU, 2021)
Blending with Purpose: The Multimodal Model

Meeting the needs of diverse audiences

Integrated community of learning with rich interactions
ELEMENTS OF DESIGN
Poll
Important Elements of Online Course Design

- Involve the Learner
- Involved Instructor
- Consider Collaboration
- Develop a clear and consistent structure
- Alignment
- Choosing the best tools
- Pedagogy vs Technology promotes the content development
- Reflect and Revise
Remember the Interdependent Relationship of Course Components

- Course Elements: Objectives, Activities, Assessment
- Alignment is Imperative
- Lack of alignment can affect a student’s ability to be successful in the module and ultimately, the course.
Course Design, Planning, and Alignment

- Initial Planning Phase
- Alignment
  - Discipline/Program learning outcomes
  - CRDNS, KRDNS
  - Activities
  - Assessments
- Course Launch Timeline
- Course launch Checklist
How would you create a sense of community in a competency based learning environment?
## Setting Your Students Up For Success: Assessment and Feedback

<table>
<thead>
<tr>
<th>Type of Assessment</th>
<th>Alignment</th>
<th>Feedback</th>
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</table>
| Formative - ongoing, student development | Most important step  
Lack of alignment can decrease student motivation and success | Specific  
Constructive/purposeful/balanced  
Frequency, timeframe  
Visual vs verbal  
Using Tools wisely |
Creating a Logical Sequence

• Alignment
• Setting up sequential activities
• Scaffolding the learning activities:
  • Read a peer review guide which includes suggestions and tips
  • Complete a mock peer review manuscript and complete worksheet with guiding questions
  • Peer review a classmate’s thesis paper

Backwards Design Instructional Model

Outcomes
What will the students know and be able to do?

Assessment
How will you check that they have learned and can do?

Evidence

The Learning
Which learning activities will lead to the desired outcomes?

Experience
# Blueprint: Course Map

## Considerations:
- Simplicity
- Consistency
- Clear and Intuitive
- Accessibility
- Course Mapping

## Course Learning Objectives

1. 
2. 
3. 

<table>
<thead>
<tr>
<th>Module</th>
<th>Module Objectives (CLO alignment)</th>
<th>Learning Materials</th>
<th>Activities</th>
<th>KRDN CRDN</th>
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Learning 
Management 
System Examples
2021 Fall-NTD615-90: Nut & Disease, Evid. Based App

Announcements

Weekly Modules

Getting Started

Week 1: Module 1 - Evidence Based Practice and Dietary Guidelines for Americans
Week 2: Module 1 (continued) - Pathogenesis/Epidemiology and Malnutrition
Week 3: Module 2 Metabolic Syndrome and Pre-diabetes
Week 4: Module 3 - Diabetes and Nutrition and Inflammatory Gut
Week 5 & 6: Module 4 - Inflammation and Cardiovascular Disease

Muddy Questions

Questions?
This is an open forum for questions you may have regarding the course, information of the week or to post articles of interest that you would like to share with the class. This forum you may post it anonymously as well.

Muddy Questions

About Your Professor
Welcome to Nutrition Education and Counseling

In this course, students will examine different approaches to nutrition education and develop educational materials and presentations. As part of the course, you will conduct and critique interviewing and counseling sessions to persons with different nutrition needs and evaluate follow-up and evaluation techniques.

Prerequisites: HUN3601 or undergraduate foundation or theories course, nutrition counseling course, or instructor approval.

COURSE OBJECTIVES

Upon completion of the course, you should be able to:

1. Describe and apply health behaviors theories to nutrition education. (CRDN 1.2, 1.4)
2. Critically analyze nutrition education research and practices (CRDN 1.4)
3. Analyze nutrition messages across media platforms. (CRDN 1.4, 1.6, 3.8)
4. Construct nutrition educational offerings and presentation. (CRDN 2.2, 2.3, 2.4)
How do you define competency-based education?
Why Experiential Experiences are Important

- Critical for professional development
- Readiness for the workforce
- Extracurricular experiential learning impacts meeting competencies

But do they have to be in person?

Hicks-Roof K, Ninya L. The Role Nutrition and Dietetics Faculty Play in Providing Experiential learning Opportunities Amid the Pandemic. *Journal of Family and Consumer Sciences* 2022; 114(1), 44-47.
# Virtual Experiential Learning

<table>
<thead>
<tr>
<th></th>
<th>Student Needs</th>
<th>Faculty Role</th>
<th>Resources</th>
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<tbody>
<tr>
<td>01</td>
<td><strong>Volunteering</strong></td>
<td><strong>Connect with professions</strong></td>
<td><strong>Local</strong></td>
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<tr>
<td></td>
<td><strong>Mentorship</strong></td>
<td><strong>Design research or connect to project opportunities</strong></td>
<td><strong>Regional</strong></td>
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<td></td>
<td><strong>Research</strong></td>
<td><strong>Peer to Peer or Peer to Provider</strong></td>
<td><strong>National</strong></td>
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<td></td>
<td><strong>Work experience</strong></td>
<td><strong>Determine Modality</strong></td>
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- Volunteering
- Mentorship
- Research
- Work experience
- Connect with professions
- Design research or connect to project opportunities
- Peer to Peer or Peer to Provider
- Determine Modality
- Local
- Regional
- National
Foundation: Objectives and Outcomes

- Bloom’s taxonomy – level of the learner
- SMART vs. ABC Model
- Formative vs. Summative
- Fit for curriculum
- Meeting the competency

Photo credit: https://www.thoughtco.com/blooms-taxonomy-the-incredible-teaching-tool-2081869
Modality

- Case Studies
- Table Simulations
- Virtual Simulations
- Standardized Patients
- Interprofessional Education
Virtual Simulations

- Platform Utilized: MedicActiV
Telehealth Training

- Simulation for DE
- Zoom or MS Teams conferencing software
- SP play the role of patient – education/counseling/assessment
- IPE case meetings
TeamSTEPSS

- Why use TeamSTEPPS
  - Team vs Group
- Cross-listed IPE Simulation
  - Gen ed course
  - Structure
  - Telehealth Zoom Simulations
- Key skills
- Simulation Outline -1 hour
  - Pre-brief-questions
  - Simulation-10 Sim, Debrief 20
  - Team Debrief

Photo credit: https://www.ahrq.gov/teamstepps/instructor/essentials/pocketguide.html
# Rubric Strategy

<table>
<thead>
<tr>
<th></th>
<th>2 COMPETENT</th>
<th>1 DEVELOPING</th>
<th>0 MINIMAL</th>
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</thead>
<tbody>
<tr>
<td><strong>Preparation</strong></td>
<td>Student was fully prepared. Demonstrated the following: referred to notes and content in the D2L course</td>
<td>Student was somewhat prepared. Demonstrated one of the following: referred to notes or content in the D2L course</td>
<td>Student was not prepared. Did not refer to notes and content in the D2L course.</td>
</tr>
<tr>
<td><strong>Participation</strong></td>
<td>Student was actively participating in the discussion as evidenced by the following: offered more than 5 comments, comment.</td>
<td>Student was somewhat participating as evidenced by the following: offered less than 5 comments related to the topic, comment.</td>
<td>Student was not participating by offering only 1 comment, asking no questions, and not encouraging others to comment.</td>
</tr>
<tr>
<td><strong>Respectful Oral</strong></td>
<td>Frequently communicated with others in a confident, assertive, and respectful manner.</td>
<td>Occasionally communicated with others in a confident, assertive, and respectful manner.</td>
<td>Communicated with others in a disrespectful manner.</td>
</tr>
</tbody>
</table>
Animation & Quizzing

- Popular strategy to teach complex concepts; active engagement

- Many are readily available (YouTube, TedEd)

- Examples: Quizlet, StudyBlue, Anki, Brainscape, Kahoot, Gimkit, Poll everywhere

https://edpuzzle.com/
Padlet or Flipgrid

- Brainstorming and active participation
- Live question bank
- Mind-mapping
- Open-ended discussions
- Testing Knowledge
- Current events

https://www.jenniferfleury.com/padlet-a-digital-corkboard/
eLearning Additions

- Social media integration
- Gamification
  - Action → Feedback → Motivation → Goal → Repeat
  - Example: Everfi

Cutting Edge Virtual Technologies

- VR/AR immersive learning
  - Google cardboard
- Frame Virtual World
- OpenSim
- Second Life

[Link to Google Cardboard paper virtual reality set now supports Street View app](https://geoawesomeness.com/google-cardboard-paper-virtual-reality-set-now-supports-street-view-app/)
Use of Technology in Online Education

- Virtual Simulation

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<tr>
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<th>Scope/Focus</th>
<th>Licensing</th>
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<tr>
<td>Virtual Healthcare</td>
<td>Nursing</td>
<td>Free</td>
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<tr>
<td>Experience</td>
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<tr>
<td>OpenLabyrinth</td>
<td>Multiple Professions</td>
<td>Open Source</td>
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<tr>
<td>Stilwell Canada</td>
<td>Interprofessional</td>
<td>Academic</td>
</tr>
<tr>
<td>Breakaway Games</td>
<td>Multiple Professions</td>
<td>Commercial</td>
</tr>
<tr>
<td>Practical Clinical Skills</td>
<td>Multiple Professions</td>
<td>Free</td>
</tr>
<tr>
<td>USC Standard Patient</td>
<td>Multiple Professions</td>
<td>Free</td>
</tr>
<tr>
<td>SimulationIQ</td>
<td>Interprofessional</td>
<td>Commercial</td>
</tr>
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https://www.sim-one.ca/content/virtual-simulations-virtual-patients
Best Practices for Developing Online Education

- Work with an instructional designer (if possible)
- Use a variety of summative and formative assessment tools
- Try new things and collect informal feedback
- Design, accessibility and navigation are key to success
- Be mindful and use technology wisely - less is more
- Create a supportive online course community
- Be present and interactive
Thanks

Contact us:
Kristen Hicks-Roof (hicks.roof@unf.edu)
Patricia Davidson (p davidson@wcupa.edu)

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References


Harris HS, Greer M. Over, under, or through: Design strategies to supplement the LMS and enhance interaction in online writing courses. Communication Design Quarterly. 2016; 4(4):46-54.
References


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Weeks 7 & 8: Module 5 - Bone health
Week 9: Module 6 - Nutrition, Diet and the Kidney
Weeks 10 & 11: Module 7 - Gastrointestinal Disease
Week 12: Module 8 - Nutritional Disorders of the Nervous System
Weeks 13 & 14 - Thanksgiving; Module 9 - Nutritional Strategies and Cancer
Week 15: Module 10: Final EBP

Home Page
Week 1:

Evidence Based Practice and Dietary Guidelines for Americans

In this module you will learn about the importance of utilizing Evidence Based Practice. This week we will explore the steps in an EBP approach for clinical decision making. Students will be introduced to philosophy and principles of evidence based practice and medicine, evidence analysis process, and its effectiveness for making nutrition recommendations. In addition, we will discuss the importance of the hierarchy of research, epidemiology, and the critical appraisal process for synthesizing and applying it to clinical practice.
Objectives

At the completion of this module you will be able to:

1. Discuss the Philosophy and Principles of Evidence-Based Practice.
2. Describe the Evidence Analysis process.
3. Demonstrate how to write an answerable question.
4. State the hierarchy of literature.
5. Critically Appraise the Research Literature for validity.
6. Apply the Results of Relevant Research Findings to Clinical Practice.
7. Evaluate effectiveness in using evidence based practice and epidemiology concepts in nutrition recommendations.

Discussion Activity Guidelines

Groups for Discussion

- Initial Individual post due Wednesday (9/08/2020) by 11:59 PM EST. Ideally, the earlier the initial post to the questions the more engaging the discussion but the latest is Wednesday (9/08/2021) by 11:59 PM EST.

- First response to classmates post due Friday (9/10/2021) by 11:59 PM EST.

- Final replies - discussion closes Sunday (9/12/2020) by 11:59 PM EST.

- Minimum of 3 responses to classmates posts.
READ

While reading consider: the steps and considerations required for developing Food Based Dietary Guidelines. What is the role of food security, bioavailability, and nutrigenetics.

Course Text Chapter 110

Journal Articles

- Evidence-Based Practice Competence: A Concept Analysis
- Evidence-Based Practice Guides vs. Protocols: What’s the Difference?
- Dietary Guidelines for Americans 2020-2025.pdf
- What Does Evidence-Based Mean for Nutrition Educators?
- Open Letter to the Secretaries of the U.S. Departments of Agriculture and Health and Human Services Challenges of Dietary Guidance
- The Challenges of Dietary Guidance

REVIEW

Please review the current status of the DGA. What is changing? What are your thoughts?

Website Dietary Guidelines for Americans

WATCH

While watching this the lecture capture, Evidence-Based Practice (EBP) Part I, take notes and reflect on the importance of developing an answerable question and think about a clinical problem that you have encountered and would like to find the answer of the best practice or treatment.
Application Activity

Discussion

There are 4 questions, you are responsible to answer the question that corresponds to your group number. Then review and respond to the classes posts for the other questions. Remember the more discussion the more we all learn. The first discussion will take place during the second week of module 1 (note the due dates under the discussion activity guidelines). Please see the questions below: Question 1 and 3 pertain the readings and videos during week 1. Questions 2 and 4 pertain to the readings and videos in week 2. Access: Module 1 Discussion Questions.

Upcoming Assignments and Events:

- Module 1 Discussion Initial post due due September 08- 11:59 PM EST.
- Class ZOOM meeting August 31, 7-8 PM EST.