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TECHNOLOGY COMPETENCE AND ONLINE TEACHING EFFICACY: HOW CAN QM MAKE A DIFFERENCE?

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Slide 2

Objectives

- Identify the relationship between online teaching efficacy and technology competence
- Identify the role of QM in developing online teaching efficacy

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Slide 3

How many of you teach online?

Teaching Online

"You have 736 new messages!"

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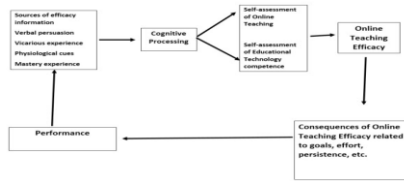
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Significance of the Study

- Limited literature/evidence related to online teaching efficacy and competency in the use of educational technology

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Slide 5

Concept Map
Online Teaching Efficacy

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Purpose of Study

- Investigate educational technology competence and online teaching efficacy
- Explore the relationship between educational technology competence and online teaching efficacy
- Describe the role of QM related to teaching efficacy

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Research Questions

- What is the self-assessed competency of nurse educators in the use of educational technologies?
- What are nurse educators' sense of efficacy for online teaching?
- What is the relationship between self-assessed competency in the use of educational technologies and nurse educators' online teaching efficacy?
- What is the impact of demographic variables on educators' online teaching efficacy?
- What is the best predictor of online teaching efficacy?

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Research Plan

- Descriptive Correlational Design
- Explore variables:
  - Perceived technology competence
  - Perceived online teaching efficacy
  - Identify the relationships among the variables

- Sample and Setting
- Nursing educators teaching at least 51% or more instructional content electronically
- In Baccalaureate or Graduate Level Programs in one Southeastern State of the U.S.
- State University System Schools and two private Colleges

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Instruments

Sense of Efficacy for Online Teaching Scale

- Factor Analysis
- Overall reliability coefficient of 0.910.

- (Robinia, 2008)

Self-Assessment of Educational Technology Competence Scale

- Content Validity Index (0.89)
- Overall reliability coefficient of (0.95)

- (Valiga, 2011)

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Sense of Efficacy for Online Teaching Scale

Efficacy Domain	M	SD	Range	Alpha
Student engagement	46.70	7.51	31-60	0.88
Instructional strategies	58.20	7.58	38-72	0.89
Classroom management	58.60	6.99	38-72	0.84
Use of Computers	59.65	8.34	32-72	0.83
MNESEOT Score	231.00	27.70	33-297	0.91

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Self - Assessment of Educational Technology Competence Scale.

Domain	M	SD	Range	Alpha
Area of competency	35.60	5.69	17-52	0.92
Help students achieve	46.77	4.58	17-52	0.90
Implement principles of good teaching	26.05	2.35	17-52	0.86
Create Learning Experiences	37.20	7.89	17-52	0.90
DUSAETCS Score	145.40	16.99	100-174	0.95
Content Validity Index		0.89		

Note: DUSAETCS Score=total score from the Duke University School of Nursing Educational Technology Competency Scale

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Results of Study

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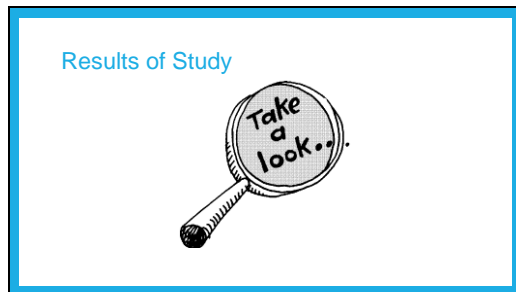
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Q1. What is the self-assessed competency of nurse educators in the use of educational technologies?

Participants indicated that they were **"somewhat competent"** to **"very competent"** in the use of educational technologies based upon subscales:
- Area of competency **(85.63%), M=35.60, SD=5.69**
- Help students achieve **(97.23%), M=46.77, SD=4.58**
- Implement principles of good teaching **(98.87%), M=26.05, SD=2.35**
- Create Learning Experiences **(65.30%), M=37.20, SD=7.89**

(Total Item M=145.40, SD=16.99, Minimum 100-Maximum 174)
Likert Scale 1=not all competent to 4=very competent

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Q2. What are nurse educators' sense of efficacy for online teaching?

Participants indicated their sense of efficacy for online teaching was **"quite a bit"** to **"a great deal"** for the subscales:
- **student engagement (64.5%), M= 46.70, SD=**
- instructional strategies (79.3%), M=58.20, SD=7.58
- classroom management (78%), M=58.60, SD=6.99
- uses of computers (78.25%), M=59.65, SD=8.34

(Total item M=231, SD=27.7, Minimum 33 – Maximum 297)

Likert scale 1 "nothing" to 9 "a great deal"

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Q3. What is the relationship between self-assessed competency in the use of educational technologies and nurse educators' online teaching efficacy?

- Pearson correlation coefficient $(r = .56, p < .001)$

- Shared variance is 31%

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Q4. What is the impact of demographic variables on educators' online teaching efficacy?

- Years of Teaching Experience
  - $t(54) = -1.25$, $p = .22$
- Comparison by Age
  - $(F(2,52) = 1.72$, $p = .19)$
- Tenure vs Non tenure
  - $(t(54) = -.59$, $p = .56$
- Master's and Doctoral degree
  - $(t(54) = -.23$, $p = .82$

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Q5. What is the best predictor of online teaching efficacy

OLS Regression used to evaluate best predictor
- Online Teaching Experience
- Professional Development
- Perceived Support from Faculty Colleagues
- Received Instructional Design Support
- Competency in use of Educational Technology

F-test is significant ($F = 4.77$; $p = 0.002$) indicating good model fit R-square of 0.37

Competency is positively related to online teaching efficacy ($b = 0.112$; $p < 0.001$)

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WHAT DOES THAT EVEN MEAN?

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Conclusion

- For every 1 point increase in competency, online teaching efficacy increased by 0.112, controlling for
  - Years of experience
  - Taken preparatory courses
  - Instructional designer and peer support

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What might help build competency?

- Training and Instruction
- Support for the use of technology
- Peer Review and feedback
- Standards
- Promote online teaching efficacy through the use of preparatory courses, peer and mentor support

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Rubrics and Standards

- Institutions of Higher Ed have instituted standards and peer review processes for assessing and assuring quality of their online courses (Little, 2009).

- Quality Matters (QM) is a program that offers quality assurance through a rubric and a process for peer review (Pollacia and McAllister, 2009).

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Quality and Competence

- As a living set of tools and processes, QM provides some common language and standards for online faculty to gain competence and to establish a level of quality in their own online courses (Shattuck, 2010).
- The use of QM standards, coupled with the peer review process, provides an effective method of ensuring delivery of quality online courses (Little, 2009).

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