

# State of the Science on Clinical Evaluation of Competence in Nursing Education

Elizabeth Van Horn, PhD, RN, CNE

Lynne P. Lewallen, PhD, RN, CNE, ANEF

University of North Carolina at Greensboro

School of Nursing

Sigma Theta Tau International

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# Presentation Outcomes & Author Disclosures

- Presentation Outcomes:
  - Describe the state of the science on clinical evaluation of competence in nursing education
  - Address issues related to instrumentation and methods
  - Address global impact of evaluation of competence
- Elizabeth Van Horn and Lynne Porter Lewallen, employed by UNCG, declare no conflict of interest.
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# The problem

- All U.S. pre-licensure students take NCLEX; many other countries have standardized licensing exams
- However, clinical evaluation of competence is done in different ways at different schools
- No standardized instrument for clinical evaluation is commonly used
- No research synthesis of clinical evaluation in nursing education available in literature



# The Overall Study

- Purpose: Conduct a research synthesis to determine the state of the science related to clinical evaluation in nursing education programs
- Theoretical Framework: Cooper (2010)
- Inclusion criteria: Reports of research studies that examined clinical evaluation for any level of nursing student, written in English
- Exclusion Criteria: articles that did not report results of a study, studies that focused on practicing nurses rather than nursing students, studies focusing on human patient simulation, studies focusing only on student perceptions of or satisfaction with clinical evaluation, and articles not available in English.



# Methods

- Electronic literature search (Ebsco databases, Academic Search Complete, CINAHL with Full Text, Education Full Text (H.W. Wilson), ERIC, Dissertation Abstracts, Health Source - Consumer Edition, Health Source: Nursing/Academic Edition, PsycARTICLES, PsycINFO, Cochrane, Scopus)
- Search terms: clinical evaluation AND nursing student NOT attitude NOT simulation NOT perception NOT satisfaction NOT review
- 207 articles found



# Additional searches

- Hand searches for years 2010-2017 of the following journals:
  - *Nursing Education Perspectives, Journal of Nursing Education, Nurse Educator, International Journal of Nursing Education Scholarship, Nurse Education Today, Teaching and Learning in Nursing, and Nurse Education in Practice*
    - 27 unique articles found
- Hand search of reference lists of five review articles:
  - 16 unique articles found
- Conference proceedings of Virginia Henderson Library
  - No abstracts found meeting search criteria



# Analysis process

- Grand total: 250 unique articles
- Each article read and abstracted; 162 eliminated (did not meet study criteria)
- Total number for analysis: 88
- Entered into matrix; individual narrative summaries of each article created
- Studies were placed in 10 categories



# Findings

- Studies with a competence focus:  $n = 35$
- Publication dates: 1988-2016
- Originating in 11 countries: USA (8), UK (8), Australia (5), Finland (4), Taiwan (3), Iran (2), Sweden (1), Turkey (1), Ireland (1), Iceland (1), Burkina Faso (1)
- Quantitative  $n = 27$ , Qualitative  $n = 2$ , Mixed Methods  $n = 6$





# Findings

- Majority of studies evaluated general competence (n = 22)
- Most studied undergraduate students
- Used a researcher-developed instrument (n = 23)
- Used a conceptual framework (n = 7)
- Funded study (n=15) (most by governments)
- Included psychometric evaluation of an instrument (n=17)



# Types of Competence

- General competence – end of program, semester, clinical rotation, specific event
- Specific competence categories:
  - Psychiatric nursing skills
  - Intensive care nursing
  - Perioperative care
  - Medication calculations
  - Vaccinations
  - Critical thinking
  - Culturally specific care
  - Interpersonal communication



# Levels of Evidence

## Melnyk & Fineout-Overholt 2011

Level and criteria	# of studies
<b>Level 1</b> - Systematic review & meta-analysis of randomized controlled trials	0
<b>Level 2</b> - One or more randomized controlled trials	1
<b>Level 3</b> - Controlled trial (no randomization)	3
<b>Level 4</b> - Case-control or cohort study	3
<b>Level 5</b> - Systematic review of descriptive & qualitative studies	0
<b>Level 6</b> - Single descriptive or qualitative study	21
<b>Level 7</b> - Expert opinion	N/A



# Instrumentation

- Reliability and validity summary
- Types of measures varied widely (self-assessment, focus groups, observation, examination)
- Many included student self-evaluation
- 5 based on country specific competencies
- Two tools used twice: CINS Competency Inventory of Nursing Students; CNCQ Clinical Nursing Competence Questionnaire



# General Competence Findings

- No agreement on definition of competence
- Little reliance on national standards
- Components of competence measures vary widely (critical thinking, clinical skills, knowledge, communication, safety, professional behaviors etc.)
- Personal qualities sometimes measured (self-confidence, empathy, respect, honesty, caring, accountability, etc.)



# Specific Competence Findings

- Primarily focused on specific setting, patient population, or nursing skill
- Components of measures similar to general competence tools (knowledge, critical thinking, skills, etc.)
- Criteria of measures differ according to specific setting or skill
- Personal qualities measured less frequently



# Conclusions

- Most studies of clinical evaluation of competence at low level of evidence
- Variety of instruments used
- Many are faculty-developed without established reliability or validity
- Most single-site studies
- Relative lack of theoretical frameworks guiding research



# International/Global Implications

- WHAT IS COMPETENCE?
- Can measurement of competence be standardized globally?
- Exploration of global competence may help identify essential pieces; can be tailored to meet cultural, scope of practice, and national standards

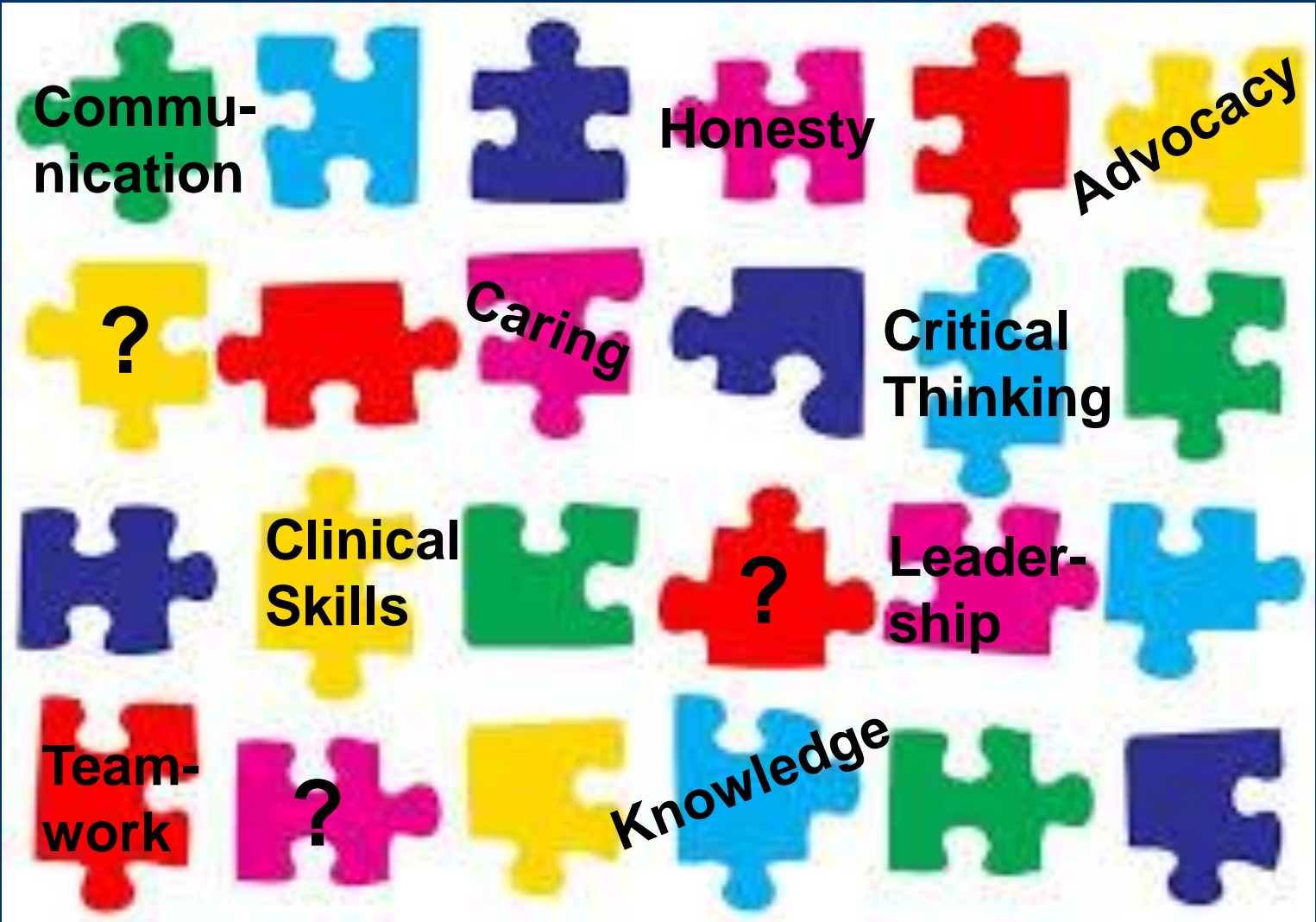




# Considerations

- Competence is a multi-faceted concept
- What parts are essential?
  - knowledge
  - clinical nursing skills
  - critical thinking
  - professional behaviors
  - personal characteristics
- May have relevance in both general and specific measures of competence







# Nursing Competence



# Competence in the U.S.

- Three national groups (ANA, AACN, NLN) have general competency standards
- NCLEX is minimum competence exam for licensure in the U.S. and Canada
- NCLEX is written by the National Council of State Boards of Nursing
- Based on new graduate (6 month) practice experiences and expectations



# Future Research

- Explore global definition or essential components of competence
- Establish standardized measure of competence
- Multi-site research studies
- Build nursing science through replication of promising small studies



# Thanks to our RAs

- Sarah Abrams, RN, MSN
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# References

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# Questions?

Contact us:

Elizabeth Van Horn ([e\\_vanhorn@uncg.edu](mailto:e_vanhorn@uncg.edu))

Lynne Lewallen ([lplewall@uncg.edu](mailto:lplewall@uncg.edu))

