

Clinical Evaluation of Competence: What are we Measuring?

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Presentation Outcomes & Author Disclosures

- Presentation Outcomes:
 - Evaluate the state of the science in clinical evaluation of competence in the U.S. and internationally
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Competence in the U.S.

- Three national groups (ANA, AACN, NLN) have general competency standards
- NCLEX is the 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 practice experiences and expectations



The Problem

- Clinical evaluation of competence is done differently across schools and programs
- No standardized instrument for clinical evaluation is commonly used
- No research synthesis of clinical evaluation of competence in nursing education available in the 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: Research studies that examined clinical evaluation for any level of nursing student, written in English
- Exclusion Criteria: Simulation, focus on perception/satisfaction only



Methods

- Extensive electronic literature search
- Review of TOC of 7 top-tier nursing education journals 2010-2017
- Review of reference lists of five review articles on clinical evaluation
- Grand total: 250 unique articles
- Final sample: 88 studies that met criteria



Results of Larger Study

Results of larger study:

Lewallen, L.P. & Van Horn, E.R. The state of the science on clinical evaluation in nursing education. In press at *Nursing Education Perspectives*



Competence Studies

- 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), and 1 each from Sweden, Turkey, Ireland, Iceland, and Burkina Faso
- 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)



Levels of Evidence

Melnyk & Fineout-Overholt 2011

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



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



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
- Concepts in 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
- Concepts in 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



Analysis of Competence Studies

- Qualitative content analysis to determine concepts measured
- Examined researchers' descriptions, definitions, and/or discussion of competence
- Examined instrument items when available
- Inclusive approach
- Categories created from the data



Competence Concepts

K (knowledge)

SP (skills: psychomotor)

SCOG (skills: cognitive)

SCCOMM (skills: communication)

SI (skills: interpersonal)

CT (critical thinking)

E (ethics)

PB (professional behaviors)

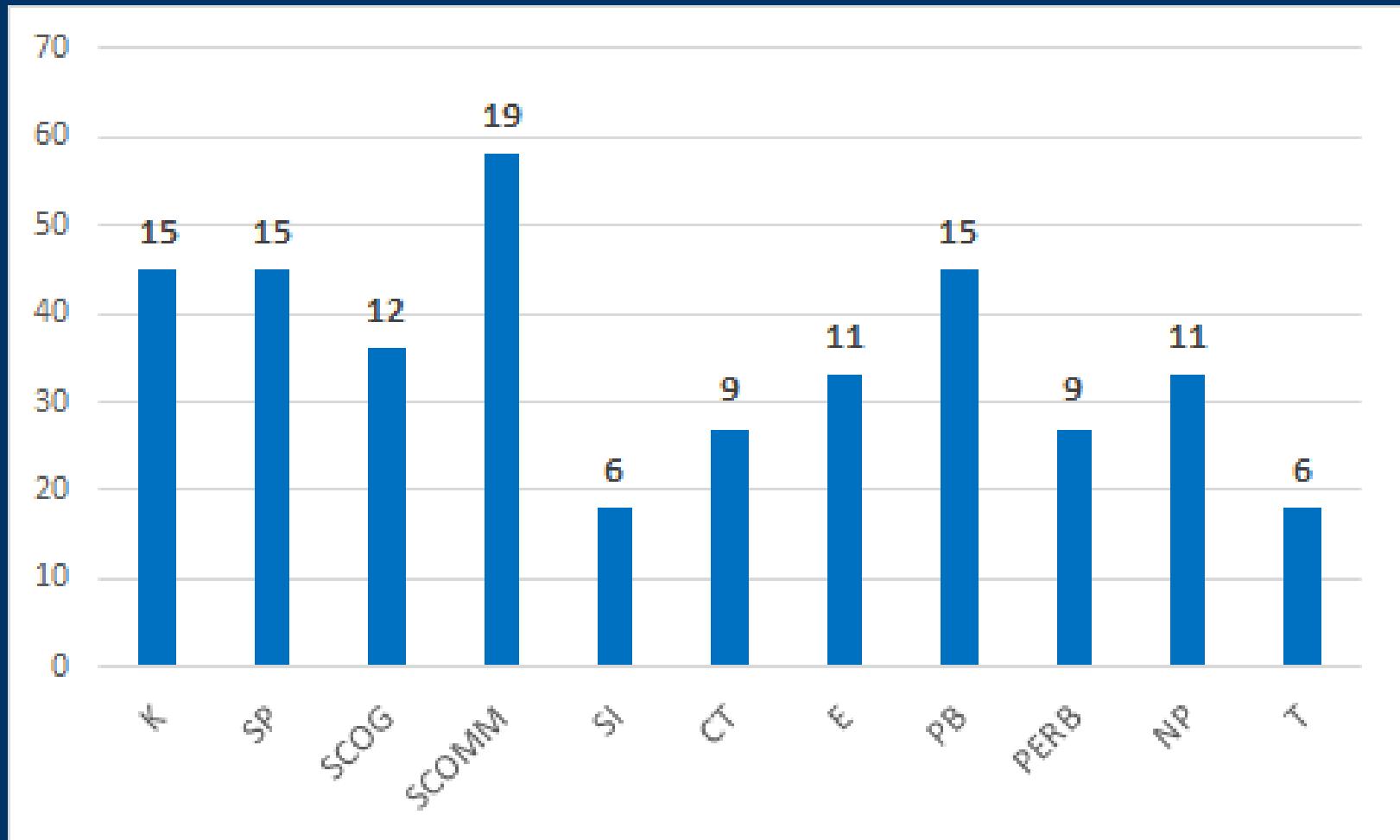
PERB (personal behaviors)

NP (nursing process)

T (teaching)



Competence Concepts (%)



Most Frequent Concepts

- Communication Skills: 19 (58%)
- Knowledge: 15 (45%)
- Psychomotor Skills: 15 (45%)
- Professional Behaviors: 15 (45%)



Least Frequent Concepts

- Cognitive Skills: 12 (36%)
- Nursing Process: 11 (33%)
- Ethics: 11 (33%)
- Critical Thinking: 9 (27%)
- Personal Behaviors: 9 (27%)
- Interpersonal Skills: 6 (18%)
- Teaching: 6 (18%)



What Do These Findings Say?

- Emphasis on communication and readily observed skills and behaviors
- Less emphasis on higher-order thinking and problem-solving
- Only 1/3 of studies measured nursing process-why?
- What about use of technology, EBP, safety?
- Are other concepts missing?



Conclusions

- Most studies of clinical evaluation of competence at low levels of evidence
- Wide variety of instruments used
- Focus on observable skills and knowledge
- Many are faculty-developed without established reliability or validity
- Most single-site studies
- Relative lack of theoretical frameworks guiding research



Considerations

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



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



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References

- Cooper, H. (2010). *Research synthesis and meta-analysis: A step-by-step approach* (4th ed.). Los Angeles: Sage.
- Melnyk, B.M. & Fineout-Overholt, E. (2011). *Evidence-based practice in nursing and healthcare: A guide to best practice*. Philadelphia: Lippincott, Williams & Wilkins.



Questions?

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