Research Synthesis of the State of the Science on Clinical Evaluation in Nursing Education

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Presentation Outcomes

• Presentation Outcomes:
  – Summarize research conducted on the topic of clinical evaluation in nursing education
  – Discuss areas of future research in clinical nursing education

• Lynne Porter Lewallen and Elizabeth Van Horn 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 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 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

- Search terms: clinical evaluation AND nursing student NOT attitude NOT simulation NOT perception NOT satisfaction NOT review
- 188 articles found
Additional searches

- Hand searches for years 2010-2015 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*
    - 19 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: 223 unique articles
• Each article read and abstracted; 146 eliminated (did not meet study criteria)
• Total number for analysis: 77
• Entered into matrix; individual narrative summaries of each article created
• Planned for quantitative meta-analysis/qualitative meta-synthesis: no groups of studies amenable to these processes found
Findings

• Quantitative Studies: 59
  – Descriptive (11), Correlational (7), Comparative (15), Quasi-experimental (11), Experimental (6); and Psychometric testing (9)

• Levels of evidence (Melnyk and Fineout-Overholt, 2011):
  – Level 1: 0; Level 2: 6; Level 3: 11; Level 4: 15; Level 6: 18
  – Psychometric testing studies not included in LOE analysis

• Qualitative Studies: 8

• Mixed Methods Studies: 10
  – (mixed methods defined as qualitative and quantitative methods to produce substantial study findings)
Levels of Evidence
Melnyk & Fineout-Overholt 2011

<table>
<thead>
<tr>
<th>Level and criteria</th>
<th># of studies</th>
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</thead>
<tbody>
<tr>
<td><strong>Level 1</strong> - Systematic review &amp; meta-analysis of randomized trials</td>
<td>0</td>
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<tr>
<td><strong>Level 2</strong> - One or more randomized controlled trials</td>
<td>6</td>
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<tr>
<td><strong>Level 3</strong> - Controlled trial (no randomization)</td>
<td>11</td>
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<td><strong>Level 4</strong> - Case-control or cohort study</td>
<td>15</td>
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<tr>
<td><strong>Level 5</strong> - Systematic review of descriptive &amp; qualitative studies</td>
<td>0</td>
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<tr>
<td><strong>Level 6</strong> - Single descriptive or qualitative study</td>
<td>18</td>
</tr>
<tr>
<td><strong>Level 7</strong> - Expert opinion</td>
<td>N/A</td>
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</tbody>
</table>
Findings

• Theoretical model: 23 articles
• Funding source: 24 articles
• Types of students studied: diploma, associate’s degree, pre-licensure BSN, RN-BSN, master’s
• Location of research: Australia, Canada, China, Egypt, Finland, Iran, Ireland, Israel, Sweden, Taiwan, Thailand, Turkey, United Kingdom, USA
## Topics of Studies

Categories not mutually exclusive

<table>
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<tr>
<th>Categories</th>
<th>Number of Studies</th>
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<td>Competence</td>
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<td>Instrumentation</td>
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<td>Congruence</td>
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<td>Teaching methods</td>
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<td>Essential clinical behaviors</td>
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<td>Topic-based evaluation</td>
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<td>Clinical reasoning</td>
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<td>Decision making about clinical grade</td>
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Competence

• Evaluation of competence in general or on a specific area, such as a skill. Most aimed to measure global competence, such as at the end of a nursing program.
• n=31
• Publication dates 1988-2015
• Locations: USA (8); United Kingdom (7); Australia (4); Finland (4); Taiwan (3); Sweden (1); Turkey (1); Ireland (1)
• 14 funded (most by governments); most examining undergraduate students
• 6 used conceptual framework
Instrumentation

- Research conducting psychometric testing of instruments, and the study did not report student data in the findings
- \( n=16 \)
- Publication dates: 1981-2014
- Locations: USA (6); United Kingdom (4); Australia (2); Canada (1); Egypt (1); Taiwan (1); Turkey (1)
- 6 funded (most external)
- 13 conducted with undergraduate students, 2 with graduate students, and 1 with both levels
- 3 used conceptual framework
Congruence

Comparison of clinical evaluation outcomes between two or more types of evaluators. Could include students compared with faculty, faculty compared with preceptors, preceptors compared with students, or patients compared with preceptors, students, or faculty

• n=11
• Publication dates: 1981-2013
• Locations: USA (6); Canada (2); Israel (1); Iran (1); UK (1)
• 1 funded (intramural)
• 2 used conceptual framework
OSCE

• Examination of the use of the Objective Structured Clinical Examination (OSCE) method in any way
• n=11
• Publication dates: 1982-2015
• Location: Canada (3); Australia (2); USA (1); Egypt (1); Scotland (1); Taiwan (1); United Kingdom (1); Unknown location (1)
• 9 examined undergraduate students; 2 examined graduate students
• 3 funded (2 external)
• 3 used conceptual framework
Teaching Methods

• Examination of student outcomes after a specific instructional method. Frequently measured either pre-post intervention or by comparing groups
• n=10
• Publication dates: 1986-2015
• Location: USA (5); Australia (1); Canada (1); Iran (1); Israel (1); Taiwan (1)
• All examined undergraduate students (one included medical students)
• 2 funded (both intramural)
• 3 used conceptual framework
Faculty/preceptor issues with Clinical Evaluation

• Positive and negative experiences with evaluation tool use, confidence in evaluation, and the process of evaluation
• n=7
• Publication dates: 1996-2014
• Location: USA (3); United Kingdom (2); Australia (1); Iran (1)
• All examined undergraduate students.
• 2 funded (one extramural; one intramural)
• 1 used conceptual framework
Essential Clinical Behaviors

- Behaviors related to safety, behaviors determining passing or failing grades, and descriptive characteristics
- n=6
- Publication dates: 1981-2014
- Location: USA (5); Canada (1)
- Students and faculty examined; undergraduate/unspecified level
- 2 funded (extramural)
- 3 used conceptual framework
Topic-based evaluation

• Evaluating students’ clinical performance on a specific educational topic, such as empathy
• n=6
• Publication dates: 1971-2014
• Location: USA (3); China (1); Taiwan (1); Thailand (1)
• All examined undergraduates
• 4 funded (3 external)
• 3 used conceptual framework
Clinical Reasoning

• The process of clinical reasoning using the Outcome Present State Test (OPT) model
• n=3
• Publication dates: 2005-2015
• Location: USA (3).
• All examined undergraduates
• 0 funded
• 2 used conceptual framework
Decision making about clinical grade

- Decision making about clinical grade: Studies that were focused on the process the educator used in making decisions; internal processes of decision making vs. evaluation of external criteria demonstrated by the student
- $n=2$
- Publication dates: 2009; 2014
- Location: United States; United Kingdom; one with undergraduates and one with graduate students
- Both funded, 1 intramural; 1 extramural
- 1 used conceptual framework
Implications

• Most studies of clinical evaluation at low level of evidence
• Variety of clinical evaluation instruments used; most faculty-developed
• Relative lack of theoretical frameworks guiding research
• Most single-site, small-sample studies
Future Research

• Explore standardized measure of competence
• Standardized instrumentation for nursing education research areas
• Replication of promising small studies
• Multi-site research
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References


Questions?

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