Best Practices in Clinical Teaching and Evaluation

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Challenges in Clinical Teaching

- Faculty shortages
- Complex practice environments
  - Increased complexity and acuity
  - New technologies, highly specialized interventions
  - Focus on quality and safety
  - Restrictions by clinical settings
  etc.

Challenges in Clinical Teaching cont

Lack of evidence to guide clinical education practices

Who uses?

Challenges in Clinical Teaching cont

- National survey by Nursing Executive Center of new graduates’ proficiency in 36 competencies
  - Only 10% of nurse executives report new graduates prepared for practice
  - Satisfied with only 2 competencies:
    - Use of information technology (e.g., computers)
    - Developing rapport with patients

Challenges in Clinical Teaching

- Systematic review of experienced RNs’ perceptions of clinical competence of new graduates
  - 2 main areas of concern related to critical thinking and clinical/technical skills


Rethink Clinical Education

- New models of clinical education
  - Dedicated education units
  - Clinical immersion experiences
  - Focused clinical teaching
- Clinical teaching
  - Use of evidence
  - Integrative cases
  - Assignments geared to course outcomes

Dedicated Education Unit (DEU) Model

- Partnership between school of nursing and health care agency

DEU Model cont

- Traditional

Multi-method study
- Enhanced competence in nursing role
- Graduates often seek employment and remain at capstone site or within capstone specialty
- No effects on achievement exams or NCLEX-RN pass rates

Rebeschi L, Aronson B. Assessment of nursing student’s learning outcomes and employment choice after the implementation of a senior capstone course. *Int J Nurs Educ Scholarsh.* 2009;6:Article21

Capstone Course

- Preceptor model
- DEU model

More students in agency

Clinical Immersion Experiences

- Capstone (transition) courses
- Multi-method study
  - Enhanced competence in nursing role
  - Graduates often seek employment and remain at capstone site or within capstone specialty
  - No effects on achievement exams or NCLEX-RN pass rates
**Education-Service Partnerships**

- Educating students and staff
- Addressing workforce issues
  - Majority of current partnerships focus on building workforce capacity (solving problems of lack of clinical faculty and clinical placements)
- Improving opportunities for staff to advance their education

**Education-Service Partnerships cont**

- Advancing research and evidence-based practice
  - Faculty access to subjects for research
  - Clinician access to research experts
  - Opportunities for faculty clinical scholarship


**Focused Clinical Teaching**

- Focus on specific competencies to be developed
- Provide experiences in “total patient care”, but learning activities may not involve complete care
  - Activities to learn clinical concepts (e.g., immobility)
  - Experience concept in simulation, then clinical practice

**Focused Clinical Teaching cont**

- Better studies on outcomes of different models and teaching methods
- Study (ADN program) comparing 1 long day (12 hours) vs. 2 short days for clinical experience
  - 146 students randomly assigned
  - No difference in learning outcomes between the 2 groups


**Evidence-based Clinical Teaching**

What evidence supports our clinical teaching methods in nursing?

**Qualities of Effective Teacher**

- Well studied
- Good teaching
  - Interactional process
    - Educator-learner and collaboration among learners
    - Qualitative studies
  - Prompt feedback
**Feedback**
- Most important variable affecting learning
- Should be:
  - Specific, informational
  - Given at time of learning
  - For procedures, technologies, and motor skills, provide both verbal and visual feedback

**Practice**
- Deliberate practice
  - Repetitive practice of skills (cognitive, motor)
  - Assessment of performance + feedback
- Strong association between extent of practice and performance
- Loss of skill with non use
- Distribute practice over time

**Motor Learning and Practice**

- **Cognitive**
  - Understanding how to perform skill
  - Accuracy

- **Associative**
  - Refining movement
  - More consistency

- **Autonomous**
  - Can perform without thinking about each step
  - Automatic

**Cognitive Phase**
- When skill first introduced
- Student learns cognitively
  - What the specific skill involves
  - How to perform the skill (equipment, technique)
- Verbal reminders from teacher prompt performance
- Performance: slow, awkward with goal to perform **accurately**

**Associative Phase**
- Focus is on refining the skill
  - Master smaller details (e.g., timing)
- Performance becomes more consistent
- Practice can lead to rapid improvement in performance

**Autonomous Phase**
- Proficient in performing skill
- Performance automatic
  - Little or no cognitive activity
- Improvement in performance is not as obvious
  - Able to adapt motor skill, procedure to unique patient situation and environment
Practice is Critical

- Skill learning requires practice
- Without practice, psychomotor and clinical skills cannot be learned and maintained
- Goal: learn to perform skills without guidance
  - Adapt them to varied clinical situations

Student Stress in Clinical Practice

- Clinical practice most stressful experience
  - Fear of making mistakes
  - Feelings of incompetence
  - Interactions with others (inverse relationship to stress)
  - Being evaluated...


Student Stress in Clinical Practice cont

- Teach stress management
  - Research: need to practice techniques

Teacher Stress in Clinical Teaching

- Multiple demands
- Heavy workload
- Balancing needs of students, patients, staff
- Teaching inadequately prepared students...

Patient Assignment

- Choose variety of clinical learning activities
  - Few studies
  - Patient care, but not all “complete care”
  - Other activities
  - Focused on clinical competencies of course and students’ learning needs

Clinical Learning Activities

- Designed to promote attainment of specific competencies
- Use in place of or in addition to patient assignment
- Better coordination with simulation
Prelab Learning Activities: Too Many?

- Majority of students (n = 208, 74%) complete prelab activities on day before clinical
  - Only 10 (4%) directly before clinical
- Students spend fair amount of time on prelab activities
  - 50% (n = 142) spent 60 to 90 minutes collecting information at clinical site
  - Additional 13% (n = 40) spent more than 90 minutes


Asking Questions

- What do studies show?
  - Levels of questions
    - Teachers and preceptors ask low level questions in clinical practice, conferences
    - Many questions seek yes/no response

Short Integrative Cases & Unfolding Cases

- Why use?
  - Integrate knowledge, values, practice
  - Link to practice
  - Think about clinical situations not encountered in prior practice but need to know
  - Promote higher level thinking

Sample Case

A patient is transferred to your unit from a community hospital with headache, nausea, and vomiting. The patient’s headache is getting progressively worse, and she is losing vision in her right eye.

1. What data are most important and why?
2. What are the next steps? Provide rationale.
3. Prepare a report for handoff.

Cases: What are Outcomes?

- BEME review of case-based learning
  - 104 studies
  - Majority (61%) with single cohorts
- Outcomes
  - Students and teachers enjoy, think enhances learning
  - Evidence unclear as to effects on learning

**Written Assignments in Clinical Courses**
- Goals for each assignment?
- How much repetition?
- Short assignments:
  - Prevent summarizing what others have written
  - Focus on outcomes
  - Can be done in clinical conferences and critiqued by peers

**Examples**
- Describe how your patient’s treatments and interventions are similar to or different from your readings and why. (1 p.)
- Select a new intervention for your patient and develop a rationale for its effectiveness. (1 p.)

**Too Much to Do?**
Too Many Papers?
Not Enough Time?
Try Group Writing in Post Conference

**Clinical Conferences**
- What is goal?
- Limited studies
  - Some compare face-to-face to online post clinical conferences
  - Active learning strategies

**Clinical Conferences cont**
- Discussion of assessment
  - What data are important? Not significant?
  - What data are missing to arrive at the diagnosis/problem?
- Critique of interventions
  - As a group generate other possible interventions, or
  - Individually list other interventions, pass to next person to critique
Concept Maps

- Studies in nursing:
  - Effective for problem solving and critical thinking
  - Varied measures of critical thinking
  - Guidelines for use? Timing in course and clinical experience? How many?


Other studies

- Concept maps:
  - Promote meaningful learning
  - Are additional resource for learning
  - Useful to provide feedback to students
  - Assess learning and performance

Concept of Clinical Evaluation

- Involves observing performance and judging student’s competence
- Subjective process
  - Judgment influences what is observed and interpretations
  - Key is fairness—judge all students by same standards

Clinical Evaluation vs. Grading

- Evaluation
  - Teacher observes performance and collects other types of data, then compares information to standards to make a judgment
- Grading
  - Assigning a symbol to represent the judgment made

Formative vs. Summative

- Formative
  - Feedback, progress
  - Not graded
- Summative
  - Achievement of outcomes, competencies
  - End-of-instruction
  - Graded
Clinical Evaluation: Essential Steps

- **Decisions:**
  1. Purpose of evaluation?
  2. Formative or summative?
  3. Grading (P-F, letter, other)?
  4. Evaluators
     - Faculty only? Preceptor? Self? Multiple?
  5. What methods for evaluating each competency?
  6. How many times?

Predominant Methods

1. **Observation**
   - Of competencies to be achieved
   - Consider
     - Student’s level of expertise
     - Effects of clinical situation on evaluation

Observation: Studies show...

- **Your values and biases**
  - Over-reliance on 1st impressions
- **Window of time**
- “Good data” but incorrect judgment
  
  So...

Predominant Methods cont

2. **Rating performance**
   - List of outcomes or competencies learner is to demonstrate
   - Scale for rating performance of them
   - Most are intended for summative evaluation

Areas Addressed by Competencies

- Concepts, theories, and other knowledge for clinical practice
- Use of evidence in practice
- Assessment, diagnosis, plan, interventions, and evaluation of outcomes
- Psychomotor and technological skills, other types of interventions, and informatics competencies

Areas Addressed by Competencies cont

- Values related to patient care
- Communication and skill in collaboration
- Quality and safety
- Leadership and role behaviors
- Accountability and responsibility
- Self-development and continued learning
**Types of Rating Scales**
- Pass-fail most common
- Letter system
- Qualitative labels (excellent to poor)
- Frequency labels (always to never)
- Matrix combining different qualities of the performance

**Clinical Evaluation Tool should be:**
1. Consistent with outcomes or competencies
2. Valid
   - Does tool collect intended information about performance?
   - Does tool measure safe, effective practice?

**Clinical Evaluation Tool should be:** cont
3. Reliable
   - Same results when used by different faculty and with different student groups?
4. Appropriate number of competencies?

**Clinical Evaluation Tool**
- Same tool for all courses or course-specific tool?
  - Most use 1 tool for all courses
  - Competencies adapted to each course
- Two-level or multilevel scales?
  - Most use pass-fail or satisfactory-unsatisfactory rating scales

**Common Errors With Rating Scales**
- Leniency, severity, logical...errors
- Lack of interrater reliability
  - Do all evaluators agree on meaning of competencies?
    - Conducts comprehensive assessment...
  - May be problem even when using descriptors with scale

**Common Errors With Rating Scales cont**
- Rater drift
  - Definition or interpretation of competencies to be assessed changes over time
  - Even if you prepare clinical teachers and preceptors...drift over time
Improving Use of Tool
- Prepare clinical teacher, preceptor, others for using tool
  - Meaning of each competency
  - What would performance look like to pass or fail, or at each rating level?
  - Norm: discuss competency and its meaning + come to agreement among evaluators

Improving Use of Tool cont
- Have regular discussion of competencies to be rated
- Annual evaluation of tool, process
  - What’s working? Not working?
  - Other data needed?
  - What methods would provide those data?

Rater Training
- Improve evaluator’s skill in observing and rating performance
- Rater error training
  - Increase awareness of rater errors that could occur and how to avoid them
  - Studies show if evaluators know potential rating errors (eg, halo effect, leniency error), they are less likely to make them

Rater Training cont
- Frame of reference training
  - Prepare evaluators to recognize standard for rating performance
  - Reference point for evaluators to use
  - Content oriented training
  - Iterative process
    - Observe and rate performance, check consistency in ratings, discuss discrepancies

Use Multiple Evaluation Methods
- Observation
- Assignments
- Papers (can be short)
- Concept maps
- Journals
- Short cases
- Post clinical conferences

Use Multiple Evaluation Methods cont
- Simulations for summative evaluation
- Standardized patients
- Objective Structured Clinical Examination
- E-portfolios
- Others
Clinical Evaluation Methods

- Method should provide data on specific competency

Incorporating Simulation into Evaluation Protocols

- Identify competencies to be assessed with simulation
- Identify types of simulations needed for those competencies
- Are simulations available or need to be developed?
- Formative or summative evaluation or both?
- Train raters

Standardized Patients

- Provides consistency in performance evaluation
  - Recreate same patient condition and clinical situation with each student
- Provide written and oral feedback to students on their performance

Objective Structured Clinical Examination (OSCE)

- Assess clinical competencies
- Students rotate through stations where they perform assessments, clinical skills, procedures and are evaluated on them
- Most use standardized patients
- Performance rated by multiple examiners

E-portfolios

- Documents in portfolio provide evidence of meeting competencies
  - Requires reflection by student
  - Assessment: formative, summative or both
- Systematic review
  - 69 studies (32 were nursing)

Grading Clinical Practice

- Two criteria
  - Evaluation methods should reflect the clinical competencies
  - Students must understand how their clinical practice will be assessed and graded
Decisions about assigning grades

- Which assessment methods for summative evaluation and which for formative (feedback) only?
- Will clinical grade be included in course grade?

Can be based on competencies met

- Designate some as critical
- 2 dimensional grading:
  - Pass = all critical competencies met
  - Fail = 1 or more critical competencies not met

Multi-dimensional grading:
- A = all competencies met
- B = all critical competencies + half of others
- C = all critical competencies
- F = critical competencies not met

Can be based on evaluation methods

- Example 1:

<table>
<thead>
<tr>
<th>Method</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating form (clinical evaluation tool)</td>
<td>50</td>
</tr>
<tr>
<td>Papers</td>
<td>20</td>
</tr>
<tr>
<td>E-portfolio</td>
<td>30</td>
</tr>
</tbody>
</table>

- Example 2:

<table>
<thead>
<tr>
<th>Method</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating form (clinical evaluation tool)</td>
<td>Pass</td>
</tr>
<tr>
<td>Papers</td>
<td>40</td>
</tr>
<tr>
<td>E-portfolio</td>
<td>40</td>
</tr>
<tr>
<td>Presentation</td>
<td>20</td>
</tr>
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