

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

- ◉ Traditional model of clinical teaching
 - Clinical learning dependent on:
 - ◉ Available patients and experiences
 - ◉ When students "there"
 - Research findings: graduates not well prepared



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

Berkow S et al. Assessing new graduate nurse performance. *J Nurs Adm.* 2008;38(11):468-474.

Challenges in Clinical Teaching cont

- ◉ Lowest ranked competencies: learned in clinical setting
 - Work independently
 - Manage multiple responsibilities
 - Prioritize
 - Anticipate risks
 - Delegate



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



◉ DEU
Preceptors,
clinicians are
teachers

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

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.

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

Beal JA. Academic-service partnerships in nursing: an integrative review. *Nurs Res Practice*. 2012;Article ID 501564.
Duffy JR et al. Nurses' research capacity and use of evidence in acute care: baseline findings from a partnership study. *J Nurs Adm*. 2015;45(3):158-164.

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

Danner M. Comparison of 1 long versus 2 shorter clinical days on clinical learning outcomes of nursing students. *Nurse Educ*. 2014; 39(6):280-284.

Evidence-based Clinical Teaching

What evidence supports our clinical teaching methods in nursing?



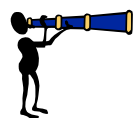
Qualities of Effective Teacher

- ◉ 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

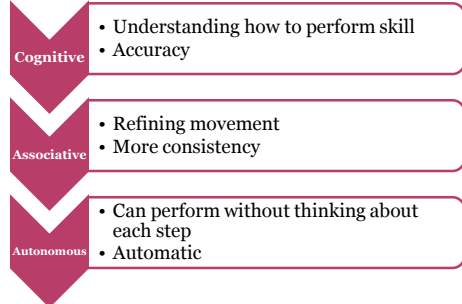


Practice

- ◉ 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



Practice

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...

Hensel D, Laux M. Longitudinal study of stress, self-care, and professional identity among nursing students. *Nurse Educ.* 2014; 39(5):227-231.

Alzayyat A, Al-Gamal E. A review of the literature regarding stress among nursing students during their clinical education. *Int Nurs Rev.* 2014; 61(3):406-415.

Student Stress in Clinical cont



- ◉ Teach stress management
 - Research: need to practice techniques



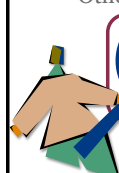
Teacher Stress in Clinical Teaching

- ◉ 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

Prelab Learning Activities: Too Many? cont

- Prelab paperwork outside of clinical practice
 - 14% (n = 41) spent less than 60 minutes
 - 38% (n = 112) spent more than 120 minutes
 - Taken together, many students spent up to 5 hours on prelab activities

Turner L, Keeler C. Should we prelab? A student-centered look at the time-honored tradition of prelab in clinical nursing education. *Nurse Educ.* 2015;40(2):91-95.

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

Thistlethwaite JE, et al. The effectiveness of case-based learning in health professional education. A BEME systematic review: BEME Guide No. 23. *Med Teacher*. 2012;34:e421-e444.

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

15 minutes



Clinical Conferences

- Gear questions to competencies/ outcomes
- Ask higher level questions to assess thinking
- Formative evaluation



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?



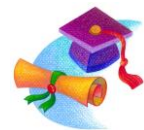
Concept Maps

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

Daley BJ, Torre DM. Concept maps in medical education: an analytical literature review. *Med Educ.* 2010;44(5):440-448.

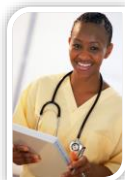
Purposes of Clinical Evaluation

- Identify existing competencies
- Identify learning needs to be addressed during clinical practicum
- Assess progress
- Make judgments if competencies achieved at end



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

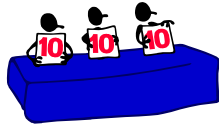
- ⦿ Leniency, severity, logical...errors
- ⦿ Lack of interrater reliability
 - Do all evaluators agree on meaning of competencies?
 - ⦿ Conducts comprehensive assessment...
 - May be problem even when using descriptors with scale



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

Grading Clinical Practice cont

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

Grading Clinical Practice cont

- 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

Grading Clinical Practice cont

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

Grading Clinical Practice cont

- Can be based on evaluation methods
 - Example 1:

Method	% of Grade
Rating form (clinical evaluation tool)	50
Papers	20
E-portfolio	30

Grading Clinical Practice cont

- Example 2:

Method	% of Grade
Rating form (clinical evaluation tool)	Pass
Papers	40
E-portfolio	40
Presentation	20