# Assessment and Evaluation in Nursing Education: Of Students and Teachers

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1

## Assessment

- Collection of data about learning and performance of students over a period of time
  - Related to outcomes of your course
  - Not a one-time process: continuous

2

## Why Assess?

- Identify existing knowledge and competencies
  - Begin teaching at level of student
- Evaluate learning of students in your course
- Identify further learning needs

3

## What to Assess?

- Course outcomes/objectives
  - Clinical competencies to be met
- Program outcomes, concepts integrated in curriculum, etc.

4

## Evaluation

- Judging learning and performance based on assessment data
  - What do data mean?
  - Is student learning? (during course, formative)
  - Has student met the outcomes and achieved at expected level? (end of course, summative)

5

## Your Feedback to Students

- Most important variable in learning
- Tailor to student needs
- Feedback should be:
  - Specific (not general, e.g., "you did well")
  - Instructional (to guide learning, fill gaps)
  - Given at time of learning
- Frame feedback message positively[1]

[1]van de Ridder JMM et al. Framing of feedback impacts student's satisfaction, self-efficacy and performance. *Adv in Health Sci Educ*.2015. 20(3):803-816.

6

## Your Assessment Decisions

- What outcomes are you assessing?
- Formative or summative?
- Methods (e.g., test, quiz, paper, group activity)?
  - Select best one for your course, situation
- Use multiple methods if summative
  - 1 test, 1 paper may not reflect student's learning
- How much assessment is needed?

7

## Assessment Methods

- Tests
- Questions
- Muddiest point
- 1 minute Q & A
- Pass the Problem
- Integrated cases (short scenarios)
  - High level questions
- Written assignments
- e-portfolios

8

## Questions

- Ask higher level questions to explore students' understanding of concepts
  - "What if?" and "what else is possible?"
- Level questions from assessment of knowledge base through higher level
  - Research findings on questioning
- Discussions with students (1:1, small group)

9

## Ask High Level Questions *cont*

- *Evidence shows…*
  - Teachers and preceptors ask low level questions in clinical practice, conferences
  - Many questions seek yes/no response


Studies show education and awareness enough to raise level of questions

10

## Muddiest Point

- What was the muddiest point about class today? In the online module?
- What was confusing to you?
- Tell me the 2 most important points you learned and why
  - Discuss in small groups or entire class
  - Write down, pass to next person to answer

11

## 1 Minute Q & A

- Ask higher level question about content or concept you are teaching
  - Give students 1 minute to think about answer
  - Have students tell person next to them
- Summarize answers across students

12

## Pass the Problem

- Give students problem to solve, case scenario to work through
- Small group
- Pass answers to another group to add to, critique

Assess solutions, rationale, perspectives offered…

13

## Integrated Cases for Assessment

- Develop short cases
  - Require application of content to scenario (new situation)
  - Omitted lab data, issues with orders, high risk medications, poor quality care…
- Do students recognize and know what to do?

14

## Sample Case 1

Your patient was placed in high fowler's position because of difficulty breathing. You notice he is developing a sacral pressure ulcer. The staff nurse suggests you lower the head of the bed.

1. What questions should you ask the staff nurse before lowering the head of the bed? Why are these questions important?
2. What do you think is best practice in this situation? Provide a rationale.

15

## Sample Case 2

Your 78-year-old patient is postop for a knee replacement. During the team huddle, you report that her speech is slow & slurred. The care plan is to ambulate, resume regular diet, and get speech consult.

1. What are immediate safety priorities? Why?
2. How should you address these safety concerns?
3. Report your observations about the patient using SBAR.

16

## Cases: What are Outcomes?

- BEME review of learning from cases[1]
- Case based learning outcomes[2]
- Systematic review and meta-analysis of problem based learning (cases)[3, 4]

1. Thistlethwaite et al.
2. McLean
3. Sayyah et al
4. Wosinski et al.

17

## Written Assignments

- Formal papers
  - Assess content and writing ability
  - Require drafts with feedback & rewrites
- Short assignments
- Reflective writing and in-class writing activities

18

## Formal Paper Example

Patient satisfaction with timeliness in answering call bells has decreased on the unit. You notice that only assigned staff will answer a call bell. Develop a quality improvement plan to address this issue. Include data to collect, related literature, and how you would implement the plan and evaluate outcomes.

19

## Short Assignment

- Prevent summarizing what others have written
- Focus on outcomes to assess

Read the article on transitions of care. Select a patient for whom you cared and develop a discharge teaching plan for that patient, which incorporates information from the article. In 1 page provide a rationale for the discharge plan.

Identify an intervention you provided for your patient. Propose an alternate one for the same problem. Compare evidence for these interventions. What approach would be best and why? (no more than 2 pp)

20

## Reflective Writing and In-class Writing Activities

- Purposeful writing to connect ideas and thoughts
  - Write a 1-minute reflection on your learning today
  - Develop a patient scenario to fit one of the problems we learned about today

21

## Feedback on Writing

- Individually from teacher
- Peer assessment—small groups or pairs of students
  - Accuracy, organization, if writing is clear
  - Require students to have papers reviewed 1st by peers

22

## Assessing Papers

- Use rubric (scoring guide)
  - Outlines criteria to meet and points allotted
  - Points should reflect relative importance of each criterion
- Skim sample of papers before beginning assessment (adjust scoring criteria if needed)
- Read
  - twice before scoring
  - in random order
  - anonymously

23

## ePortfolios

- Collections of projects by students
  - Demonstrate achievement of outcomes
  - Student selected documents
- Types
  - Best work (graded)
  - Growth and development (formative)

24

## Simulation for Assessment

- Widespread use of simulations and standardized patients (SPs) for teaching and some for high stakes assessment
- Formative – gaps in learning & performance, need for skill improvement, better teamwork…
  - Self assessment, feedback from instructor/ facilitator
- Summative
  - Objective structured clinical examinations (OSCE)

25

## Simulation for Assessment *cont*

- With OSCEs students rotate through stations (3-10 mins each) for assessment of competency in clinical skills (e.g., taking a health history, procedures)
- Some stations have SPs
- Scoping review of 204 studies confirmed validity, reliability, and acceptability of OSCEs for summative evaluation in nursing education[1]

[1]Goh HS et al. Value of nursing objective structured clinical examinations: a scoping review. *Nurse Educa*. [epub ahead of print] doi: 10.1097/NNE.0000000000000620

26

## Simulation for Assessment *cont*

- High stakes assessment: students need to pass assessment to pass the course
- Critical steps to follow:
  1. Define objectives and knowledge and skills to be assessed
  2. Design scenario(s) to demonstrate knowledge and skills
     - Scenarios can be short (3-5 mins) or long (30 mins) depending on knowledge and skills to assess

27

## Simulation for Assessment *cont*

3. Ensure validity of assessment: degree to which it measures what it is intended to
   - Should be realistic, reflect actual practices of nurse, & be evidence based
   - Have experts confirm
4. Select or develop assessment tools (must be valid & reliable)

28

## Simulation for Assessment *cont*

5. Ensure reliability of assessment: same scores will be reproduced by different evaluators and will be the same if rescored at later time
   - Train evaluators
   - Need > 1 to rate student's performance
   - Evaluate performance independently
   - Should not know students

1. Oermann MH, Kardong-Edgren SK, Rizzolo MA. Summative simulated-based assessment in nursing. *J Nurs Educ*.2016;55:323-328.
2. Kardong-Edgren SK, Oermann MH, Rizzolo MA, Odom-Maryon T. Developing inter- and intrarater reliability for high stakes testing using simulation. *Nurs Educ Perspect*.2017;28:63-68.

29

## Student Evaluations of Teaching (SET)

- Integrative review
- Searched 3 databases: PubMed, CINAHL, & Education Resources Information Center (ERIC)
- Evidence guides faculty in:
  - Developing tool (areas to include, types of items)
  - Interpreting SET results

30

## Evidence from Review *cont*

- Variables *not* related to student ratings
  - Instructor age, gender, race, personality, research productivity
  - Student age, gender, level, GPA
  - Course time of day


31

## Evidence from Review *cont*

- Variables *related to* student ratings
  - Instructor enthusiasm
  - Motivation to take course (elective vs. required)
  - Course
    - Level (higher level and graduate courses rated higher)
    - Class size (higher ratings with smaller classes)
    - Work and difficulty (students give higher ratings to difficult courses that require hard work)

32

## Evidence from Review *cont*

- Number of students makes a difference[1,2]
  - n students in course, n response rate
- Nursing students interpret SET items differently than faculty[3]
- Faculty need strategies for reviewing and interpreting narrative comments[1]

1. Oermann MH, et al. Student evaluations of teaching: Guidelines for their use. *Nursing Forum. 53*, 280-285.
2. Bush M, et al. Considerations for developing a student evaluation of teaching form. *Teach Learn Nurs.*2018;13:125-128
3. Powell et al. Student evaluations of teaching tools: a qualitative examination of student perceptions. *Nurs Educ.*2014;39:274-279.

33

## Your Tool

- Typical areas for students to assess:
  - Organization of content
  - Teaching methods, Course assignments
  - Exams, Grading criteria
  - Feedback (promptness, quality)
  - Interactions with students
  - Enthusiasm
  - Accessibility to students
  - Value of course to students
- Clinical course: separate form or questions

34

## Your Tool *cont*

- Most use 5-point Likert scale
- Last item on tool: summary rating of teacher's effectiveness
- Ask specific open-ended questions about course/teacher vs. a blank space for comments
  - "What was the most valuable aspect of this course in terms of your learning?"
  - Place at end of form
  - Develop strategy to organize students' comments
- Use same form for all courses in school
- Evaluate form before using it

35

## Implications

- For you as teacher

- For reviews of your performance by others


36