Nursing Curricula and the NCLEX® Exam: Traveling a Path to Success

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Session Objectives:

- Summarize what has changed in the current NCLEX RN and PN test plans.
- Describe a process for mapping nursing curricula to the NCLEX test plan to reduce or eliminate curricular gaps or overlaps.
- Explore various ways of integrating NCLEX style test questions into courses in a nursing curriculum.
Overview of the NCLEX® Licensing Exam for RNs and LPN/LVNss
Exam Overview

- Computer adaptive test (CAT)
- Each question classified by client need, integrated process, and is assigned a level of difficulty after being pretested

Number of Questions:
- RN: 75-265; 15 pretest items
- PN: 85-205; 25 pretest items
Exam Overview

- Maximum time:
  - RN: 6 hrs; PN: 5 hrs
  - Time includes tutorial, sample items, breaks (all breaks are optional), and exam
- Drop down calculator available
- Candidate reads question, selects and confirms answer to move to next question
Exam Overview

- Exam delivers questions until 95% certainty of candidate meeting or not meeting passing standard, answers maximum # of questions or runs out of time.

- Passing standard:
  - RN: -0.16 logits 2010 (-0.21 2007; -0.28 2004)
  - PN: -0.27 logits 2011 (-0.37 2008; -0.42 2005)
  - Logit (log odds unit) is described at https://www.ncsbn.org/02_18_05_brief.pdf
NCLEX® Framework: Client Needs

Safe Effective Care Environment:

- Management of Care (RN test plan 2010)
  - 16-22% (13-19% 2007)
- Coordinated Care (PN test plan 2011)
  - 13-19% (12-18% 2008)

Safe Effective Care Environment:

- Safety and Infection Control
  - RN test plan 2010: 8-14% (unchanged)
  - PN test plan 2011: 11-17% (8-14% in 2008)
NCLEX® Framework: Client Needs

- Health Promotion and Maintenance
  - RN test plan 2010: 6-12% (unchanged)
  - PN test plan 2011: 7-13% (unchanged)

- Psychosocial Integrity
  - RN test plan 2010: 6-12% (unchanged)
  - PN test plan 2011: 7-13% (8-14% 2008)
NCLEX® Framework: Client Needs

- **Physiological Integrity**
  - Basic Care and Comfort
    - RN test plan 2010: 6-12% (unchanged)
    - PN test plan 2011: 9-15% (11-17% 2008)
  - Pharmacological and Parenteral Therapies
    - RN test plan 2010: 13-19% (unchanged)
    - PN test plan 2011: 11-17% (9-15% 2008)
NCLEX® Framework: Client Needs

Physiological Integrity

- Reduction of Risk Potential
  - RN test plan 2010: 10-16% (13-19% 2007)
  - PN test plan 2011: 9-15% (10-16% 2008)

- Physiological Adaptation
  - RN test plan 2010: 11-17% (unchanged)
  - PN test plan 2011: 9-15% (11-17% 2008)
Integrated Processes (IP)

- A second framework used for test items
- Four processes:
  - Nursing process (RN) or clinical problem solving process (PN)
  - Caring
  - Communication and documentation
  - Teaching/Learning
- Each question addresses 1 of these but IPs are not assigned percentages on test plan
Test Item Types

- Standard 4-option multiple choice (with or without added graphics)
- Alternate item formats
  - Multiple response
  - Fill-in-the-blank
  - Hot spot
  - Chart/Exhibit
  - Drag and drop/Ordered response
  - Audio
  - Graphic Options
Example: Multiple Response

The nurse admits a client from the emergency department who has a left ventricular myocardial infarction. To detect onset of left sided heart failure, the nurse assesses this client for which manifestations? Select all that apply.

- Jugular venous distention
- Hepatomegaly
- Dyspnea
- Crackles
- Tachycardia
- Right upper quadrant pain
Example: Fill-in-the-Blank

The nurse completes a fluid balance record for a client resuming a diet on the 2nd postoperative day. The client has the following data recorded for the shift. How many milliliters should the nurse document as intake?

<table>
<thead>
<tr>
<th>Intake</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 oz orange juice</td>
<td>850 mL urine</td>
</tr>
<tr>
<td>4 oz water</td>
<td>60 mL Hemovac drainage</td>
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<tr>
<td>640 mL 5% Dextrose in Water IV</td>
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<tr>
<td>4 oz chicken broth</td>
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</table>

Answer: 1060 mL
Example: Hot Spot Item

The nurse receives a telephone report from radiology that a client has a 10% pneumothorax on the right. The nurse would expect to hear absent breath sounds in what area if the client’s head of bed is elevated 60 degrees?
A client is admitted to the nursing unit. After reviewing the client’s chart, which laboratory test would be most important for the nurse to monitor?

1. Serum potassium
2. Blood urea nitrogen
3. Serum ammonia
4. Serum osmolality
An adult client is admitted to the medical-surgical nursing unit. After reviewing the client’s chart, the nurse would place highest priority on monitoring which laboratory test result? Click on the Exhibit button below for additional information.

- 1. Serum potassium
- 2. Blood urea nitrogen
- 3. Serum ammonia
- 4. Serum osmolality

Select the best response. Click the Next button (N) or the Enter key to confirm answer and proceed.
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Select the best response. Click the Next button (N) or the Enter key to confirm answer and proceed.
Drag and Drop(click)/ Ordered Response

The client does not respond or move when the nurse verbally calls the client’s name upon entering the room. What sequence of actions would the nurse use to resuscitate the client?

Establish unresponsiveness
Open the airway
Check for breathing
Give two breaths
Check carotid pulse
Perform chest compressions
In tutorial, examinee is told to put on headset and click play button to listen to audioclip. Adjust volume if needed by moving slider. Click play to repeat if needed.

After listening to the client’s heart sounds, which abnormal heart sound would the nurse report to the health care provider?
- 1. S3
- 2. S4
- 3. Systolic murmur
- 4. Diastolic murmur
A neonate was born with a ventricular septal defect. Which diagram would the nurse use to teach the parents about the newborn’s condition?
Where to find more?

See other examples at

or
Mapping a Curriculum to the NCLEX® Test Plan
Mapping a Curriculum to the NCLEX® Test Plan

Advantages:

– Ensures licensing exam content is addressed in the nursing program
– Provides one measure of ongoing QI that may help with accreditation
– Should help achieve higher pass rates on NCLEX® licensing exam (but this is multifactorial!)
Mapping a Curriculum to the NCLEX® Test Plan

Disadvantages/blocks to plan for:
- Lack of clerical help to set up template grids
- Time consuming process if thoughtfully done
- May compete with other current responsibilities of faculty
- May or may not be seen as a priority by faculty
Process for Mapping a Curriculum to the NCLEX® Test Plan

Design grid for completion at course level

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<thead>
<tr>
<th>Test Plan Topic</th>
<th>Taught/ Reinforced</th>
<th>Comments</th>
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Process for Mapping a Curriculum to the NCLEX® Test Plan

- Design summary grid of all courses in curriculum

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Process for Mapping a Curriculum to the NCLEX® Test Plan

- Identify areas of excessive overlap (rather than planned reinforcement) and consider reducing
- Identify gaps and plan for inclusion of insufficient or missing content
- Document (committee minutes) curricular revisions for future reference and as evidence of ongoing program evaluation
- Follow up to ensure planned changes take place and “stick”
Integrating NCLEX Style Test Questions into Courses in a Nursing Curriculum
Designing Appropriate Level Test Questions: What Bloom’s Taxonomy Level to Use?
Cognitive Levels: Bloom’s Taxonomy

**Old**
- Evaluation
- Synthesis
- Analysis
- Application
- Comprehension
- Knowledge

**New**
- Creating
- Evaluating
- Analyzing
- Applying
- Understanding
- Remembering
Cognitive Levels

NCLEX® exam items: predominantly at application and analysis levels (critical thinking)

Critically important to introduce students to difficult questions systematically during nursing program

Can be accomplished using questions interjected in class and on teacher-made tests
Remembering (Knowledge) Level

- Remember or recognize terminology, facts, ideas, materials, trends, sequences, methodology, principles, and generalizations.
- Fundamentally useful in testing students’ acquisition of factual information about health and illness during a course.
- This level is NOT tested on the NCLEX® exams.
Understanding (Comprehension) Level

- Understand directions, written communications, reports, tables, diagrams, and regulations
- Useful in determining that student can draw inferences from information (but not necessarily relate it to other material or see its fullest implications)
- There are few of these items on the NCLEX® exam and they would generally have a lower difficulty level
A client is admitted with diarrhea caused by vancomycin-resistant enterococcus. What precautions should the nurse initiate for this client?

1. Droplet precautions
2. Airborne precautions
3. Contact precautions
4. Neutropenic precautions
Applying (Application) Level

- Apply principles, procedures, methods, formulas, theories or ideas in job (nursing practice) related situations
- Useful to perform a task, solve a problem, or obtain a particular result
- Frequently tested on NCLEX® exam as this simulates a “real-world” situation in nursing and these questions can be written at varying difficulty levels
Sample Application Level Question

The nurse is assigned to the care of a client with diarrhea caused by vancomycin resistant enterococcus. What action would the nurse take?

1. Keep the door to the client’s room closed.
2. Place disposable masks outside the client’s room.
3. Put on a disposable gown before giving the client a bath*
4. Move the client to a room with negative air pressure
Analyzing (Analysis) Level

- Break down information or material into parts and detect relationship of those parts and the way they are organized.
- Useful to dissect and analyze information presented, and/or distinguish between critical and non-critical data.
- At least two or more pieces of data are gathered and interpreted usually before deciding a course of action.
- Tend to be most difficult level of question overall; targeted area for NCLEX® test item development.
Sample Analysis Level Question

The nurse would intervene after seeing an unlicensed assistive person (UAP) take which action?

1. Elevate the head of bed for a client who just had abdominal surgery for bowel obstruction
2. Assist a client with Parkinson’s disease to ambulate to the bathroom
3. Apply mask and gloves to bathe a client with a vancomycin resistant enterococcus infection*
4. Give a cup of ice cream to a client who has a white blood cell count of 3500/mm³
Infusing Critical Thinking into Test Items

- Design questions that use multi-logical thinking
  - “Thinking that requires knowledge of more than one fact to logically and systematically apply concepts to a clinical problem”
  - Must know more than one concept or fact to answer the question
  - Cannot find the answer on a single page of textbook
  - Apply concepts to clinical scenarios in questions
Samples of Critical Thinking Imbedded in Test Items

- Discriminate important from unimportant data
- Analyze information and predict an outcome
- Develop a plan of care
- Apply standard of care
- Prioritize interventions and job responsibilities
- Delegate care
- Evaluate interventions and teaching
Critical Thinking: Word Clues in Question Stems

- First
- Initially
- Most
- Essential
- Highest priority
- Best
Checklist to Ensure Critical Thinking Test Items

- Written at application or analysis level
- Is clear and easy to read
- Requires multi-logical thinking to answer
- Contains “critical words”
- All options are plausible (these can be difficult to write!); high level of discrimination is needed to choose correctly
- Textbook supports all correct answers (may need multiple pages to verify)
Designing Test Blueprints
Why Use a Test Blueprint?

- Identifies objective/skills to be measured
- States the number of items per objective, avoiding under- or over-representation of areas
- Ensures content validity
- Specifies range of item difficulty for questions
- More likely to include questions that measure important content and skills, instead of ones that are “easy to write”
Sample Blueprint: Study Questions Based on Class Objectives

- What are the etiology and/or risk factors for this health problem?
- What are the associated nursing assessment and lab findings for this health problem?
- What nursing care and teaching are associated with the diagnostic studies for this health problem?
- What are appropriate nursing diagnoses and goals of care for this health problem?
- What is the expected and appropriate therapeutic (medical or surgical) management for this health problem?
- What would be included in the nursing care and management of a client with this health problem?
- What client teaching is appropriate for someone with this health problem?
Sample Blueprint: Senior Level
Adult Health Unit Test

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<th>% Test</th>
<th>Topic</th>
<th>Total # Items</th>
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<th># Items Applic</th>
<th># Items Analysis</th>
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<td>Valvular disease/replacement</td>
<td>19</td>
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<td>2</td>
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<td></td>
<td></td>
<td>Infective endocarditis</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Cardiomyopathy</td>
<td></td>
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<td>1</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Angina pectoris</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td></td>
<td></td>
<td>Myocardial infarction</td>
<td></td>
<td>3</td>
<td>2</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Shock states</td>
<td></td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anzyosema</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hemat</td>
<td>20%</td>
<td>Leukemia</td>
<td>10</td>
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<td></td>
<td></td>
<td>Lymphoma &amp; multiple myeloma</td>
<td></td>
<td></td>
<td>2</td>
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<tr>
<td></td>
<td></td>
<td>Blood transfusion therapy</td>
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<td></td>
<td>2</td>
<td>2</td>
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<tr>
<td>Mixed</td>
<td>4%</td>
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<td>2</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td></td>
<td>50</td>
<td>7(14%)</td>
<td>29(58%)</td>
<td>14(28%)</td>
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Final Thoughts on Test Blueprinting

- Very difficult questions can also be used as bonus questions in a test.
- Cognitive level blueprinting can be done across nursing courses with increasing numbers of higher level questions with progression in the curriculum.
- Is not a perfect science—problems with test items often become evident after use.
Final Thoughts on Test Items

Find flaws by examining item analysis and revise questions immediately (while fresh in mind) for future use
- Too difficult
- Too easy
- More than one correct answer

Hint: also make decisions about such items and adjust grade in current test before releasing grade and test review; avoids being defensive with students and reduces student tendency to argue about questions
Final Thoughts on Test Items

- Use textbook test bank items carefully; they can have flaws.
- Revise a known flawed question before using them in your test (up to 5 times faster to revise a nonfunctional test item than to write a new one; ex: 6 minutes versus 30).
- Insert sample questions at beginning, during and end of class to enhance student engagement and aid application of knowledge (don’t use on actual test).
Discussion and Questions