

Using Active Learning/Interactive Learning Strategies to Engage Students and Promote Application of Knowledge



***Karin K Roberts, PhD, RN, CNE
Director of Consultation Services
Adjunct Professor, Research College of Nursing***

Examining Evidence-Based Literature that Supports the use of Contextualized Active Learning Strategies

Educating Nurses: A Call for Radical Transformation (2010)

- Patricia Benner – Comprehensive study to determine the nature of nursing and the “deep and complex education” that professional nurses need.
- Two year study collected data via:
 - Nine schools with entry-level programs (all types and levels)
 - Direct observation of classroom and clinical teaching; plus post-clinical conferences
 - Student and faculty focus groups
 - National student and faculty surveys

Benner: Educating Nurses

- Three major findings in study
 - U.S. nursing programs are very effective in forming professional identity and ethical comportment.
 - Clinical practice assignments provide powerful learning experiences, especially in those programs where educators integrate clinical and classroom teaching.
 - U.S. nursing programs are not generally effective in teaching nursing science, natural sciences, social sciences, technology, and humanities.

Benner: Educating Nurses

- Four essential shifts in nursing education
 - From a sharp separation of clinical and classroom teaching to integration of classroom and clinical teaching.
 - From an emphasis on critical thinking to an emphasis on clinical reasoning and multiple ways of thinking that include critical thinking
 - From an emphasis on socialization and role taking to an emphasis on formation
 - From a focus on decontextualized knowledge to an emphasis on teaching for a sense of salience, situated cognition, and action in particular situations.

Four Essential Shifts - CENTRAL QUESTION

“Shift the focus from covering decontextualized knowledge to teaching for a sense of salience and situated cognition”

(Benner, 2010)



Paradigm Shift – THINK-PAIR-SQUARE-SHARE

- Educator Role
- Student Role

Lecture: Research

- Brown & Minogue (2001); Bligh (2000)
 - Lecture just as effective as other methods in presenting information and providing explanations
 - Knowledge acquisition may occur during lecture; may occur later when reading notes

Lecture: Research

- Hartley & Davies (1978)
 - Students recalled:
 - 70% of first 10 min. of lecture
 - 20% of last 10 min.
 - Interspersed student activities improved recall
- Burns (1985)
 - Students recalled 35% of content presented during first 5 min. of class
 - Slight decline occurred over next 10 min.
 - Largest decline occurred after 15 min.

Lecture: Research

- Ruhl, Hughes, & Schloss (1987)
 - Pausing 2-3 times per hour increases short term memory recall and long term retention
- Bligh (2000)
 - Information stored in short term memory 15 sec.
 - Lost if not noted or kept in mind long enough for transfer into long term memory
 - Stories are easier to retrieve
- Bunce, Flens, & Neiles (2010)
 - Student engagement alternates between shorter and shorter cycles as lecture continues over time

Active Learning Strategies: Research

- Eric Mazur (2009) – Harvard Physics professor
 - Discovered understanding of “force” did not improve after introductory course in physics
 - Students:
 - improved in handling equations and formulas
 - were unable to explain their meanings of equations and formulas
 - answered questions using rote knowledge recall
 - Introduced “peer learning”, “interactive learning”
 - Think-pair-share
 - Knowledge retention improved
 - Problem solving skills improved

Active Learning Strategies: Research

- Eric Mazur – Harvard Physics professor
 - Active learning took new information and “applied” it
 - Establishes “personal ownership”

REFLECTION: THINK OF SOMETHING YOU DO WELL AND
SHARE WITH ANOTHER EDUCATOR HOW YOU BECAME GOOD
AT THIS ACTIVITY

Active Learning Strategies: Research

- Most research has been done in STEM courses/program
- Nurse educators beginning to conduct research
 - Small sample sizes and variation in learning strategies
 - NCSBN simulation research has recently demonstrated that up to 50% of clinical can be replaced by simulation

Resources to Determine Essential Content

Managing content overload

- Nurse educators have been operating under two assumptions:
 - It is possible to teach everything that a new nurse should know while they are in nursing school
 - It is the educator's responsibility to ensure that content is “covered”

(NLN, 2003)

- More and more content has been added to curricula
 - Specialty groups have asked for additional content to be added to curricula
 - New content continues to be added without the removal of old content

(NLN, 2005)

Managing content overload

- Vast amount of information is being presented; and the list grows as new research findings are integrated

(Benner, Sutphen, Leonard, & Day, 2010)

- Content is moved from one course to another, one semester to another, without significant changes in overall amount
- Educators' perspective on what knowledge is “need to know” is distorted by their area of clinical expertise

Enhancing depth of knowledge

- Content-laden curricula teach a “little about a lot” but very little to any depth

(Tanner, 2010)

- “Overall, new graduate nurses are fully prepared to provide safe, effective care in the hospital setting”
 - 90% nurse educators agreed
 - 10% nurse manager’s agreed

(Berkow et al., 2008)

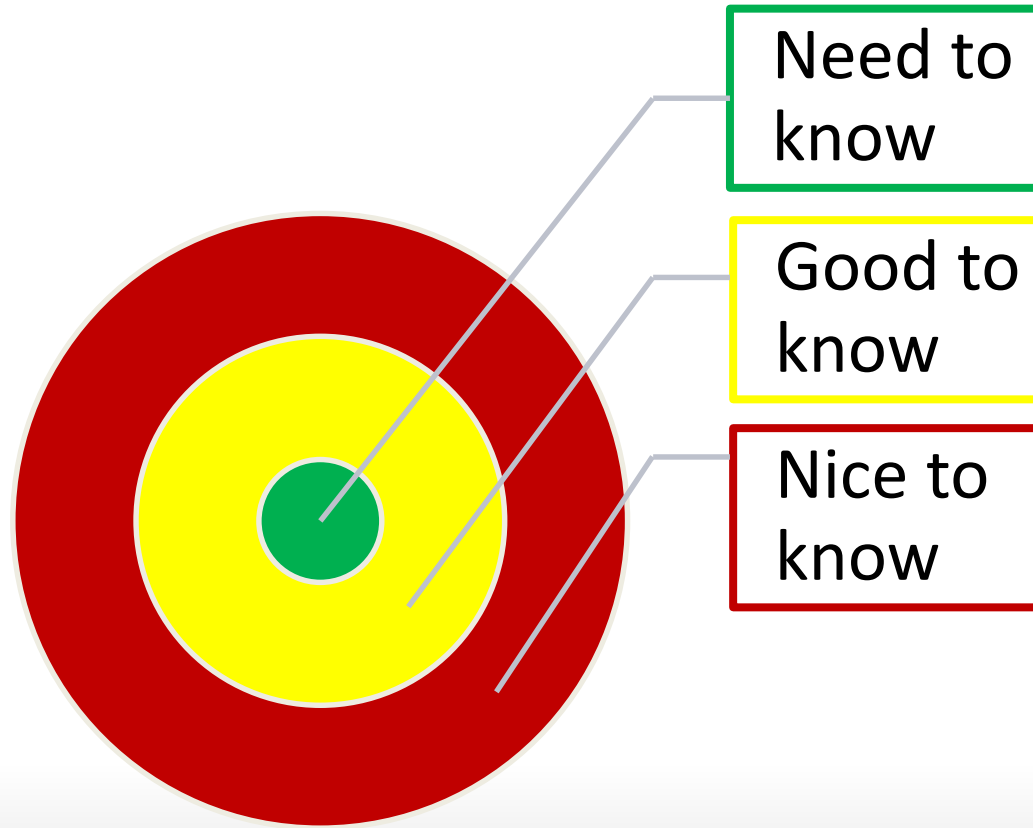
- Nurse Residency programs are being developed to bridge the gap

(Letourneau, 2015)

Enhancing depth of knowledge

- With a propensity for “imparting” knowledge in the classroom, its contextual application is saved for the clinical setting
- “Clinical” can no longer be relied upon as a place where students can “practice their skills”
- Simulation labs are beginning to fill the gap
- Valuable time is not being used to its fullest in the classroom (prime real estate)

Determining “Need to Know” Content



“Need to Know” for a Generalist

- BSN Essentials
- NLN Competencies
- NCLEX Test Plan

NCLEX Test Plan

- NCLEX Detailed Test Plan
 - Client Needs provides structure
 - 4 major categories
 - 2 of which have subcategories
 - Across the lifespan
 - Related content areas with activity statements (see test plan)
 - Perform content analysis related to activity statements
 - Five integrated processes
 - Nursing process; Caring; Communication/Documentation; Teaching/Learning; Culture and Spirituality
 - Specific alterations in health are not part of activity statements

Selecting Content based on Incidence and Prevalence

- So what's an educator to do?
- Focus on incidence and prevalence
 - Identify the major/most common health problems nationally and in the community
 - Amount of “content” taught is significantly cut

Selecting Content based on Incidence and Prevalence

- Select content based on
 - **Incidence** - rate at which new cases occur in a population during a specified period
 - **Prevalence** - proportion of a population that is affected by the disease at a specific time

Sources of Incidence and Prevalence

Nationally

- CDC
- IOM
- NIH
- Healthy People
- National Institute of Mental Health
- National Center for Health Statistics
- American Heart Association
- American Cancer Society
- American Diabetes Association

Locally

- ER visits/admissions at major hospitals
- local health department
- state records

Selecting Content Based on Incidence

- Guillain Barre' Syndrome has an incidence of 1 to 2 cases of per 100,000 people.
- Lyme Disease has an annual incidence of 106.6 cases/100,000 persons
- Hepatitis incidence 2014
 - A = 1239/100,000
 - B = 2953/100,000
 - C = 2194/100,000
- Birth Defects (occurrence/number of births)
 - Trisomy 21 occurs 1 in 691; cleft lip 1 in 940
 - Tetralogy of Falot occurs 1 in 2518; spina bifida = 1 in 2858
 - Anencephaly occurs 1 in 4857; omphalocele = 1 in 5386

Selecting Content Based on Incidence

- 15 leading causes of death 2013

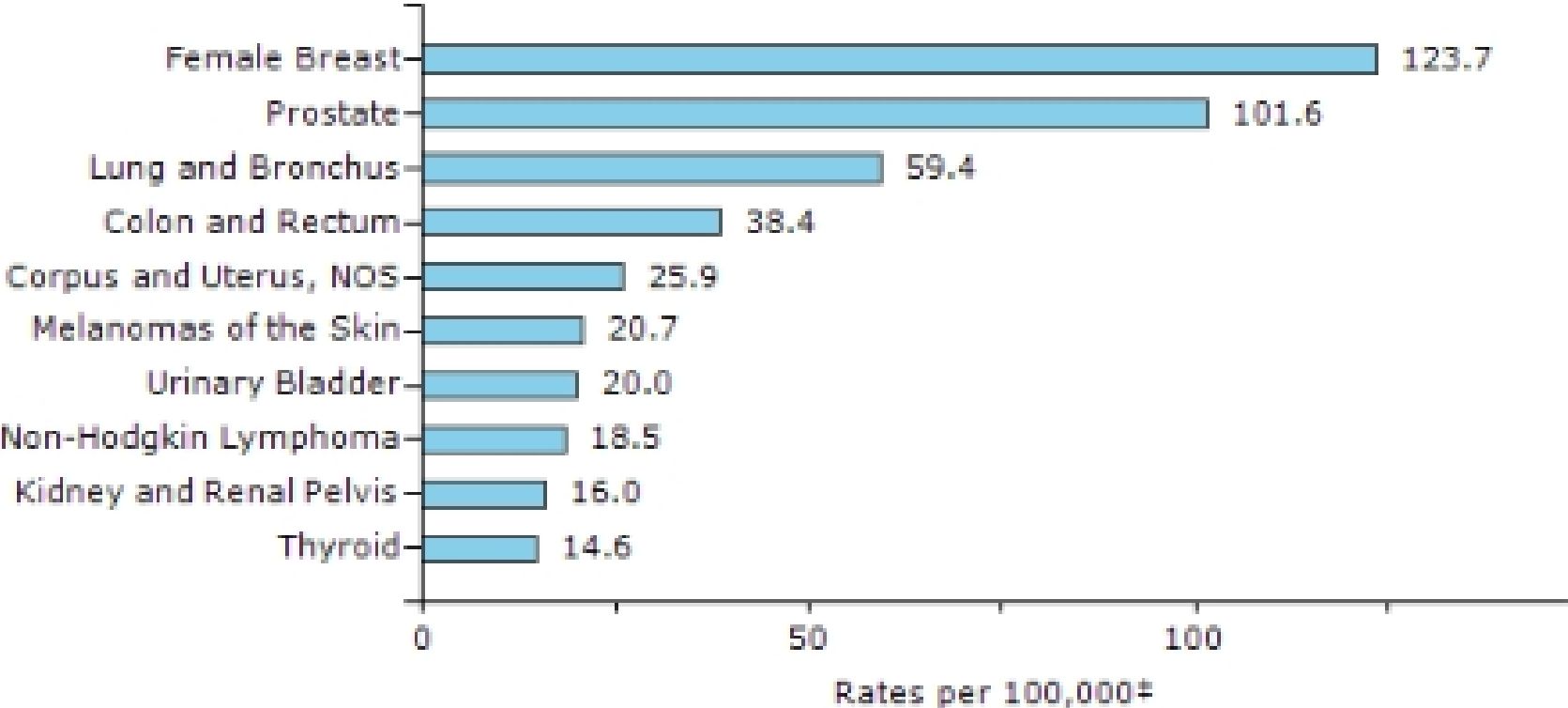
- Heart disease
- Cancer
- Chronic lower respiratory diseases
- Accidents (unintentional injuries)
- Stroke
- Alzheimer's disease
- Diabetes mellitus
- Influenza and pneumonia
- Kidney disease
- Suicide (intentional self-harm)
- Septicemia
- Chronic liver disease and cirrhosis
- Hypertension
- Parkinson's disease

- Pneumonia

(CDC, 2016)

Selecting Content Based on Incidence

Top 10 Cancer Sites: 2013, Male and Female, United States—All Races



Selecting content based on prevalence

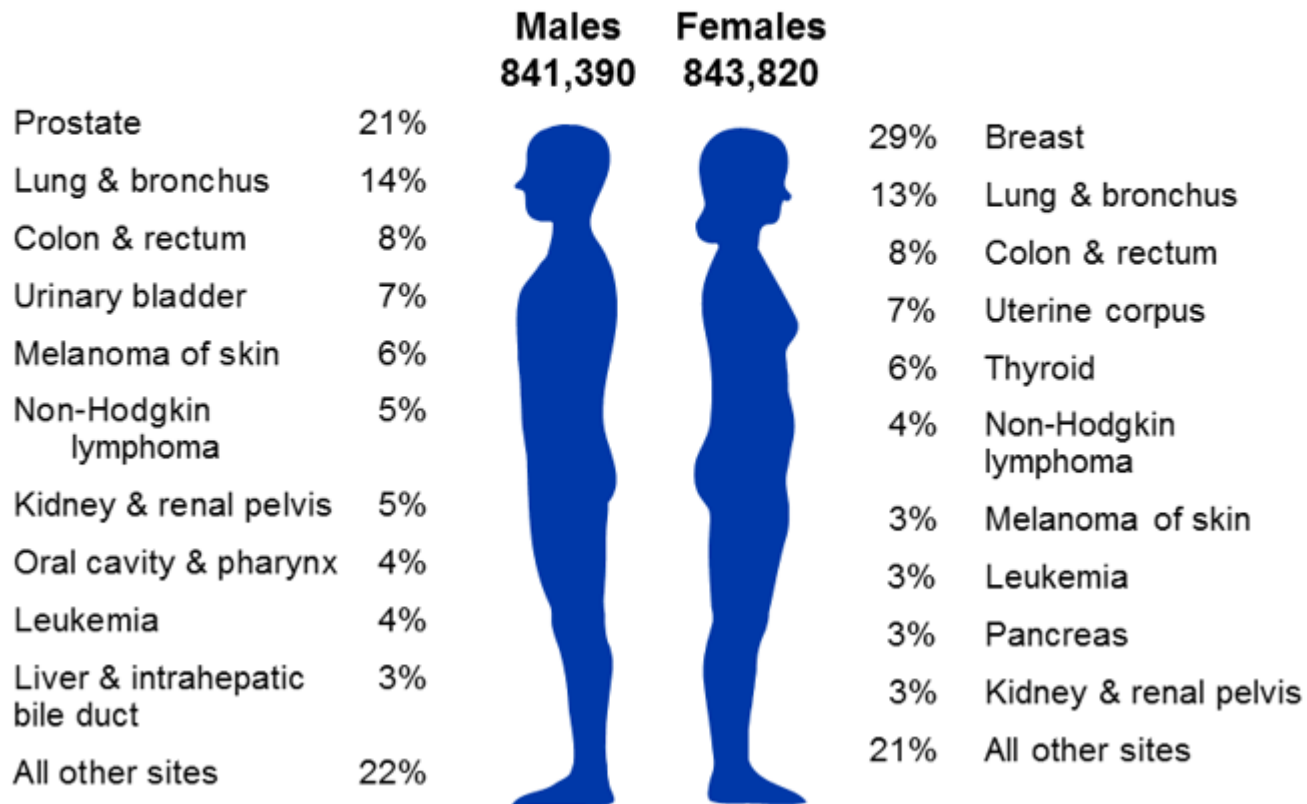
Cancer prevalence is determined by how often cancer occurs and how long people live after diagnosis – a cancer with a long survival rate will show a higher prevalence than those with a lower survival rate.

Males	Females
Prostate 2,975,970 (43%)	Breast 3,131,440 (41%)
Colon & rectum 621,430 (9%)	Uterine corpus 624,890 (8%)
Melanoma 516,570 (8%)	Colon & rectum 624,340 (8%)
Urinary bladder 455,520 (7%)	Melanoma 528,860 (7%)
Non-Hodgkin lymphoma 297,820 (4%)	Thyroid 470,020 (6%)
Testis 244,110 (4%)	Non-Hodgkin lymphoma 272,000 (4%)
Kidney 229,790 (3%)	Cervix 244,180 (3%)
Lung and bronchus 196,580 (3%)	Lung and bronchus 233,510 (3%)
Oral cavity and pharynx 194,140 (3%)	Ovary 199,900 (3%)
Leukemia 177,940 (3%)	Kidney 159,280 (2%)
All cancer sites 6,876,600	All cancer sites 7,607,230

<http://www.cancer.org/cancer/cancerbasics/cancer-prevalence>

Evidence-basing teaching

Estimated New Cancer Cases* in the US in 2016



<http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2016/>

How Do We Begin?

- Review current list of content
- Determine undeniable “need to know” content
- Review NCLEX detailed test plan
- Review NLN Competencies/BSN Essentials
- Determine incidence and prevalence of remaining content
- Review concept-based curricula exemplar list (NC; NM)

Content Analysis

Sensory Perceptual	
Spinal Cord Injury	Multiple Sclerosis
Stroke	Myasthenia Gravis
Meningitis	Traumatic Brain Injury
Alzheimer's	Acoustic Neuromas
Huntington's Disease	Lower Back Pain
Guillain Barre'	Trigeminal Neuralgia

Fight Content Overload with Evidence

So let's fight content overload and the additive curriculum by selecting content based on evidence. Teach students about the major and most common alterations in health as indicated by incidence and prevalence data.

Characteristics of Millennial Students

Millennials

- Millennial, Generation Y, Generation Me, Echo Boomer born early 1980s - early 2000s
 - Generation “why” – questioning nature
 - Creative and innovative
 - Multi-taskers
 - Reliance on electronic communication
 - Personal computers and smart phones
 - Get bored easily
 - Like to be entertained
 - Immediate feedback



Issues Related to Teaching a New Generation of Learner

- Millennials are digital natives - “grew up” using:
 - Computers (class/homework, research, email, Skype)
 - Cell phones (texting)
 - Social networking (Facebook, Twitter, blogs)
 - Video games (interactive, fast paced, animated)
 - On demand television/movies (DVR, Hulu, Netflix)
 - Instant access to information (Internet, databases)



(Prensky, 2001)



How Do Today's College Classrooms Compare?

- Low-tech
- Textbook-based homework
- Large, impersonal classrooms
- Lecture dominant
- PowerPoint dominant
- Grades based on tests/essay performance



Look Familiar?



Instructional Strategies for Today's Learner

- Students desire teaching/learning formats that are fast/relevant/succinct
- Students must be taught how to **learn** and **think** using:
 - Active, engaging, constructivist instructional strategies
 - Client related critical thinking scenarios
 - Technology that brings the client into the classroom/lab
- Minimal use of PowerPoint slides and lectures
 - Students' average attention span is 10-15 minutes
 - Few remain engaged beyond this point



Instructional Strategies for Today's Learner

THINK-PAIR-SQUARE-SHARE

Develop a list of technology/media that supports learning



Using a Scrambled Classroom

Introduction

“Shift the focus from covering decontextualized knowledge to teaching for a sense of salience and situated cognition”

(Benner, 2010)



Lecture: Issues

- Educator-focused
- Transfer of knowledge focused

(Mazur, 2009)

- Tends to focus on lower levels of Bloom's taxonomy

(Kolowich, 2011)

- Average student's attention span is 10-15 minutes

(Wilson & Korn, 2007)



Lecture: Issues

- Dimmed classroom
 - Creates a sleepy student
 - Decreases visual connection
 - Poor student/educator engagement

(Moellenberg, 2010)

- Bulleted statements may not relay coherent ideas
- Slides deliver lecture, not educator



What type of classroom has been recommended to shift the focus away from the educator and onto the students?



“Flipped Learning” Defined

- Definition: A pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter. (Flipped Learning Network, 2014)

Flipped Learning: Student Issues

- Students not prepared for this style of learning
- Students are used to and prefer passive role
- Students may not come to class prepared
- Students may not work well in groups
- Students are grade focused

(Moellenberg, 2010; Talbert, 2015)



Flipped Learning: Faculty Issues

- Educators are not used to this style of learning
- Educators are used to more active, presenter role
- Educators are used to “delivering” content
- Educators are used to structured classroom

(Moellenberg, 2010; Talbert, 2015)



Flipped Learning: Issues

- Student dissatisfaction
 - Leads to resistance due to discomfort
- Faculty dissatisfaction
 - Leads to resistance due to discomfort



Scrambled Classroom

- Scrambled classroom is one composed of a “mix of direct instruction and practice and feedback” (Barnett, 2014)
- Allows educators to use both lecture and active strategies in a balanced, complimentary manner
- Avoids replacing one rigid pedagogy with another rigid pedagogy
- The term “flipping” can be problematic – a more nuanced and accurate term such as “scrambled classroom” may be more acceptable (Barnett, 2014)

How to “Scramble”

- Determine what media, technology, resources are available
- Analyze lecture and chunk it into 10-15 minute blocks
- Map out upper and lower levels of learning
- Balance lectures with active learning strategies
- Change up strategies to keep students’ attention



How to “Scramble”

- When chunking, provide periods of reflection
 - Move knowledge to long term memory
 - Intersperse with narrative pedagogy

- Make lectures interactive
 - Imbed media/technology into PPTs
 - Use Socratic Questioning
 - Visually/spatially engage students
 - Intersperse with narrative pedagogy

(Bligh, 2000; Moellenberg, 2010)



How to “Scramble”

- Prepare students for different learner role
 - Students come in with a mental picture of a classroom
 - Educators must be engaging and enthusiastic
- Help students develop new set of skills
- Explain rationale for active learning strategies
- Change is not easy – it is a process, not an event
- **DON'T STOP TOO SOON**

(Moellenberg, 2010)



How to “Scramble”

- Focus on contextualization
 - Relate stories from the trenches
 - Use case studies to put a face on a concept
 - Use technology to bring client into classroom
 - Engage students in problem-solving/
problem-based learning



Active Learning Strategies for Classroom/Lab/Clinical

*The real challenge in successfully developing
an active learning classroom is in its
creation by the educators
responsible for its development.*



*But how do we **change** from how we have been teaching for decades?*



We change the “*role*” of both *educators* and *students* and focus on *expanding our view of teaching/learning* to include a growing repertoire of *active learning strategies*



Strategies that Support Active Learning

- Constructivism

- An active process by which learners construct new knowledge, based upon past and current knowledge, in collaboration with other learners.

(Brandon and All, 2010; Kantar, 2014)

- Active Learning

- An approach that assists students to process incoming information and respond to learning situations through the use of active engagement.

(Billings & Halstead, 2016)



Constructivism – Theoretical Concepts

- The learner transforms old knowledge, reinterprets and integrates it into new knowledge that can be applied to more complex situations and in new contexts.
- These higher levels of cognition provide the scaffolding for continuous assimilation of new knowledge as a concept is reintroduced in subsequent courses and applied to various health alterations and contexts.

(Muirhead, 2006)



Constructivism – Theoretical Concepts

- Social collaboration supports students ability to enhance knowledge acquisition and transfer.
- Motivation and locus of control supports or inhibits students' ability to make changes in attitudes and behavior.

(Pritchard & Woollard, 2010).
- Gagnon and Collay (2006) stress the importance of building cognitive "bridges"



Teaching in a Constructivist Manner

- Faculty can **role model** life-long learning as they construct new knowledge along with their students



- Educator is “**Designer/Creator**” of learning experiences



Creating a Constructivist Learning Environment

- The role of the educator is to design a learning environment that fosters self-directed learning and construction of new knowledge.
 - Provide a context for the concept with real-life examples
 - Build on the learners' previous knowledge and experience
 - Actively engage learners in the learning process
 - Allow learner to feel independent / in control
 - Facilitate social interaction of learners as they create new knowledge
 - Engage with learners through dialogue and questioning
 - Appreciate the emotional aspects of the learning experience

(Pritchard and Woollard, 2010)

Active Learning Strategies

- Students must be engaged in the learning process.
- Students must take responsibility for their own learning.
- Students are at the center of learning, not the educator.
- Learning activities that promote development of:
 - Critical thinking/Clinical reasoning/Clinical judgment
 - Problem solving
 - Deep learning

Creating an Active Learning Environment

- Faculty role in creating active learning environment
 - Prepare meaningful pre-class activities that focus on knowledge acquisition (explain purpose and goal)
 - Develop relevant, challenging learning activities that are aligned with learning goals
 - Use class time to actively engage students in higher levels of learning.
 - Engage students in rich learning activities 70% of class time
 - Support application of knowledge to clinical situations “by bringing the patient into the classroom”.
 - Use discussion (class/peer/small group) to promote a deep understanding of the content.
 - Reinforce students’ responsibility for their own learning.

(Erickson & Lanning, 2014)



***Change is not easy – it is a process, not an event
DON'T STOP TOO SOON
(Moellenberg, 2010)***

Active Learning Strategies for the Classroom

- Think-Pair-Share
- Socratic Questioning
- Central Question
- Concept Mapping
- Tree of Impact
- Discovery learning
- Case Study



Case Studies

- Bring real or simulated patients/patient situations to the classroom and apply concepts of learning to provide contextual learning and the opportunity to solve problems in a safe environment.



Case Studies - Unfolding Case-Studies

- *Single Class* example - use an **unfolding** case study to deliver content
 - Two adolescents are brought into the ED; one with a cervical injury (C₅) and the other with a lower lumbar injury (L3, L4)
 - Compare and contrast
 - assessment findings upon admission
 - treatment (surgical and non-surgical)
 - hospital course and rehabilitation
 - neurological deficits (upper vs. lower motor neuron deficits, spinal shock)
 - complications (autonomic dysreflexia, impotence)
 - psychosocial implications of prognosis



Case Studies - *Single Class* example

- Two patients are diagnosed with early type-2 diabetes mellitus.
 - One patient loses weight and exercises while the other does not.
 - One patient's blood sugar returns to normal
 - Other patient progresses to oral anti-hyperglycemics and eventually insulin.
- Two charge nurses on the same unit make staff assignments for the shift.
 - One makes appropriate staff assignments
 - Other makes inappropriate staff assignments.
 - Follow the charge nurses throughout the day
 - Provide students with issues that arise or allow students to identify issues that arise during the shift.



Case Studies - Course

- Develop a case study that can be used throughout the **course** to illustrate several concepts.
 - Center case study on a patient with congestive heart failure who also has COPD and renal involvement (cardiac output, oxygenation, excretion).
 - Focus on one alteration per class in the context of a patient with multisystem failure



Case Studies - *Program*

- Use a case study throughout the **program** that involves a family in the context of a community – student developed
 - Select a culture indigenous to your community and construct an extended family with health and socioeconomic needs
 - Include patients across the lifespan including a childbearing adolescent, newborn, children of various ages, middle-age adults at risk for alterations in health such as type-2 diabetes, older adults living in the same house with chronic alterations in health
 - Include socioeconomic issues such as access to health care, housing, safety, community resources, etc.



Case Studies – THINK-PAIR-SHARE

- With a peer develop one of the following types of case studies that you could use in a course you teach in.
 - Unfolding: Single class
 - Unfolding: Course
 - Unfolding: Program



Central Questions

- A broad, central question or problem is presented that requires students to analyze the issue and provide a multifaceted answer.
 - Use at end of lecture to pull concepts together
 - Concept map may be used to illustrate relationships
- Examples:
 - How can asthma be controlled in children who experience status asthmaticus?
 - How can children with cystic fibrosis decrease their number of hospitalizations?
 - How can patients with diabetes mellitus prevent peripheral vascular disease?
 - How can gestational diabetes be managed to promote health of the mother and baby?
 - How can a community be a client?

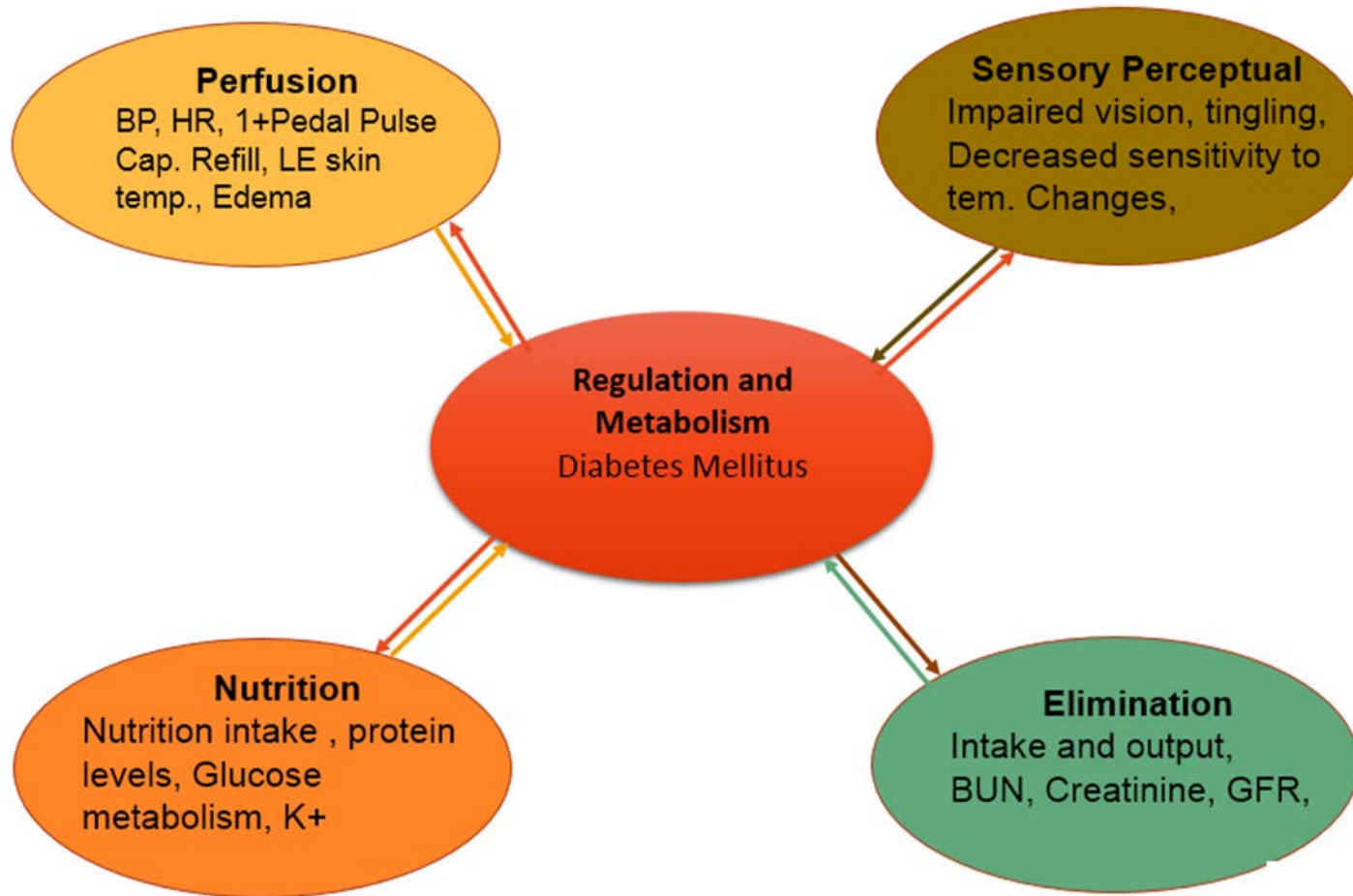


Concept Map

- A graphic tool that illustrates the interrelationship of concepts and sub-concepts.
- Encourages spatial learning that supports acquisition, organization, and presentation of information
- Use in class as a
 - Note taking tool
 - Group exercise
 - Ticket to class
- Use for concept (pain); health alteration (diabetes); client care (nursing process)

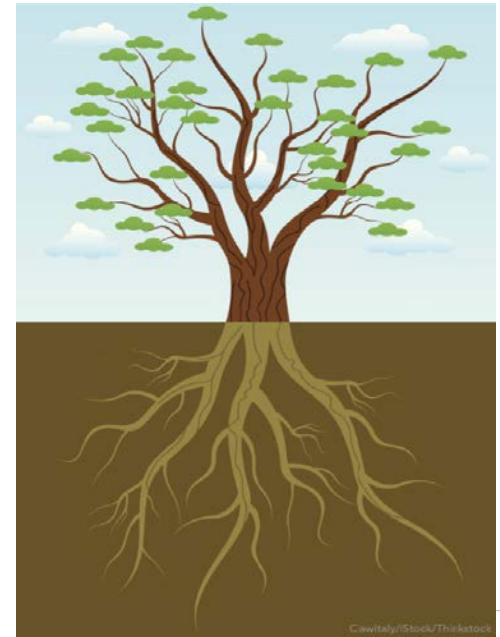


Concept Mapping – Interrelated Concepts



Tree of Impact

- Organize ideas or actions and subsequent consequences over time
 - Have students brainstorm potential consequences (tree roots)
 - Have students brainstorm interventions / responses to consequences (tree branches)
- What impact does the closing of a healthcare clinic have on community?
 - Concepts:
 - Healthcare Quality
 - Healthcare Economic
 - Healthcare Policy
 - Health Promotion
 - Individual
 - Family
 - Community / population
 - Environment



Discovery Learning

- Students explore/problem solve using examination/experimentation.
- Large or small group activity
- Example: Discovery Chart for Birth Control/Contraception
 - Chart includes method; contraindications; reliability; protection; appropriate age group
 - Students in small groups research the problem/issue and complete chart
 - Small groups share results of their chart with the large group
 - Faculty support knowledge synthesis and interrelated concepts.
 - Opportunity to use Socratic Questioning

BIRTH CONTROL/CONTRACEPTIVE DISCOVERY LAB

BIRTH CONTROL/CONTRACEPTIVE	DESCRIPTION/TYPE OF METHOD	CONTRAINDICATIONS	RELIABILITY	PROTECTION AGAINST STIs	APPROPRIATE AGE GROUP
-----------------------------	----------------------------	-------------------	-------------	-------------------------	-----------------------



Socratic Questioning

- Use following types of questions to encourage verbalization of thoughts, refine communication skills, and defend stance when a position is being challenged.



Clarification

- - "Tell me what you mean by the statement ...",
- "Can you rephrase that statement in a different way?"
- "What are the implications of that perspective?"



Justification

- "Explain the theory or evidence behind that statement.",
- " Give me an example of....?"
- "What are your reasons for saying that?"
- "What led you to that belief?"



Probing

- "What assumptions are you basing that conclusion on?",
- "Explain the thinking behind your statement."



Games

- Use as a fun diversion or review – tends to focus on knowledge level learning
- Not usually effective for deep learning
- Can be used to informally test knowledge
 - Jeopardy (developmental stages, OTC)
 - What's My Drug
 - Crossword puzzles
 - Jigsaw puzzle
 - Match game



Classroom Assessment Techniques

1-Minute learning exercise

1. What is the most significant thing I learned today?
2. What is the one thing I still need more time to learn?

Evaluate learning and application to practice

1. What about this experience helped you learn?
2. What would you change to improve learning?
3. How will this learning experience affect your clinical practice?

OR

1. What do you know now that you didn't know last week?
2. How will you use this knowledge in your nursing practice?



Traditional vs. Targeted Learning in Clinical Settings

Traditional Clinical	Targeted Clinical
Unpredictable, unfocused learning	Focused learning (one concept at a time)
Focus is on patient care tasks and skill acquisition	Focus is on developing a deep understanding of content.
Missed opportunities for situated, deep learning	Focus on deep situated learning and clinical reasoning.
Independent learning	Independent and collaborative learning
Uses apprenticeship model and observational experiences	Purposeful linkages to interrelated concepts in a situational context.
Unit manager/staff nurse expectations focus on total patient care	Requires unit manager/staff nurse education



Role of the Instructor in Clinical

- Look for targeted learning opportunities
- Communicate with Manager/Staff regarding changes in clinical assignments for students.
 - Selected students will be performing total patient care.
 - Other students will focus on targeted learning opportunities.
- Focus on cognitive skills (critical thinking/clinical reasoning/clinical judgment).
- Teaching students to “Think Like A Nurse” (Socratic questioning).
- Support, provide feedback, and evaluate students ability to perform clinical judgment.



Laboratory Activity 1

- Concept: oxygenation; Skill: respiratory assessment
- **Patient 1**
 - Age: 2 month old
 - Exemplar—respiratory syncytial virus
- **Patient 2**
 - Age: 18 years old
 - Exemplar— cystic fibrosis
- **Patient 3**
 - Age: 68 years old
 - Exemplar—COPD
- Debrief: Compare and contrast health alterations; age of patient, assessment findings, interrelated concepts, etc.



Laboratory Activity #2

- Concept: Safety; Skill: Identification of errors
- Set up 3 – 5 Stations with safety concerns
- Divide students into groups and rotate through each station.
 - Identify safety errors at each station.
 - Students to reflect and determine the following for each station
 - The errors
 - Potential impact on patient outcomes
 - Identify quality improvement strategies to prevent error.
 - Identify nursing actions that should be implemented to reduce risk or harm.
- Debrief: Use Socratic questioning to support discussion during reporting.

Additional Simulation/Laboratory Activities

- Standardized patients (live “patients”)
- Role Playing
- Simulation scenarios
 - Failure to rescue
 - Code
 - High risk delivery
- Debrief: Use Socratic questioning to support discussion during reporting.

Targeted Clinical Assignment #1: Infection

- Divide students into 2 groups (Total vs. Targeted Patient Care)
- Total Patient Care (1/2 of clinical group)
 - Total care of assigned patient
 - Repetitive tasks, basic nursing skills
- Targeted Patient Care (1/2 of clinical group) Predictable, focused opportunity
 - Supports higher order thinking and deep learning
 - Assign students to assess 3 patients and their environments
 - Identify risk factors of developing hospital acquired infection
 - Identify interventions being taken or needed to prevent infection
 - What should be communicated to the healthcare team



Targeted Clinical Assignment #2: Clinical Judgment

- Have selected students assess **fluid volume and electrolytes** of a patient with heart failure and collect the following data.
 - Trending of intake and output, sodium, potassium, vital signs
 - Medications prescribed to treat patients heart failure
- In post-conference have students present their findings related to each patient
 - Were the trended findings within acceptable limits (why/why not)?
 - Were medications effective (why / why not)?
 - Describe the interrelationship of additional systems based on trended findings? (**Perfusion, Gas Exchange, Mobility, Cognition, Anxiety**)

Settings for Targeted Learning

— FLUID & ELECTROLYTES

- Renal Dialysis Unit

— FUNCTIONAL ABILITY

- Long Term Care Facility (CVA, MS, Spinal Cord Injury patients)

— INFECTION

- Infectious Disease Clinic

— PERFUSION

- Cardiac Catheterization Lab

— HEALTHCARE ORGANIZATIONS

- Emergency Department, Same Day Surgery, Inter-unit patient transfers
- Inefficient system processes (communication, physical & human resources)

*We can no longer assume that students are developing conceptual understanding – we must **teach for** and help students **draw out** their conceptual understandings.*

(Erickson & Lanning, 2014)



Class Schedule Template: Faculty Activity

Lesson Plan Template



Lesson Title	
Concept/Content/ Exemplar	
Pre-class reading assignment (page numbers/ articles/URL)	
Supporting activities	Pre-class: Post-class:
Type of experience	<input type="checkbox"/> Classroom <input type="checkbox"/> Skills lab <input type="checkbox"/> Simulation lab <input type="checkbox"/> Clinical
Learning Outcomes/ Objectives	The student will: 1. 2. 3. 4.
Evaluation Strategies	
References	



Class Schedule Template: Faculty Activity

Class/Lab/Clinical Session Schedule by Time and Activity	Learning Activity	Directions for Instructional / Learning Activity	Instructional Resources Needed



Getting Student Buy-In for Active Learning Strategies

Faculty Support - New Beginnings

- Embrace creativity
- Develop collaborative relationships with students in the active learning environment
- Don't revert back to previous teaching methods if you feel the change isn't working – change takes time.
- Encourage/support each other
- Two heads are better than one



Student Resistance: Overcoming Road Blocks

- Anticipate and prepare for resistance / behaviors
- Clearly communicate your expectations
- Prepare students for their role
- Support students in the transition to active learning
- Be consistent with expectations



Preparing Students for Active Learning

- Introduce students to active learning and constructivism
 - Social collaboration
 - Knowledge building
 - Motivation and locus of control
 - Collaborative relationship with educator

- Introduce students to the Active Learning Classroom
 - Student role: active, engaged, reflective
 - Educator role: facilitator
 - Scrambled classroom

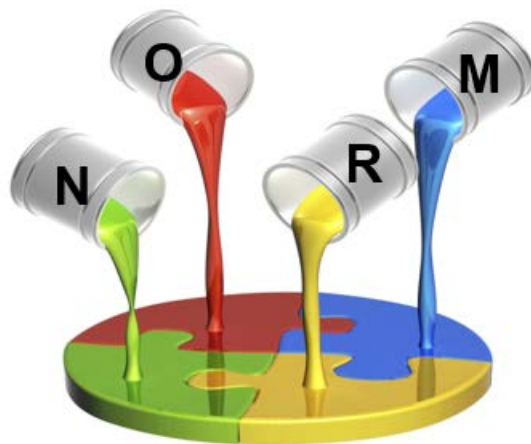
Co-Creating Norms

What behaviors do we want to see in our team/class?

What behaviors do we NOT want to see?

How will the desired behaviors/norms be reinforced?

What will happen if the norms are breached?



Student Resistance

Reflection

What new strategy do you feel will help you the most when dealing with student resistances/behaviors and why?



FINAL THOUGHTS

