Innovation with Low Tech Teaching Strategies: Classroom and Clinical

The 21\textsuperscript{th} Annual Conference for Nurse Educators
Denise Baxter, Ed. D, CNE
Christine Grunewald, MS

I hear, and I forget;
I see, and I remember;
I do, and I understand.
Confucius

You tell me, and I forget.
You teach me, and I remember.
You involve me, and I learn.
Benjamin Franklin

Active Teaching

- Selects teaching strategies that will help students reach their goals
- Gets students actively involved in the learning process
- Guides, facilitates & monitors student learning (Eggen & Kauchak 1996)
- Teaching techniques used are intended to make the students active (rather than passive) participants in learning.
- Identifies clear learning goals for students

Beliefs about Active Teaching

- Students must talk about what they are learning, write about it, relate it to past experiences, apply it to their daily lives.
- Working with others increases involvement in learning.
  Chickering & Gamson, 1987

Why We Teach

We chose to teach because we believe that these positive and negative learning experiences, information gathered throughout our practice, and a desire to “pass it on” are key to the teaching-learning process.

Outcomes

At the end of this presentation, the participant will be able to:

- Determine advantages and constraints in using innovation to guide active teaching.
- Compare and contrast several innovative teaching strategies for large classrooms and small classrooms.
- Formulate several innovative, low tech strategies to maximize learning with meaningful post conferences.
- Discuss the benefits of post conference learning.
Beliefs about Teaching-Learning

- Learning is by nature an active endeavor
- Different people learn in different ways (Meyers & Jones, 1993)
- Active participation increases learning
- Minimizing isolation increases learning
- Success increases self-esteem
- Success increases sense of belonging

Effective Large Classrooms

- It is the method of instruction that is used, not the size of the class that seems to be the best predictor of learning. (Frederick, 1987)
- It is in the first 5 minutes students decide whether to invest energy in following your presentation

No lecture bashing:

- Lecture is effective, efficient, and meets the needs of most learners (Herrman, 2008; Oermann, )
- Intersperse creative strategies with tried and true lecture methods as a way to enhance active learning and retention.

Student Preparation for Class

- Throw a “hook” to snag their interest
- What knowledge, skills and attitudes do students need:
  - To achieve course objectives
  - To actively participate in class activities
  - Individual/Group Quiz

Enhanced lecture

What does it ‘look like’?

- Objectives/Expectations
- “Hook”
- Lecture: 15-20 minutes
- Activity
- Lecture: 15-20 minutes
- Summary

Innovation

- Innovations slipped into current teaching strategies can provide a diversion and reinforce material that might otherwise be forgotten.
- By increasing the level of enjoyment in learning, creative teaching strategies can inspire students to attend class, prepare for class, and maintain vigilance during the session.
**Strategies for Large Classrooms**

**Minute Paper:**
- What is the most significant thing you learned during this portion of class?
- Describe the concept of ______ in your own words. Give an example.

**Muddiest Point:**
- What remains unclear about the concept presented in this portion of the lecture?
- Reality: 3-5 minutes

---

**Pause Procedure**
- Stop lecture
- Students work in pairs
- Compare and rework notes
- "What remains unclear?" Sorcinelli, 2002
- Short breaks allow people to return to peak listening.

---

**Quick Thinks:**

**Paraphrase Ideas**
- Students are asked to explain something in their own words to a specific audience.
- Example: Your assigned patient, a 1 week old child with dyspnea is going to have a bronchoscopy with sedation (Chloral Hydrate is ordered) to film the child’s vocal cords. The child’s parents are very anxious.
- Explain the procedure to the parents. Also identify questions they might ask and how you would respond.

---

**Reorder Steps**
- Present series of steps in mixed order
- Re-order in correct sequence
- Good for priority setting – what would you do FIRST

---

**ACTIVITIES**

**Application Cards**
- Purpose: Determine how students have connected their new learning to prior knowledge and how well
- They understand how to apply the concepts
- List applications of specific concept that have been observed in the ‘real world’.
- Angelo & Cross, 1993

**Reflective Responses**
- A question that students must respond to in writing - a one or two paragraph response
- Advantages
- "Hook" for beginning class
- Everyone has something they can contribute
- Increase ‘time on task’
- Communication/Writing

---

**Unfolding Case Study**
- A 50 year old sales representative for a major computer company comes to the clinic for a follow-up appointment stating he is fatigued and has had a 5# weight gain in the last week.
- Review of his medical records indicates
- married with four children (ages 13 to 18)
- works long hours rarely home before 8:00 pm
- CAD (Dx 5 yr ago) following episode of chest pain
Assessment findings:
- respiration – 32/min and
- crackles bilaterally in all lung fields.
- heart rate – 120/min with
- occasional irregular beats
- BP – 180/110
- pitting edema in lower extremities
- states, “I am doing okay. I just think I need some more of those water pills I got a couple of months ago.”

Asking Questions
- “If I ask them only what they already know, then they have not learned anything new that day and the time has been wasted.” (Hoffman, 2008)
Tip: What if, How, Why

Class Closing Activities

One-Sentence Summary – guided reflection:
“What was the most important information you learned today related to the care of a client with diabetes?”
Minute Paper –
“What was the most important thing you learned during this class?/What important question remain unanswered?”

Student Review:
- Two minutes to review their notes and underline key ideas.
- Trade notes with partner and discuss differences and similarities. Couple of pairs share their conclusions.
- Test Content – Reflect back on the material we discussed today, what content do you think will be covered on the exam? Angelo, T

Questions
Which of the following learning activities would provide the learner with the HIGHEST level of cognitive learning?
A. Unfolding Case
B. “Muddiest Point”
C. Memory Matrix
D. Paraphrase the idea

Advantages of Creative Strategies
- Ability to reel in students
- Get them to enjoy learning
- Facilitates transitions from one topic to another
- Encourage lasting retention of material

Active learning used in didactic = improved grade for OTJ/Clinical
(Hoke & Robbins, 2005)
Disadvantages

- It may work well or crash and burn
- Planning & preparation time may be significant
- May drain class time needed to cover content
- Some students prefer passive learning
- May not connect the purpose of the exercise with the content
- May misconstrue information, not appreciate its significance, or neglect to apply lessons to their theoretical knowledge and nursing practice

Disadvantages

- Some students may regard creative teaching strategies as unprofessional or childish
- Greatest challenge may be the time and effort required to change your teaching habits and launch your students outside of their comfort zone.

Making learning fun

- You have the choice of using as many creative strategies as you feel comfortable with.
- You are not trying to overhaul your entire way of teaching, just to spice it up a little
- Quotations and stories may come from magazines, books, calendars, e-mail, quotation anthologies, or colleagues.
- Ideas will come to you in the shower, at a stop light, or when you’re falling asleep at night.
- Anything thought provoking, funny, or relevant, or any Ah-hah, is potential class material.

Myth 1: We must be sitting in a chair at all times in order to learn.

Fact: Our ability to learn by experience diminishes in direct proportion to the amount of time we spend sitting.

Myth 2: The person who does the most listening does the most learning.

Fact: The person doing the most talking, moving, or writing is doing the most learning.

Myth 3: The best way to teach is to give information in a well-planned lecture.

Fact: We remember 10-20% of what we hear. If we want someone to “hear” something, we lecture. If we want students to “learn”, we need to work as a guide on the side and involve them.
**Myth 4:** If we’d only listen, we’d remember more.

- **Fact:** We learn and remember 80-90% of what we do and say. In order to learn anything well, we need to talk about it with each other and do it a number of times.

**Myth 5:** The more “serious” the learning is, the more we will remember.

- **Fact:** We learn and remember best when we are engaged and enjoying what we’re doing.

**Myth 6:** Fun is marginal to learning.

- **Fact:** Not only do we learn best and remember more when we enjoy success at an appropriately challenging experience, we also will be more willing to seek out other challenging experiences.

**Myth 7:** The only person who should be the “sage on the stage” is the expert on the field.

- **Fact:** We are all in the process of becoming experts in something. The more of our knowledge we share with others, the more we learn.

**Question: Why Active Teaching?**

a) Active teaching increases active learning and student engagement resulting in positive learning outcomes

b) High levels of participation
c) Use of prior knowledge or experience
d) Adoption of new perspectives and positions
e) Openness with respect to learning outcomes

f) All of the above

**Why Active Teaching?**

- **True or False**
  - Challenge values and assumptions from different perspectives
  - Peer support and peer learning
  - Critical reflection on action & experience
  - Greater ownership of & responsibility of learning
  - Development of generic communicative skills
Constraints in Using Active Teaching strategies

- Shortage of time - deliver information in a didactic way with as little distraction to manage as possible
- Professional bodies’ constraints – of what they need to know
- Teacher’s view of their role – may feel irresponsible to relinquish center stage
- Student group may be dysfunctional – personal issues may come in the way of learning
- Emotional risk may be too great – some learners are unwilling to risk themselves emotionally i.e. in a role play
- Student access to teacher’s expertise may be decreased
- Teachers may feel they lack the expertise or confidence

Assignments with Choice

Allow students to decide how they will demonstrate that they have learned the required health information or skill.

- Ex. students may choose to demonstrate their learning by writing, speaking, drawing or illustrating or building
- A student may show multiple ways how she could demonstrate his or her knowledge of the circulatory system

Sacrificing Content

Students Retain:

- 70% of content presented in first 10 minutes
- 20% from last 10 minutes

Activities: Let’s Discuss

Why do nurses need to learn pharmacology?
Their actions, their uses, and their nursing implications?

- Think about the question
- Talk about it with your neighbor
- What 5 reasons did you come up with?
- Share your thoughts with the class

- Connective and causal effect questions: What are the possible causes of this phenomenon?
- Comparative questions:
- Evaluative questions:
- Critical Question:

Question

Active Learning is effective for young people because:

a) They are all hyperactive and have short attention spans
b) They suffer the effects of immobility, such as pressure areas or bony prominences
c) They have the same learning styles
d) They learn best when participating in the teaching – Learning process
Using Creative Strategies

- Start out slowly
- Always use in moderation
- Small dose will keep you from forcing uncomfortable learning styles on your students, especially for students accustomed to passive learning styles and non-interactive teaching
- Choose some of the more personal and less collaborative teaching strategies such as personal introspection and writing
- By beginning with less threatening strategies, you may eventually progress to more active ones.
- Use any strategy sparingly to keep methods innovative and fun

Conclusions

- Active learning methods can be difficult to introduce to students used to passive spoon-feeding approach to learning.
- “Just tell me what’s on the test” is the motto for some students
- Creative teaching strategies stimulate learning and engender activity, excitement, and discussion.
- Establish ground rules, time frame and your expectations for student participation and behavior.

Conclusions

- Learning styles, generation, cultural norms, and personality traits all influence a student’s response to teaching strategies.
- Encourage total participation, but respect your students by trying to make your teaching comfortable for all of them.
- Be knowledgeable and well versed in the content before introducing creative teaching strategies
- First time you present may not be the time
- You will develop a teaching style unique to your personality

Innovation with Low Tech Teaching Strategies: Clinical Post Conference

Christine A. Grunewald, MS

Post Conference:

- A valuable and rich opportunity for:
  - Learning
  - Connecting theory to practice
  - Remodel perceptions
  - Pause and reflect on the clinical day

- A place to:
  - Unload the stress and confusion
  - Celebrate successes

- A way to engage students in:
  - Team learning: incidental learning as opportunity
  - Evaluation and potential alternatives

Post Conference

What it is not:

- Teacher focused time
- Not a lecture opportunity
- Social hour
- Time to kill
Post Conference

➢ Traditionally take place immediately after time spent in the clinical setting
➢ Both students and faculty are likely to be physically and mentally fatigued
➢ Increased likelihood of passive learning
➢ Tune out, shut down, don’t contribute.
➢ Risks run the spectrum of:

Bored-----------------Challenged ----------Overwhelmed


Creating the learning environment

➢ "Shared perspectives, shared knowledge, and shared experiences are key foundational building blocks of creativity" (p. 222)
➢ Create an environment that:
  • Promotes sharing
  • Establishes rapport
  • Stimulates interest, engagement, and attention
  • Reinforces knowledge concepts
  • Celebrates learning
  • Where learning is fun and enjoyable


Creating a learning environment

➢ Privacy: Patient privacy and student privacy
➢ An atmosphere of inquiry
➢ Safe, respectful, trusting
➢ Stimulating, creative, meaningful, challenging
➢ Faculty role is to facilitate and motivate not dominate or evaluate


Enhancing post conference

➢ Expecting students to take ownership for their learning by active participation is an influential teaching tool.
➢ Use a variety of activities that change from week to week over the semester to:
  • Appeal to diverse types of learners: visual, auditory, reading/writing, or kinesthetic learners
  • Address their multiple intelligences
  • Gender differences
  • Generational Diversity


Generational Diversity

Today’s traditional students:
➢ Grew up "digital"
➢ Have no memory of life without a computer, cell phone, or the Internet
➢ Are multi-taskers, interactive, group oriented
➢ Don’t like to read
➢ Like immediate feedback
➢ Are experiential learners
➢ Incorporate written text, video, graphics, sound and kinesthetic learning
➢ Prefer energized and stimulating classroom, (not quiet)


Clinical Teacher Pitfalls

➢ Focus on the details of running the clinical experience, rather than on teaching and learning
➢ Teach intuitively or similar to the way they were taught
➢ Struggle to find time to explore and diversify their repertoire

Reflection

- Very powerful tool to:
  - Bring observations and perceptions to a conscious level
  - Making connections from class to clinical
  - Creates a pause to prolong engagement on learning
  - Develop metacognition - “Thinking about ones thinking”
  - Explore the affective domain
  - Hones critical thinking
  - Provides transformative learning
  - Takes surface learning to conscious, accessible long-term memory

> Reflection On Action
> Reflection In Action

Murphy, I. (2005)

Reflection

What are the Generational challenges to reflection?

- Ability to “unplug” and develop the skills of contemplation, critical reflection, and scholarly curiosity
- Develop the capacity for quiet contemplation
- Develop writing/reading: skills of scholarly expression
- Focus attention:
  - Hone in on large amounts of data
  - Discern interconnectedness

Simulation

Simulation in a controlled, non-threatening environment offers opportunities to:

- Observe and evaluate
- Deliberately practice clinical skills
- Provides situational learning
- Allows alternative decisions and actions to play out


Learning Objects

Small units of instruction developed to teach a single learning objective to demonstrate a topic, a concept, a procedure

- As a stand alone
- As part of a more complex clinical picture

Simple: a picture

Gaberson and Oermann. (2000)

Simple: a FAQ fact sheet

Merlot Health Sciences Community

http://healthsciences.merlot.org/index.html

WISC-Online

http://www.wisc-online.com/ListObjects.aspx

See complete list 48 nursing learning objects

Pharmacologic Management of Diabetes - interactive game.


Complex:

- a video
- an interactive game
Video Clips

- Build your repertoire
- You Tube
  - Need to be reviewed by instructor for value, purpose, and validity
  - Not all are appropriate
  - Takes time to find a good but they are there!
- Expert sites
  - CDC: Arthritis Pain Video
    http://www.cdc.gov/CDCTV/ArthritisPain/index.html

Multimedia
- Attract learners interest
- Actively engages the learner
- Stimulates discussion relevant to clinical experience

Gaberson and Oermann (2010).

Role Play

Use interactive techniques at clinical post conferences to help students understand clinical experiences.

Role-playing and values clarification can heighten their awareness of:
- Patient’s lived experience:
  - Physical demands
  - Physical challenges
  - Pain/immobility
  - Isolation
- Staff’s perspective
- Negative incidents that occur
- Role assimilation
- Communication

Empathy – related Exercises

- Students test their own blood glucose to experience what diabetic patients feel multiple times on a daily basis.
- Students practice with incentive spirometers lying, sitting, and standing, in order to gain an understanding of what surgical patients encounter postoperatively.
- Have a student role play a hearing and visually challenged patient — wear earplugs, and smudged reading glasses as another student performs a task or teaches them.
- Wear an empathy belly for a day.
Using games

Games are considered effective learning environments because they:
- Are immersive
- Require the player to make frequent, important decisions
- Have clear goals
- Use problem solving
- Employ scaffolding: providing learners with cues, prompts, hints, and partial solutions to keep them progressing through learning.
- Require users to build upon prior learning and transfer that learning to the particular situation
- Utilize research skills like testing hypotheses
- Provide social and experiential learning environments
- Many games allow students to share ideas and do some group problem solving


Using Games

A total of 218 nursing students (survey)
2 mid-western universities
Students enrolled in baccalaureate and graduate nursing programs
- Undergraduates 68.8%  
- Graduates 31.2%

Respondents’ three most reported game genres preference were:
- puzzle games (79%)
- arcade games (29%)
- simulation games (29%)


Case Studies

- Present real or hypothetical situations for analysis
- Students identify problems
- Use data to problem solve
- Suggest outcomes and potential solutions
- Connects theory to practice
- Stimulates analytical thinking
- Develops cognitive thinking
- Builds on previous knowledge
- Provokes insight and creativity


Creative example

Image on king sized sheet:

Students:
Learners stand at the placenta and proceed by walking along the umbilical veins, through the ductus venosus, into the inferior vena cava, and into the right atrium.

Once in the right atrium, participants are given the choice to go across the foramen ovale to the left atrium, or to continue to the right ventricle.

Those choosing the right ventricle then enter the pulmonary artery (PA). Once in the PA they learn about the high resistance in the lungs and the option to take the path of least resistance through the ductus arteriosus.

Pilcher, J. (2010)

Telling Stories

- Same benefits as a case study
- Less time and effort
- Are real and often very impactful
Case Studies

http://www.mhhe.com/biosci/ap/ap_casestudies

This is a cite for pre-made case studies with questions and corresponding answers. This can be printed off and done as a written challenge individually, with partners, or as a group.

Concept Mapping – groups or individually

Mr. Smith: Community Acquired Pneumonia (CAP)

Meds:
- Lantus: basal long-acting insulin. (Beta Blocker may potentiate and/or mask hypoglycemia)
- Simvastatin: Hypercholesteremia, Hyperlipidemia. Secondary prevention of cardiovascular events in hypercholesterolemic patients with established CHD or at high risk for CHD: To reduce cardiovascular morbidity (myocardial infarction, coronary/noncoronary revascularization procedures) and mortality; to reduce the risk of stroke
- Aspirin: Antiplatelet therapy
- Metoprolol: Beta-blocker to reduce the workload, treat high blood pressure, prevent chest pain used after a heart attack and to prevent another heart attack

Observations:
- resting comfortably
- mid-sternotomy wound healing and well approximated

Possible H&P:
- Type II Diabetes
- Hypercholesterolemia
- Hyperlipidemia
- CAD
- Peripheral artery disease
- Hypertension
- S/P cardiac surgery
- Angina
- Hx CHF
- Hx MI


Reflect Deck

MM = LL

“A HA” Moment

Challenge

Kudos

LOL

Thank You

Discovery

Best Day Ever

Transformational Encounter

60 second learning activity

Conflicting perspectives
Cultural difficulties
Inability to work as partners

60 second learning activity
60 second learning activity

http://www.youtube.com/watch?v=vJG698U2Mvo

Ask the students to be very observant and follow directions exactly.

This can be used for a discussion about situational awareness, being focused, seeing the big picture, and whatever you can apply to it.

This article provides many ideas for short fun learning strategies:

- Research article
- Student-led Seminar
- Quickie Cases
- Field Trips


Closing Thoughts

"Today’s nurse educators serve multiple roles. We are mentors, sages, entertainers, information jugglers, motivators, and more. One of our primary goals is to inspire. Through our connections with our students, we hope they will develop greater motivation and a greater capacity to learn, remember the information we impart and think about its relevance, and essentially “turn on” to learning."

Judith W. Hermann

Thank you for your time and attention. It has been my pleasure.


http://www.youtube.com/watch?v=vJG698U2Mvo

http://www.ekilet.com/view/ECG5m531.html

http://www.mhhe.com/biosci/ap/ap_casestudies

http://www.cdc.gov/CDCTV/ArthritisPain/index.html

http://healthsciences.merlot.org/index.html

http://www.wisc-online.com/ComObjects.aspx

References


References


Johnstone, S. & Cooper. (Fall 1997). Quick thinking: The interactive lecture. Cooperative Learning and College Teaching Newsletter, 8(1).


References


Nursing Education Perspectives, (28) 3, 174-175.