IMAGINE!
BLENDED LEARNING BEST PRACTICES FOR NOVICE NURSE ORIENTATION

JULIE MILLER, BSN, RN, CCRN-K
CLINICAL PRACTICE SPECIALIST
AMERICAN ASSOCIATION OF CRITICAL CARE NURSES

Why are you here?

- Desired Outcome:
  - Identify and incorporate into your NPD practice two blended learning strategies which will enhance your current orientation plan and improve outcomes.

The Interprofessional Learning Environment and Blended Learning

The Interprofessional Learning Environment and Blended Learning

- Implementation and Preparation for E-Learning
  - Prepare
  - Engage
  - Act

Implementation Preparation

Prepare: E-Learning

Learner - Self-directed	NPD Practitioner

• Motivation is key - WIIFM
• Technologic savvy is a must – Digital Natives!
  • Needs guidance how the technology can support their learning
  • Need for collaboration and social interaction
  • Consider the cognitive load
	• Technologic savvy is important
	  • Digital native vs Digital immigrant
	• Understanding of how on-line learners perceive the education
	  • Ensure learner knows the WIIFM
	  • Be aware of learner emotions
	  • Support the learner in use of technology to aid learning

Implementation Preparation

Prepare: E-Learning

Learner - Self-directed	NPD Practitioner

• Chooses path and timing
  • Desires needs & wants
• Self-Accountable
  • Sets deadlines
  • Provides progress reports
	• Assigns path and timing
	  • Needs of units
	• HOLDS STUDENT ACCOUNTABLE?
	  • ASSIGNS DEADLINES – Realistic?
	  • CHECKS PROGRESS

Implementation Preparation

Prepare: Testing

Learner - Self-directed

- Testing: Adult Learning Principles
  - Not proctored
  - Student may look up answers
    - Simulates what they would do at the bedside

NPD Practitioner

- Testing: To proctor or not to proctor
  - Discussion

Implementation Preparation

- Engage and Reflect on Learning
  - Instructor Led Training vs Student generated
  - Simulation
  - Flipped classroom

The Flipped Classroom

- Interactive Environment with Learner inquiry of each other/facilitator
  - Learner tests knowledge gained
    - Application of skills or interactive case discussions
  - NPD Practitioner Role
    - This may require a change in traditional thinking for the role!

Implementation Preparation

- Act on learning
  - Bedside application
    - Preceptor guidance
    - Educator involvement
- Example
  - E-Learning module on central line care and removal
  - Review procedure manual
  - High or low fidelity simulation skill check-off
  - Demo/Return demonstrate at bedside with preceptor

Implementation Preparation

Conflict in Preparation: E-Learning/Blended Learning

What's the middle ground for adult learning while sticking to the schedule?

Learner Self-directed vs NPD Practitioner's Deadlines

&

Use of Flipped Classroom Concept

Lets have some discussion

Reflections on student- vs instructor-led E-Learning Journeys

Best Practices for acting on E-Learning

Blended Learning Scheduling

- Optimal Scheduling - Questions to ask:
  - What is most important for the nurse to learn during allotted orientation time?
  - What is realistic amount of content to learn?
  - What can be learned or expanded upon later?
  - What are the unique needs of the unit the nurse is hired into?

Blended Learning Scheduling

- Optimal Scheduling - Questions to ask:
  - What can best be mastered with E-Learning?
    - (didactic content – knowledge vs skills)
  - What needs reinforcement with case discussions?
  - What will be the value of using simulation?

Blended Learning Scheduling

- Optimal Scheduling - Questions to ask:
  - What type of regulatory guidelines must we follow for scheduling and paying time for e-learning?
  - Can you allow the student to work off-site at times of their choosing on their e-learning?
  - What types of reward/restrict are available to you to enforce deadlines?
  - Check with HR

Case Study

- Graduate Nurses for PCU and ICU – 12 weeks for orientation which includes 2 weeks of hospital, nursing and EMR
  - Week 3 Assigned to E-Learning Course
    - 18 modules total; must be completed by 6 month evaluation
    - 12 Modules must be completed in next 10 weeks
      - Consider for your own, how and when these get done
  - Weeks 3 – 10:
    - 6 days total for flipped classroom and simulation exercises

Case Study

- Week 8: Flipped Classroom day
  - Expectations: E-Learning Modules on sepsis, respiratory failure and shock are completed
  - Flipped Classroom discussions
    - Come prepared to discuss one patient you have cared for with above diagnosis
    - Come prepared to discuss and probe for answers regarding your peers' presentations

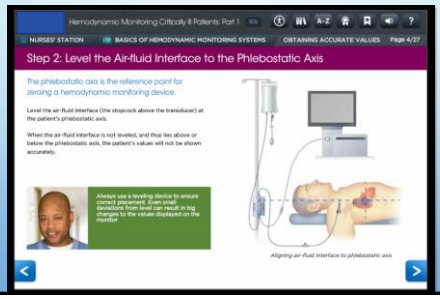
Case Study

- Week 8: Flipped Classroom day – Benefits of Peer Interaction
  - Come prepared to discuss and probe for answers regarding your peers' presentations
  - Facilitator is prepared to guide interactions with questions and suggestions
    - Benefits of this type of interaction
    - Risks in preparing for this type of interaction

BLENDING E-LEARNING APPROACHES EXAMPLE

- E-learning module hemodynamics monitoring critically ill patients: module 1
  - A #1: Basics of hemodynamic monitoring systems
  - A #2: Arterial pressure monitoring
    - Basics of catheters; assisting with insertion
    - Complications
    - Arterial waveforms
    - Direct and indirect measurement
    - Removing an arterial monitoring system

E-LEARNING – HEMODYNAMICS MODULE

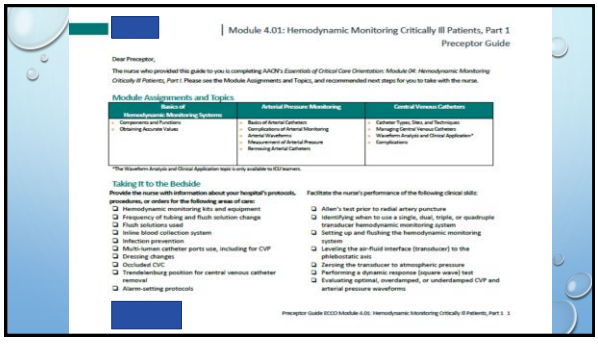


BLENDED LEARNING APPROACHES: BLEND IT!

- Low fidelity simulation
  - Demonstration/return demonstration hemodynamic monitoring set-up, leveling and zeroing
- High fidelity simulation
  - Practice assisting with insertion, dressing application and removal of arterial catheter
- Discussion group/case study
  - Learners discuss experiences with arterial catheters

BLENDING LEARNING APPROACHES AT THE BEDSIDE

- Educator and preceptor involvement at the bedside
  - Preceptor guided experience with patient with arterial catheter
  - Go over facility specific policies and protocols related to content being discussed in class
  - Have learner return demonstrate skills learned in simulation lab or via e-learning module
  - What tools are available to guide these processes?



Module 4.01: Hemodynamic Monitoring Critically Ill Patients, Part 1
Preceptor Guide

Dear Preceptor,

The nurse who provided this guide to you is completing AACN's *Essentials of Critical Care Orientation: Module 04: Hemodynamic Monitoring Critically Ill Patients, Part 1*. Please see the Module Assignments and Topics, and recommended next steps for you to take with the nurse.

Module Assignments and Topics

Basics of Hemodynamic Monitoring Systems	Arterial Pressure Monitoring	Central Venous Catheters
• Components and Functions • Obtaining Accurate Values	• Basics of Arterial Catheters • Complications of Arterial Monitoring • Arterial Waveforms • Measurement of Arterial Pressure • Removing Arterial Catheters	• Catheter Types, Sites, and Techniques • Managing Central Venous Catheters • Waveform Analysis and Clinical Application* • Complications

*The Waveform Analysis and Clinical Application topic is only available to ICU learners.

Taking It to the Bedside

Provide the nurse with information about your hospital's protocols, procedures, or orders for the following areas of care:

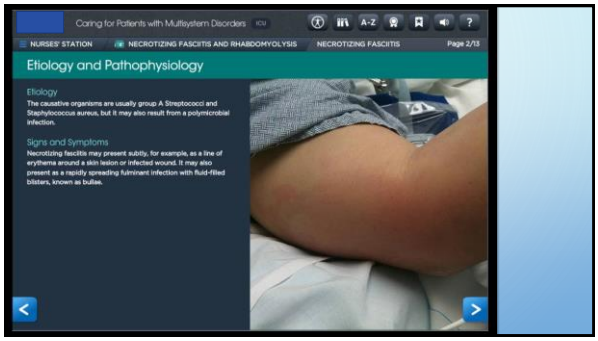
- ❑ Hemodynamic monitoring kits and equipment
- ❑ Frequency of tubing and flush solution change
- ❑ Flush solutions used
- ❑ Inline blood collection system
- ❑ Infection prevention
- ❑ Multi-lumen catheter ports use, including for CVP
- ❑ Dressing changes
- ❑ Occluded CVC
- ❑ Trendelenburg position for central venous catheter removal
- ❑ Alarm setting protocols

Facilitate the nurse's performance of the following clinical skills:

- ❑ Allen's test prior to radial artery puncture
- ❑ Identifying when to use a single, dual, triple, or quadruple transducer hemodynamic monitoring system
- ❑ Setting up and flushing the hemodynamic monitoring system
- ❑ Leveling the air-fluid interface (transducer) to the phlebostatic axis
- ❑ Zeroing the transducer to atmospheric pressure
- ❑ Performing a dynamic response (square wave) test
- ❑ Evaluating optimal, overdamped, or underdamped CVP and arterial pressure waveforms

ICU/PCU EXAMPLE

- E-Learning Module: caring for patients with multisystem disorders
  - Necrotizing fasciitis – Low Volume, High Risk
    - Recognition of the problem
    - Nursing Interventions
    - Awareness of treatment options

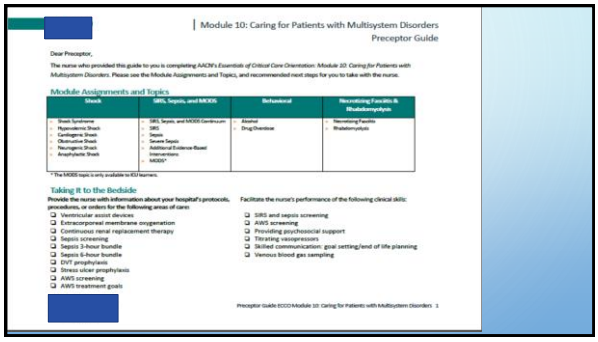


BLEND IT!

- Discussion group/case study/social media
  - Learners discuss experiences with managing patients with necrotizing fasciitis
  - Reflect on lessons learned from e-learning module
    - Describe patients at risk
  - Risks of using social media?

BLEND IT!

- High fidelity simulation
  - Practice assessing
  - Simulate interventions
- Risks and challenges with Simulation – Onello et. al.
  - Desensitization to risk of emergency critical situations
  - Challenges: standardize assessment of competency outcomes



Module 10: Caring for Patients with Multisystem Disorders
Preceptor Guide

Dear Preceptor,

The nurse who provided this guide to you is completing AACN's *Essentials of Critical Care Orientation: Module 10: Caring for Patients with Multisystem Disorders*. Please see the Module Assignments and Topics, and recommended next steps for you to take with the nurse.

Module Assignments and Topics

Shock	SIRS, Sepsis, and MODS	Behavioral	Necrotizing Fasciitis & Rhabdomyolysis
• Shock Syndrome • Hypovolemic Shock • Cardiogenic Shock • Obstructive Shock • Neurogenic Shock • Anaphylactic Shock	• SIRS, Sepsis, and MODS Continuum • SIRS • Sepsis • Severe Sepsis • Additional Evidence-Based Interventions • MODS*	• Alcohol • Drug Overdose	• Necrotizing Fasciitis • Rhabdomyolysis

* The MODS topic is only available to ICU learners

Taking it to the Bedside

Provide the nurse with information about your hospital's protocols, procedures, or orders for the following areas of care:

- ❑ Ventricular assist devices
- ❑ Extracorporeal membrane oxygenation
- ❑ Continuous renal replacement therapy
- ❑ Sepsis screening
- ❑ Sepsis 3-hour bundle
- ❑ Sepsis 6-hour bundle
- ❑ DVT prophylaxis
- ❑ Stress ulcer prophylaxis
- ❑ AWS screening
- ❑ AWS treatment goals

Facilitate the nurse's performance of the following clinical skills:

- ❑ SIRS and sepsis screening
- ❑ AWS screening
- ❑ Providing psychosocial support
- ❑ Titrating vasopressors
- ❑ Skilled communication: goal setting/end of life planning
- ❑ Venous blood gas sampling

Blended Learning: Does it work?

- Drawbacks to the literature
  - Few meta analysis, randomized controlled trials, etc.
  - Limited literature
  - Evidence for acute and critical care nursing limited
    - Most studies on student nurses, allied health, medical training or schools
  - Apples and Oranges

Blended Learning: Does it work?

- Current literature
  - 2018 (Foon): Meta-analysis. Flipped classroom improves student learning in health professions education:
    - Using a Flipped Classroom approach: Statistically significant improvement in learner performance compared to traditional teaching methods https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-018-1144-z
  - 2018 (Castillo): Randomized trial for BLS and external defibrillation competencies after instruction and at 6 months comparing face-to-face and blended training
    - Blended method provided the same or even higher levels of knowledge and skills than standard instruction immediately after course and 6 months later compared to baseline.
    - There was deterioration in both knowledge and skills at 6 months, but scores remained higher than baseline https://www.nurseeducationtoday.com/article/S0260-6917(18)30133-3/fulltext

Blended Learning: Does it work?

- Current literature
  - 2018 (Terry): Quai-experimental design
    - Nursing students retained clinical competence in preparing and administering IV infusions better when face-to-face and online learning were combined https://www.nurseeducationtoday.com/article/S0260-6917(17)30254-X/abstract

Blended Learning: Does it work?

- Current literature
  - 2017(Voutilainen): Meta-analysis
    - Traditional vs. Blended Learning in nursing education. Suggests using meta-regressions to evaluate data instead of simple meta-analysis in order to reveal variations in learning outcomes. Suggest performing separate meta-analyses between e-learning interventions aimed at improving knowledge and those aimed at improving nursing skills. https://www.nurseeducationtoday.com/article/S0260-6917(16)30322-7/abstract?code=rsnedt-site
  - 2015(Dragan): Randomized controlled trial:
    - Blended Learning is no more effective than didactic learning for increasing skills and knowledge for medical trainees, however BL was more effective for increasing students attitudes for evidence-based medicine, and self-reported use of evidence based medicine bmcmededuc.biomedcentral.com/articles/10.1186/s12909-015-0423-6

Blended Learning: Does it work?

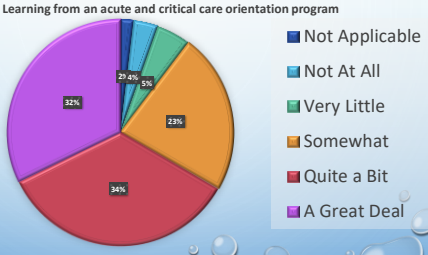
- Current literature
  - 2014(McCutcheon): Systematic Review of the literature:
    - Online learning for teaching clinical skills is no less effective than traditional means. However, lack of available evidence on implementation of blended learning in undergraduate nurse education; Research is needed!! https://onlinelibrary.wiley.com/doi/full/10.1111/jan.12569

Blended Learning Outcomes

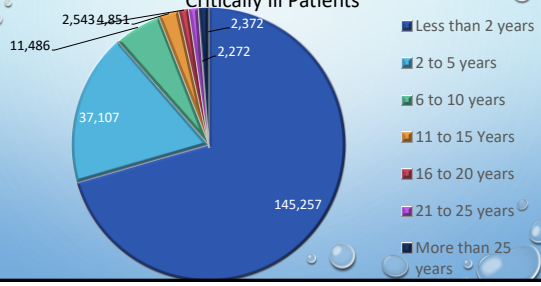
Blended Learning from an acute and critical care orientation program

To what extent did your hospital provide additional learning activities aligned with the e-learning module?

89% positive response rate

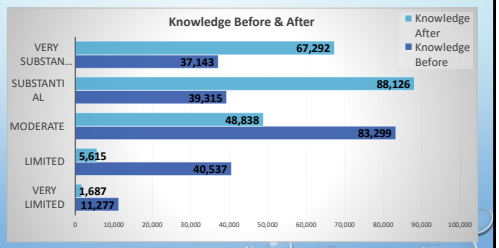


Demographics: Years of Experience Caring for Acutely or Critically Ill Patients



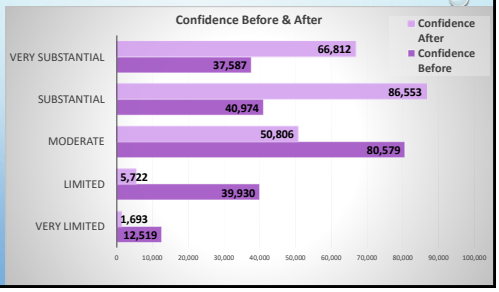
Knowledge and Ability

Please rate your knowledge and ability at the beginning of this activity with that at the end.



Confidence in applying concepts

Please rate your level of confidence in applying these concepts before and after completing the activity.



ENGAGING LEARNERS

- What makes learning engaging?
- Plan for informal learning
  - Micro learning – 10 minutes or less and move on
  - Social connections as a method of informal learning
- Engage managers in the learning process
  - How can they best support learning?

ENGAGING LEARNERS

- 4 generations in the workforce
  - Tailor approaches to meet needs and mimics the skills needed in the workplace
  - Collaboration as a competency (simulation)
    - Successful learning = successful workplace
    - Create safety for reflection and team discussions
  - Collaboration, connection, interdependence
    - Create communities of practice – where can they learn from each other?
    - How do we pass on the historical knowledge of nursing?

ENGAGING LEARNERS

- Time for E-learning and orientation – is it an issue?
  - What is the optimal way to structure e-learning delivery
    - The struggle between orientation and get them to the floor to work
    - What has worked?
    - What doesn't work?
  - Discussion – best practice sharing

AUDIENCE SHARING

- WHAT IS WORKING?
- WHAT ARE YOUR CHALLENGES?

SUMMARY

- Blended learning is effective
  - Engagement, personal experience, social collaboration, personal connection – WIIFM
- Blended learning approaches
  - Preceptor tools, simulation, social interaction, case studies, flipped classroom
  - Bedside application, return demonstration, validate learning and integration with local facility policy/procedure

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THANKS FOR ATTENDING!

JULIE.MILLER@AACN.ORG