
vrClinicals
for Nursing

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vrClinicals for Nursing
Curriculum Integration
Guide for Faculty

Developed by the National League for Nursing

GETTING STARTED

What is vrClinicals for Nursing?

Virtual Teaching Solutions for Nursing Practice Excellence

Clinical judgment – or nursing decision-making – is a core skill that is central to a nurse's professional and clinical practice. Clinical reasoning – the cognitive precursor to clinical judgment – requires that nurses apply relevant and nuanced clinical knowledge to an unfolding and evolving patient care situation. While the acuity and complexity in which clinical reasoning is applied to patient care vary, the core ability and iterative process of making clinical decisions is a key requisite to providing quality care in every patient care encounter.

The National Council State Boards of Nursing (NCSBN) published new NextGen NCLEX exam item formats that aim to evaluate learners' clinical judgment better. The Clinical Judgment Measurement Model (CJMM) provides a framework that outlines the steps of clinical reasoning and identifies the context in which "thinking like a nurse" occurs. Nurse educators are challenged to use experiential teaching strategies that give learners opportunities to practice their clinical judgment skills in preparation to practice in complex healthcare settings.

vrClinicals for Nursing is a robust teaching strategy that promotes opportunities for learners to practice the clinical reasoning skills required to make clinical nursing decisions for multiple acute care patients – in an immersive environment that includes the distractions and complexity of the real-world clinical setting. Each vrClinicals for Nursing experience is followed by thought-provoking reflection and debriefing that transforms invisible learner thinking into pillars of nursing practice excellence.

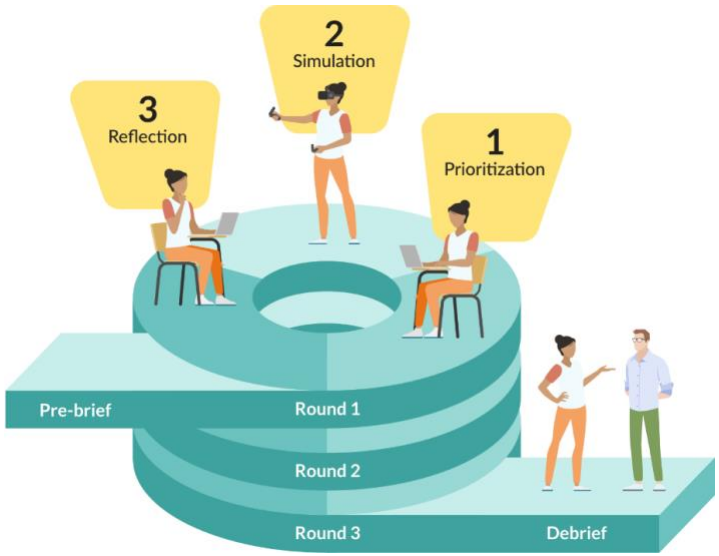
Purpose of the Curriculum Integration Guide

This guide provides strategies for using vrClinical for Nursing in programs across all types of nursing education. It provides faculty with ideas to integrate Virtual Clinical into existing curricula and offers ways to develop and/or enhance current teaching strategies.

The Learner Experience: Overview

To get started, it is helpful for educators to understand an overview of how the learner navigates the vrClinicals for Nursing experience. The flow for the learner begins with a pre-brief, followed by 3 rounds of individual simulation experiences in Virtual Reality combined with reflection exercises on a computer, before finally concluding with a group debrief with an instructor.

Pre-brief VrClinicals starts with a Pre-brief, where the instructor prepares the class for the simulation experience.



Rounds 1,2,3

1. Prioritization

In the VR simulation, the learner is responsible for the care of multiple patients. Before entering the VR simulation, the learner plans their care and prioritizes the order in which to see their patients on a computer screen.

2. Simulation

Entering the VR simulation, the learner is expected to implement care for patients as initially planned, but it is also expected to respond to unpredictable situations and acute changes, evaluating the need to reprioritize your patients and postpone planned actions.

3. Reflection

Upon completing the VR simulation, the learner returns to their computer to complete a set of reflection exercises and receive feedback on their performance.

Debrief After completing all three simulation rounds, the learner participates in a group debrief with other students and an instructor.

The **section "Learner Experience: Prioritization, Simulation & Reflection"** explores each vrClinicals for Nursing round in more detail [link to learner experience below].

USING THE EVIDENCE TO GUIDE BEST PRACTICE IN VRCLINICALS FOR NURSING

Introduction

This section provides evidence-based, practical guidance for educators preparing learners to experience vrClinicals for Nursing.

Integration of evidence-based practice in simulation-based education advances the science of teaching and promotes the achievement of

learning outcomes [need citation]. The Healthcare Simulation Standards of Best Practice™ (HSSOBP™) provide evidence-based guidelines that educators can use to support the successful design, delivery, and evaluate quality simulation-based learning experiences. The HSSOBP's™ can be applied to the practical preparation for specific simulation modalities, such as virtual reality, to enhance the unique connection of the virtual reality modality to the learning outcomes the teaching strategy is designed to achieve.

While each of the HSSOBP™ guidelines is essential, the following were selected to support faculty with the practical preparation required to successfully implement the vrClinicals for Nursing learning experience: HSSOBP™ Facilitation andHSSOBP™ Simulation Design, HSSOBP™. Within the HSSOBP™ Simulation Design section below, links are provided to reference the Prebriefing andHSSOBP™ The Debriefing Process guidelines to support the Learner Experience [insert link].

HSSOBP™ Facilitation

The Healthcare Simulation Standards of Best Practice™ (HSSOBP™ Facilitation) takes a holistic approach to guide the simulation facilitator's understanding of their roles and responsibilities from the initial design of the simulation experience to the delivery and evaluation. It may help to think of the HSSOBP™: Facilitator guideline as a "wrap-around" support for facilitators, as it describes the oversight required for the entire simulation experience. Key points to support both facilitator and learner preparation are listed below and include links to additional HSSOBP™ guidelines, where applicable:

- Plan for and deliver a prebriefing to learners that add details specific to the VR modality, such as establishing a safe physical space in which to wear the VR headset [link to user guide]
- Identify the learning outcomes specific to your curriculum (class, course, or program) you want your learners to achieve by using vrClinicals for Nursing
- Review the vrClinicals for Nursing learning outcomes and scenario content to ensure alignment between your identified curricular learning outcomes and both the General and Level-Specific Learning Outcomes for vrClinicals for Nursing.
- Consider the logistics and coordinate the resources, time, and space required to engage in the vrClinicals for Nursing experience.
- Identify a facilitator with the knowledge and skills outlined by the HSSOBP The Debriefing Process guideline to facilitate the final debriefing of the vrClinicals for Nursing experience.

PREPARING FACULTY FOR INTEGRATING VRCLINICALS FOR NURSING

The Healthcare Simulation Standards of Best Practice™ Simulation Design (HSSOBP™ Simulation Design) guidelines emphasize the planning required to ensure the simulation experience is designed to meet the identified learning outcomes. Graphics and a brief narrative below will outline the framework used to develop the vrClinicals for Nursing solution to ensure the learning outcomes can be met. Nurse educators can benefit from understanding the structure and frameworks that link the experience to the goals of each organization, program, and course.

The design will be explored, using a layered approach, in the following areas:
Concepts and Learning Outcomes
Curriculum Integration: Leveling & Scaffolding
Concepts and Learning Outcomes

Beginning with the End in Mind
All learning begins with outcomes. Every course, class, and lesson plan is guided by the ultimate achievement of learning. This is further directed by specific outcomes or objectives that are measurable. Learning outcomes or objectives drive the what and the how the learner will demonstrate achievement. Learning outcomes are key to helping educators determine the best approach to engage the learner and guide their achievement.

VrClinicals for Nursing was built on a thoughtful, strategic design that integrates key concepts for nursing practice readiness and drives the learning outcomes for the experience. To appreciate the learner's benefit and experience, it is important for nurse educators to briefly understand the structure that drives the learning experience and informs the evaluation data that supports the achievement of learning outcomes.

The Accelerating to Practice Framework (Forneris, et al., 2022) was chosen to support the overarching vrClinicals for Nursing goal: to provide an immersive learning experience that promotes learners' readiness for practice. The Accelerating to Practice Framework identifies key concepts that inform nursing practice readiness [Forneris, et al., 2022]. Three key concepts were identified as core pillars used to build the vrClinicals Nursing solution and include: clinical knowledge, clinical reasoning, and managing responsibilities. The image illustrates the concepts and definitions.

vrClinicals-specific concepts		
Clinical knowledge	Clinical reasoning	Management of responsibilities
Concept definitions		
Integrate clinical evidence to inform nursing practice and make clinical judgments	Discriminate use of evidence to deliver safe and effective care	Use a critically effective thinking process to assess, plan, implement, and evaluate nursing interventions that incorporate evidence, clinical reasoning, interprofessional perspectives, and patient preferences
vrClinicals Learning Outcomes		
Integrate clinical knowledge with clinical data to initiate the clinical reasoning process	Use the clinical reasoning process to make clinical decisions for the care of the individual patient	Manage responsibilities by prioritizing clinical decisions for the care of multiple patients

The Accelerating to Practice Concepts informs the design for the vrClinicals for Nursing that branch into specific learning outcomes that connect and align with the National Council State Boards of Nursing (NCSBN) Clinical Judgement Measurement Model (CJMM). The connections are further defined below:

VrClinicals for Nursing General Learning Outcomes

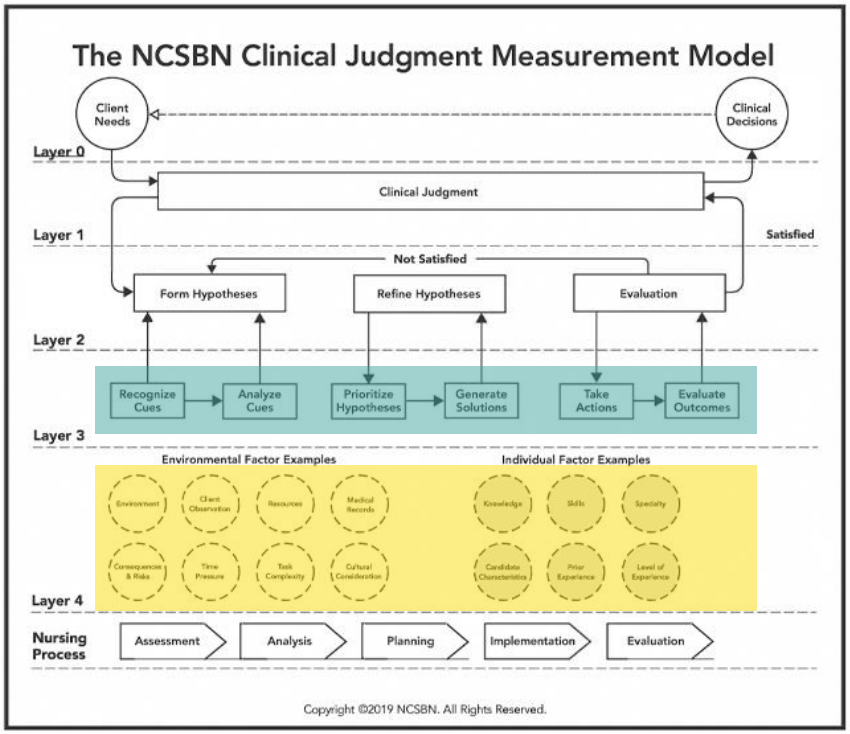
VrClinicals for Nursing provides an immersive clinical experience, in which clinical knowledge can be applied to the clinical reasoning process, within the context of managing responsibilities for multiple patients in the acute care environment. Each of these concepts informs specific competencies and their related observable performance measures. The integration of concepts, competencies, and performance measures is key for learners to practice and achieve clinical judgment and as such, drive the learning outcomes for the entire vrClinicals for Nursing learning experience, at every level. Below, each concept is strategically embedded within each learning outcome:

- Integrate clinical knowledge with clinical data to initiate the clinical reasoning process
- Use clinical reasoning process to make clinical decisions for the care of individual patients
- Manage responsibilities by prioritizing clinical decisions for the care of multiple patients

NCSBN NextGen CJMM & Learning Outcome Alignment

The concepts embedded in each learning outcome inform specific competencies and observable performance measures that map directly to the National Council State Boards of Nursing (NCSBN) Clinical Judgement Measurement Model (CJMM). The CJMM is the foundation for how the NextGen NCLEX exam questions are designed.

Clinical judgment is demonstrated in the CJMM by challenging the learner to think and reason [Layer 3 CJMM] through a nursing issue within the context of care [Layer 4 CJMM].



VrClinicals for Nursing presents patient care scenarios that allow the learner to practice the micro-skills of clinical reasoning that enhance their clinical judgment. The design of the patient care scenarios specifically maps to the CJMM using competencies and observable performance measures. The below table provides a patient care scenario example of how the specific learning outcomes, competencies, and observable performance measures are directly mapped to the CJMM.

EXAMPLE

35-year-old female who fell when getting out of her car at the school where she teaches. She sustained a left tibia-fibula fracture. Ms. Enriquez underwent surgery and is now 1-day post-operative left mid-shaft tibial-fibula fracture with ORIF.

Level-specific Learning Outcome 1: Use **clinical reasoning process** to make clinical decisions for the care of patients with 2-3 medical co-morbidities and 1 main presenting medical condition.

Competency: Recognizing and responding to changes in patient status

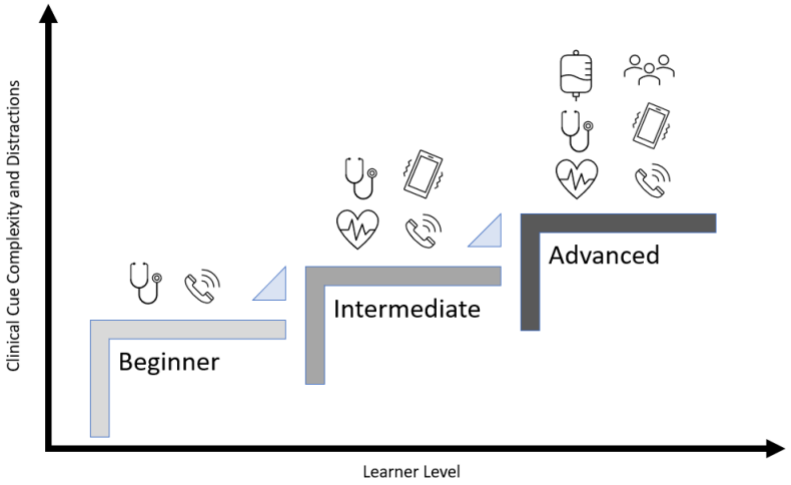
	CJMM Layer 4 Individual Factors Knowledge	CJMM layer 4 Environmental Factors Time Pressure	CJMM Layer 3 Recognizes cues	CJMM Layer 3 Analysis	VrClinicals for Nursing Defined Observable Performance Measure (OPM)	Learner Demonstration of OPM
Recognizing and responding to changes in patient status	35-year-old female acute injury, tibia-fibula fracture, post-operative day 1. Past medical history of hyperthyroidism and expressing feeling "stressed"	Managing care for multiple patients, i.e., 2, 3 or 4	Objective Data: Current: BP 95/60 HR 100 Subjective Data: "I'm feeling tired."	Compare Baseline VS With Current VS Baseline: BP 112/78, HR 88	Responds quickly to subtle changes in patient to prevent possible decline.	After obtaining VS's, decides to take frequent vital signs and delegates a task

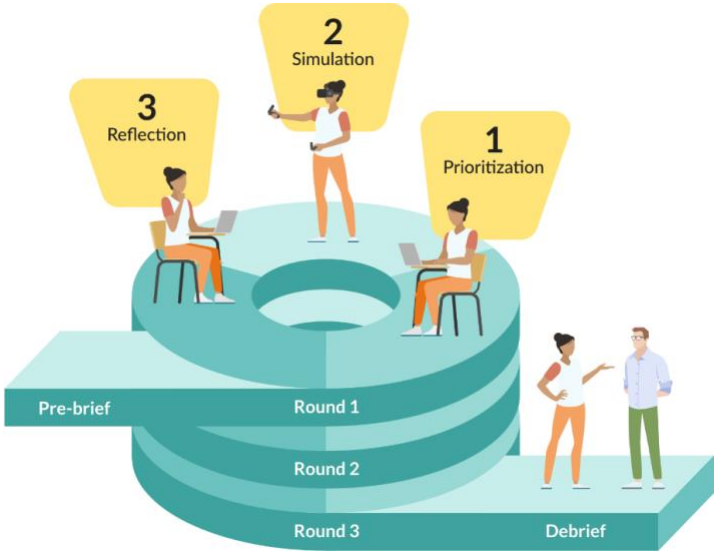
Curriculum Integration Leveling and Scaffolding

In addition to the general learning outcomes that guide the entire experience, the learning experience is leveled to meet the needs of learners across the curriculum. There are three different levels in which learners can apply clinical knowledge to the clinical reasoning process required to manage responsibilities for multiple patients: beginning, intermediate and advanced.

Each level is guided by the general learning outcomes and includes specific emphasis on how each level is defined and scaffolded to be implemented across nursing curricula to meet learner needs across the continuum of nursing pre-licensure education. Level-specific learning outcomes and scenario details can be found in the attached addendum.

Each learning outcome is mapped to specific learner actions and linked to performance feedback the learners review following each VR round.



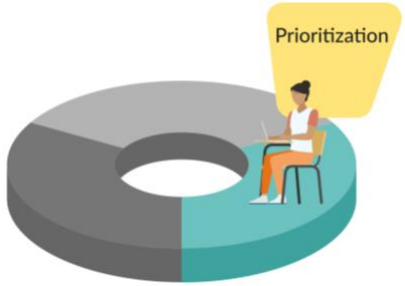


EXPLORING THE LEARNER EXPERIENCE

Introduction

vrClinicals for Nursing provides a rich learner experience that guides learners through a patient care experience that requires just-in-time nursing practice and generates reflection on practice. This section provides more details to describe the learner experience within and between each round of vrClinicals for Nursing: **Prioritization, Simulation, and Reflection.**

1. Prioritization



Before equipping the VR headset and venturing into the simulation, the learner has to plan and prioritize the care for their patients.
This phase happens on a computer screen, where the learner initially receives an SBAR handover on all their patients. The learner then has to make sense of this new information, and use 'brain sheets' for each of the patients to take notes and write a to-do about what actions to take for each patient. Furthermore, the learner is asked to set a priority order for how they intend to see their patients and, in writing, provide their rationale for that prioritization.

2. Simulation

At the heart of the vrClinicals for nursing lies the simulation experience. After putting on the headset and picking up the controllers, the learner will experience a unique sense of presence in Virtual Reality. The learner will feel as if they are physically present in a busy hospital, being in full control of an avatar capable of moving around the hospital, picking up and using medical equipment, and interacting with both patients and colleagues on the ward.
As the scenario starts, the learner will experience how it is to be in the shoes of a nurse, having to respond to real-life situations while caring for up to 4 patients simultaneously.

3. Reflection and The 6 R's

One of the key components of a successful vrClinical experience is in the learner's ability to make meaning of the clinical data encountered during the patient care scenario that leads to nursing decision-making. Additionally, it is critical to provide learners with the opportunity to reflect on their actions, immediately following the experience. One way to do this is to invite the learner to articulate in writing their rationale for making a specific decision or performing a crucial intervention at a given point in time, or for changing their patient priority order due to an interruption in the uncovered some new clinical data on one of their patients.

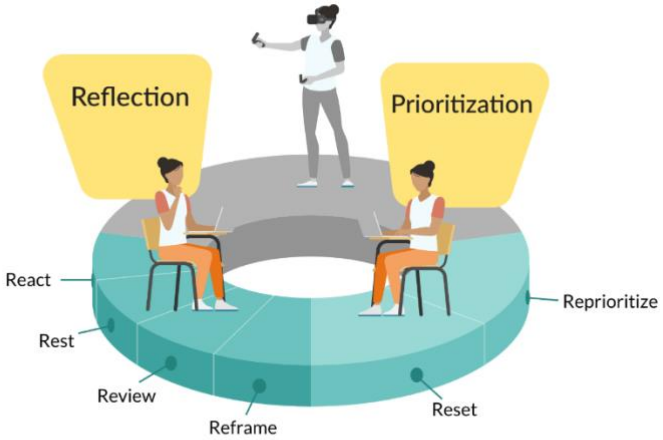
Asking guided reflection questions on specific moments during the scenario can help learners to make cognitive connections between otherwise disparate pieces of clinical data. These reflective moments will be combined with objective performance feedback to help learners reframe their "old" way of thinking to a new, more transformed way of processing and understanding changing clinical data in a patient care scenario. This process of reflection is supported by the concept of narrative pedagogy.

The vrClinical experience is designed to provide these reflective moments during the allotted time in between each patient care round in VR. The segment takes place on a computer

screen, where the learner transitions from thinking-in-action during the simulation to thinking-on-action in a calm and quiet environment in front of their computer.
During reflection, the learner will be asked a set of guided reflection questions that prompt them to reflect on specific events that occurred during the scenario, and actions and choices they made.

The 6 'R's

The screen-based cognitive exercises that surround the simulation experience span both the 'Reflection' phase, where the learner reflects back on what happened during the simulation, and the 'Prioritization' phase which relates to planning and prioritizing what to do in the next simulation round in VR.
This individual reflection is structured using the "6Rs".



React addresses the immediate emotional state of the learner upon completing the simulation. After completing a realistic and intense simulation experience it is important to provide room for the emotional response, before enquiring into the cognitive considerations.

Rest is important after a cognitively demanding experience in Virtual Reality where all senses are very active and engaged A short rest will allow the learner's brain to revert from focus-thinking to diffuse thinking allowing them to zoom out and analyze their simulation experience (Oakley et al., 2021).

Review of the simulation experience happens on a timeline that shows the actions of the learners. The learner will be able to get an overview of what they did in the scenario, how they spent their time, and even what they forgot to do.

Reframe also takes place on the timeline, as the learner is asked a series of guided reflection questions based on the actions they did or did not complete in the simulation. Examples could be to explain their thinking process and prioritization considerations as they received a call from the provider with new information about one of their patients, or it could be to explain their rationale for performing a certain critical intervention on a patient.

Reset happens after the learner is done reflecting on the previous simulation experience. The learner is given some new information about their patients, as their conditions might have changed.

Reprioritize is the final reflection exercise before entering back into the simulation. The learner has to make sense of the old and the new information they have about their patients, write a to-do list on what they want to do, and prioritize the order they want to visit their patients in.

UNDERSTANDING ASSESSMENT AND SCORING

Formative Assessment

Formative assessment is a means of small-scale evaluation that helps faculty determine what students are learning. Improving teaching and learning requires the use of classroom assessment techniques that can guide course revisions and classroom instruction (Billings & Halstead, 2020).

The vrClinicals for Nursing experience provides targeted activities for learners to reflect on and track their 'in-action' thinking and decision-making. Following each virtual clinical live event, learners continue with post-VR activities (The 6 R's: React, Rest, Review, Reset, Reframe, Reprioritize) allowing opportunities for and providing a measure for improvement over time or with practice. The feedback provided to the learner can guide faculty with a snapshot of how well students have grasped the learning outcomes targeted by the simulation scenario, but they do not represent a summative assessment of mastery. The feedback represents a comparison of the student's VR performance to a gold standard performance. Similarly, it does not represent a summative assessment of mastery. As a means of formative assessment, it provides feedback that assists in the remediation of a student's clinical understanding and prioritization/clinical reasoning ability.

USING VRCLINICALS FOR NURSING AS TEACHING STRATEGIES

Over the last decade, teaching and learning strategies have become quite sophisticated. There is a shift from "teaching content" to "teaching learners how to use the content" (Forneris & Fey, 2021). This shift requires educators to be more thoughtful in their approach to choosing teaching materials that will help learners build their own learning foundations. The following considerations on successful approaches /strategies are outlined below.

Utilization in Clinical Teaching

On Campus Clinicals

With the benefits of online learning (e.g., micro skills rehearsal, enhanced reflection and analysis skills, etc.) many colleges and universities have considered how to incorporate these benefits into traditional clinical rotations. The real-life natural classroom often identified as the face-to-face real-life patient care setting affords the opportunity to work directly with patients in real-time. The benefit this provides is that through direct supervision there is the opportunity to correct misinterpretations and mistakes. However, faculty and learners are seeing the advantages or replicating these real-life clinical opportunities on the college campus in the simulation lab settings. These college campus simulation clinicals are also referred to as "on-campus clinicals". Developed to replicate real-life clinical experiences, they focus on microteaching opportunities – providing opportunities for learners to practice and emulate critical thinking and reasoning skills to enhance their overall clinical judgment. The key is that the experiences can be replicated for all learners with the opportunity for repetitive practice. VrClinicals for Nursing provides the opportunity for faculty to replicate a multi-patient clinical experience for each learner to enhance their proficiency in executing the unique clinical judgment skills associated with caring for multiple patients. Below is a suggested use case and approximate time for a learner experience:

	Format	Faculty Role	Learner Role	Time
Pre-Work	Asynchronous	Pre-assign to learners	Complete prior to arrival	**30 minutes
Prebrief	Synchronous / In-Lab Immediately prior to VR experience	Plan and lead prebrief with learners	Participate and ask questions	**15 minutes
Prioritization	Synchronous / In-Lab Immediately prior to VR experience	Plan and lead prebrief with learners	Record SBAR notes and prioritize the order in which to assess each patient	30 minutes
Simulation Round 1	VR Headset	Round with each learner to ensure functionality and safety parameters	Enter into VR headset	30 minutes
*Reflection	Screen-based	Provide time and resources for learners to login and complete screen-based Reflection prompts in between VR Rounds	Login to screen-based application and complete assigned prompts between VR rounds. This round includes a learner break.	60 minutes
Simulation Round 2	VR Headset	Continued rounding with each learner, as above in Round 1	Re-enter headset to complete Round 2 in VR	30 minutes
*Reflection	Screen-based	Assist learners to re-enter the screen-based application, as above in Reflection.	Re-enter screen-based application to complete new prompts that follow VR Round 2	60 minutes
Simulation Round 3	VR Headset	Continued rounding with each learner, as above in Round 1	Re-enter headset to complete Round 2 in VR	30 minutes
***Debrief	Synchronous Immediately following Round 3 Classroom/Lab	Gather learners together to facilitate a synchronous debrief to include guided questions (provided) or those created by facilitator – Review evidence-based guidelines for debriefing.	Participate in facilitator-guided, debriefing with peer group, immediately following VR Round 3	**30 minutes
TOTAL TIME			Approximately 5 hours and 15 minutes	

*Includes 10-minute breaks for learners
**Listed times are approximate and up to the educator's discretion and best practice recommendations
***Includes 30-minute break for learners

Utilization in Classroom Teaching

The Horizon Reports have been a driver of innovation and change in the discipline of education (Pelletier et al., 2021). The report highlights the changes in higher education teaching and learning that are shaped by larger macro trends. The increased use of learning technologies that include artificial intelligence, blended and hybrid learning, and learning analytics are key findings (Pelletier et al., 2021).

The findings from this body of research emphasize that earlier evidence-based strategies don't appear to be as effective with today's learners. Today's learners desire practical, relevant, immediate, and visually engaging learning opportunities while being as technologically advanced as possible. Virtual ClinicalsvrClinicals for Nursings for Nursing as a classroom approach to demonstrate thinking in action provides an opportunity for immediate feedback strengthening learner thinking.

Small Group Conversations

Using vrClinicals for Nursing in the classroom can be operationalized by having small groups run a 30-min segment with opportunities for pausing and engaging the small group in conversations as decisions are generated, considered, and then acted upon. This instrumental approach enables robust dialogue and cooperative thinking. Learning is incorporated through variations in thinking, decision-making, and corresponding correct rationale.

- Prioritize patient care
- Delegating care responsibilities
- Clinical actions and rationale
- Clinical knowledge discussions

Classroom Concept Mapping

VrClinicals for Nursing case scenarios use nursing practice clinical concepts and associated clinical exemplars. Learner VR experiences can further the scenario impact by working directly with the clinical concepts and exemplars in the cases through group concept mapping. Collaboratively, learners expand concept relationships using a group concept mapping approach. This iterative approach to learning provides an active reflection to cement the thinking-in-action with the associated rationale for actions taken and their impact on patient care.

HELPING LEARNERS NAVIGATE THE VRCLINICALS FOR NURSING EXPERIENCE

Overview

Although navigating vrClinicals for Nursing can be intuitive for many students, it is essential to orient them to features that can help them control the technical aspects of the program. The sooner students master operation of the vrClinicals for Nursing program, the more time they will have to think and develop their prioritization skills.

In preparation for using vrClinicals for Nursing, faculty are provided with an Instructor's User Guide. This resource will help instructors orient their students to the vrClinicals for Nursing product, navigate the vrClinicals for Nursingscenarios, set up and manage classes, and review student results. A video Tutorial that explains navigation of the simulation platform is also available for both students and faculty. Faculty are encouraged to review both the Instructor's User Guide and the Tutorial thoroughly to prepare for effective product implementation.

RESOURCES AND REFERENCES TO SUPPORT SIMULATION

Resources

- vSim Instructor Resources: Take advantage of the materials available for faculty on the vSim product page on thePoint, including a Professional Competency Map, the Scenario Overviews, and the Scenario Debriefing Guides (see the Instructor's User Guide on thePoint).

- Lippincott Customer Success Training: Get support and training designed to help you and your students succeed with vSim for Nursing. Training resources are available for faculty and students. Visit http://thepoint.lww.com/success for more information.

- Lesson Plans: If you have also adopted the corresponding Wolters Kluwer textbook, the textbook's Lesson Plans on thePoint can help you integrate the vSim for Nursing scenarios into your class curriculum. You will find vSim scenarios mapped to relevant textbook learning objectives. For example, the corresponding textbook for vSim for Nursing I Medical-Surgical, is Hinkle, j.L. & Cheever, K.H. (2014). Brunner and Suddarth's Textbook of Medical-Surgical Nursing, 13th Edition.

- National League for Nursing Simulation Innovation Resource Center (SIRC), http://sirc.nln.org/

- 51 RC Courses

- Teaching and Learning Strategies
  http://sirc.nln.org/mod/resource/view.php?id=96

- Curriculum Integration
  http://sirc.nln.org/mod/resource/view.php?id=98

- Debriefing and Guided Reflection
  http://sirc.nln.org/mod/resource/view.php?id=97

- Evaluating Simulations
  http://sirc.nln.org/mod/resource/view.php?id=99

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