

Rapid Cycle Deliberate Practice in Simulation: A Strategy to Evaluate APRN Students' Critical Thinking Skills

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Objectives

- Explain key components of Rapid Cycle Deliberate Practice (RCDP) simulation-based instructional strategy
- Summarize strengths and weaknesses of implementing RCDP in a virtual format
- Discuss implementation of RCDP as an effective pedagogy in acute care advanced practice nursing education

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Simulation in Nurse Practitioner Curriculum

- Problem-based learning
- Case studies included in didactic lectures
- Role play with/without standardized patients
- Procedural skills
- Cognitive skills
 - Communication, cultural & ethical principles
- Web-based asynchronous virtual patients
- High-fidelity virtual reality simulation

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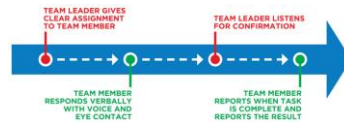
Background

- Acute Care Pediatric Nurse Practitioner (AC-PNP) core competencies for graduating students
- Use of simulation to demonstrate specific KSA's
 - Collaboration: Teamwork, team leader, role delineation
 - Communication: History of presenting illness, closed-loop, caregiver interview
 - Skills: Physical exam, resuscitative efforts

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Knowledge

- Pediatric Advanced Life Support
 - Critically ill infant → Impending respiratory failure → Possible cardiac arrest
 - Intubation → Ventilator management
 - Medication
- Physical Exam
 - Identification of injuries → concerns for non-accidental trauma
 - Recognition of complications
- Communication
 - Closed-loop
 - Empathy, Respect, Listening, Non-verbal



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Skills and Abilities

- Procedural
- Advanced life-saving efforts (PALS)
- Crisis management
- Debriefing
- Professional/Leadership skills
 - Communication: Breaking bad news, interviewing

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Rapid Cycle Deliberate Practice

- Team based training
- Repetitive practice & progressive difficulty
 - Each cycle supports improved performance before progressing to next cycle
- Target feedback for technical and non-technical skills
- High-fidelity simulation-based education
- Reflective practice
- Feedback
- Experiential Learning



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Comparing RCDP to Advocacy Model

- RCDP
 - Deliberative practice with pre-planned pause
 - Hard stop and Soft stop
 - Scenario restarts at the beginning
 - Directed feedback to create perfect practice
 - Correct errors in clinical decision making
 - Correct errors in management
 - Format useful in teaching algorithms and protocols
- Traditional simulation
 - Experiential learning in a safe environment
 - Use of standardized parent/patients
 - Reflective debriefing to promote practice change led by faculty
 - Limited or no opportunity to practice learning points

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Implementation of RCDP in Virtual Environment

- Train the trainer technique and pre-brief with standardized patients
 - Reviewed potential technical glitches with simulation staff
 - Established off-line communication with simulation staff
- RCDP simulation strategies reinforced specific course competencies
- Developed content at the learner's level

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Implementation of RCDP in Virtual Environment

- Pre-brief → psychologically safe environment
- Review key components of RCDP with students
- Created a small group on web-conferencing platform
 - Identified decision points (hard and soft stops), encouraged group discussion to support conflict management and team roles
- Time-in and time-out triggers for micro-debriefs

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RCDP in Progress

[RCDP-Video](#)

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Results

Strengths:

- Teamwork
- Improved performance
 - Stabilization of infant
 - Interviewing of caregivers
 - Developing a differential diagnosis



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Results

Barriers:

- Need for physical triggers
- Side conversations
- Implied knowledge “guess what I am thinking”
- Technical glitches – lag time on Zoom



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Disadvantages of RCDP

- Repeated cycles may result in learner/faculty fatigue
- Less useful if learning objective involves reflection
- Feeling overwhelmed with multiple pauses/interruptions

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Future Iterations

- Provide visual prompts
- Additional time for repetition
- Eliminate infant crying after brief intro



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