NLN SIRC SIMULATION INNOVATION RESOURCE CENTER
An Interactive Global Simulation Community

Faculty Development Toolkit of Simulation Resources

Six members of the 2014 cohort of the NLN Leadership Development Program for Simulation Educators decided to create a faculty development toolkit for the project they were required to complete as part of the Sim Leader program. They chose as a framework for their work, Benner's Novice to Expert model (Benner, 1984), which outlines transitions nurses make through five stages of development beginning at novice and advancing toward expert as they gain knowledge and skills. Benner's model has been researched and applied in nursing education and fits well with simulation educator development (Benner, Tanner, & Chelsa, 2009; Benner, Kyriakidis, & Stunnard, 2011).

The group drafted an assessment tool that would help nurse educators determine where they fell on the novice to expert continuum in nine different areas of simulation, then mapped faculty development resources to the five levels. The assessment tool is currently undergoing reliability and validity evaluation in conjunction with evaluation of the complete toolkit. Since this work aligned so well with the goals of the NLN regarding advancing simulation initiatives, an adapted toolkit is being released to assist in moving beginning faculty further along from novice to competent in the development of best practices in the use of simulation and debriefing in nursing education. The quote below is from the NLN's Living Document, "A Vision for Teaching with Simulation." We hope you will read it in its entirety.

"For more than a decade, the NLN has promoted simulation as a teaching methodology to prepare nurses for practice across the continuum of care in today's complex health care environment. That experience reinforced by the League's mission and core values furnishes a strong foundation to address the challenges and opportunities arising from the use of simulation in nursing education. … As teachers and learners move away from content-laden curricula to curricula that emphasize experiential learning, it is critical that nurse educators have the requisite knowledge and skills to use simulation to its full potential" (NLN, 2015).

References

Benner, P., Kyriakidis, P., & Stannard, D. (2011). Clinical wisdom and interventions in acute and critical care: A thinking-in-action approach. (2nd ed.). New York, NY: Springer.

Benner, P., Tanner, C. & Chesla, C. (2009). Expertise in nursing practice: Caring, clinical judgment, and ethics. (2nd ed.). New York, NY: Springer.

National League for Nursing (2015). *A vsion for teaching with simulation: A living document from the National League for Nursing.* http://www.nln.org/docs/default-source/about/nln-vision-series-(position-statements)/vision-statement-a-vision-for-teaching-with-simulation.pdf?sfvrsn=2

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Faculty Development Toolkit of Simulation Resources

For each of the 9 areas, resources are identified for novice and competent levels. Short definitions for each level are provided.

1. Technology – Level of comfort in using simulation technologies
2. Simulation Scenario Design – Level of expertise in designing/developing/using pre-developed scenarios
3. Debriefing – Level of confidence during debriefing
4. Teaching/Learning Strategies – Relates to "How To" facilitate the overall simulation education process and includes learning theory
5. Curriculum Integration – Strategic integration of simulation within the curriculum to identify learning needs and promote achievement of course and program outcomes
6. Evaluation – Evaluation skills in the quality of the learning experience to include skills in formative and summative assessment
7. Realism/Fidelity – Development of skills specifically related to the areas of equipment fidelity (simulators/ medical equipment), psychological fidelity and environmental fidelity
8. Standardized/Simulated Patients – Working with individuals portraying a patient or other individual in a scripted scenario for the purposes of instruction, practice, or evaluation
9. Simulation Management – Necessary skills for a sustainable and well-run simulation program

1. Technology – Level of comfort in using simulation technologies

TECHNOLOGY: NOVICE LEVEL	
FACULTY DEVELOPMENT RESOURCES	DESCRIPTION OF RESOURCES
Recommendation: Begin with an experienced simulation educator as a mentor, with expertise in use of simulation technology.	Seek out an expert in your area (geographical or technologic networks) who can mentor you in simulation technology use. For technologic networks, see Simulation Organizations in "General Resources: Organizations like INACSL and SSH have online communities. Determine who the key person is to develop technology skills. If you have a technical person who will run the computers associated with manikins and other equipment, then you can concentrate on developing other simulation skills.
Simulation equipment vendors: LAERDAL Medical: http://www.laerdal.com/us/ CAE Healthcare (Formerly METI): http://caehealthcare.com/eng/ Gaumard: http://www.gaumard.com/	Education: Manikin. video and simulation management system vendors may offer educational training with equipment purchase, as a fee-based service, or at conferences they sponsor or attend.

ONLINE COMMUNITIES: NLN SIRC Forum: http://sirc.nln.org/mod/forum/ INACSL - via LinkedIn: http://www.inacsl.org/i4a/pages/index.cfm?pageid=1 Click on the forum link to take you to LinkedIn; membership is required. Laerdal Simulation Users Network (SUN): http://simulation.laerdal.com/forum/forums/ CAE forum on LinkedIn: https://www.linkedin.com/groups/CAE-Forum-4083918?trk=groups_most_popular-h-dsc&goback=%2Egmp_4083918 Society for Simulation in Healthcare's SimConnect: http://www.ssih.org/Membership/Sim-Connect	Online Networking: Some vendors also have online communities for technological networking; these can be found on their websites.
May begin with a technology or vendor-based conference: NLN Annual Technology Conference http://www.nln.org/facultyprograms/Conferences/Technology/index.htm SUN Conferences http://www.laerdal.com/us/SUN Sim Tech Training (hands-on, online resources) at http://www.simghosts.org/	Technology Trouble-shooting: Manikin vendors have technology support for their unique products. You can find the phone numbers for their technology support on their web sites.

TECHNOLOGY: COMPETENT LEVEL	
FACULTY DEVELOPMENT RESOURCES	DESCRIPTION OF RESOURCES
SOFTWARE RESOURCES: Manikin-based vendors may have video &/or simulation management systems that work with their manikins. (Vendors listed under "Novice") Non-manikin solutions that support diverse brands of manikins include Education Management Solutions (EMS, SIMiQ): http://www.simulationiq.com/ KB Port: http://www.kbport.com/ B-Line Medical: http://www.blinemedical.com/	Simulation management software has the ability to support inventory, scheduling, and data collection for research as well as generating reports. Features include video management for enhanced use of standardized patients, electronic health records and more. Video and simulation management systems: some vendors have conferences or booths at conferences and offer free webinars. After purchasing, technical support is typically available during specific hours by phone. There may be a purchased service agreement with extended support.
Incorporating an Electronic Health Record and other Technologies into Simulations. Manos, E.L., Connors, H.B., & Roche, A.J. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	
SimGhosts: http://www.simghosts.org/	The gathering of Healthcare Simulation Technology Specialists website is an international technology training site for simulation users. SemGHOSTS.org emphasizes innovations and training. Their annual conference provides hands-on training and membership provides an online community for technicians to network and share their expertise.

2. Simulation Scenario Design – Level of expertise in designing/developing/using pre-developed scenarios

SCENARIO DESIGN: NOVICE LEVEL	
FACULTY DEVELOPMENT RESOURCES	**DESCRIPTION OF RESOURCES**
**** We do NOT recommend that you design your own simulations if you are a novice. It takes considerable knowledge and experience to create good scenarios, and it is time consuming to write and pilot test. Even those with expertise often chose to use scenarios created by other and "tweak" them to meet specific curricular needs.	
Available Scenarios: NLN Advancing Care Excellence (ACE) Cases – Care of Vulnerable Populations: These focus on special needs of older adults, veterans, Alzheimer's patients, and their caregivers, ACE programs provide FREE unfolding simulation scenarios, along with other classroom-ready curriculum tools such and teaching strategies http://www.nln.org/facultyprograms/facultyresources/aces/index.htm	The cases were written so that they can be modified to meet the needs of diverse curricula.
SimStore: has scenarios for purchase that were created by NLN, American Heart Association, and many others. http://www.mysimcenter.com/en-US/SimStoreHome.aspx	Managed by Laerdal Medical.

Nursing Professor http://www.nursingprofessor.com/home/casestudybank.html	The Nursing Professor provides free case studies for women's health, gerontology & psych-mental health.
American Association of Colleges of Nursing (AACN) Joining Forces: Enhancing Veterans' Care Tool Kit Educational Resources http://www.aacn.nche.edu/downloads/joining-forces-tool-kit/educational-resources	"The Joining Forces toolkit describes resources and exemplars that can assist faculty with the implementation of curriculum elements that will appropriately address the unique needs of the veterans and their families."(American Association of Colleges of Nursing, 2014)
University of Washington Center for Health Sciences Interprofessional Education, Research and Practice. http://collaborate.uw.edu/tools-and-curricula/scenario-building-library/scenario-library.html	This University of Washington site includes scenarios that can be modified to meet specific objectives of your students.
University of Washington Center for Health Sciences Interprofessional Education, Research and Practice web site: http://collaborate.uw.edu/educators-toolkit/heet-v-nursing-simulation-scenarios-and-supporting-documents.html	The HEET V Nursing Simulation Scenarios are a series of completed scenario templates related to nursing curriculum.
California Simulation Alliance (CSA) https://www.californiasimulationalliance.org/CSACourses.aspx	Subscribing members gain access to a bank of free tested and validated scenarios.
Vendors and Textbook Publishers	Vendors of simulation products often have scenarios for sale. There are also textbooks that contain scenarios.

SCENARIO DESIGN: COMPETENT LEVEL	
FACULTY DEVELOPMENT RESOURCES	**DESCRIPTION OF RESOURCES**
INACSL Standards of Best Practice: Simulation[SM] http://www.inacsl.org/i4a/pages/index.cfm?pageid=3407	We encourage you to use the INACSL Standards to validate the design and facilitation of any scenarios you create.
Clinical Simulations Focused on Patient Safety. Reisling, D.L., & Hensel, D. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	
Interprofessional Education Using Simulations. Palaganas, J.C., & Mancini, M.E. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	Knowledge of interprofessional competencies and levels is vital to developing effective IP learning experiences.
Interprofessional Education Collaborative: IPEC list of interprofessional links: https://ipecollaborative.org/Recommended_Links.html and core interprofessional competencies: https://ipecollaborative.org/uploads/IP-Collaborative-Practice-Core-Competencies.pdf IPEC homepage: https://ipecollaborative.org/Resources.html IPEC Conferences and events: https://ipecollaborative.org/Conferences___Events.html	Explore the IPEC site for interprofessional competencies and their learning objectives and to see the bigger picture of interprofessional learning.

TeamSTEPPS -: http://teamstepps.ahrq.gov/	TeamSTEPPS provides a carefully designed curriculum for to enhance safety and effective teamwork
Developing and Using Simulation for High-Stakes Assessment. Rizzolo, M.A. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	Explore concepts and methods to ensure high stakes assessments are using best practices.
Unfolding Simulation Cases: Purpose and Process. Cato, M.L., Cleary, J., Reese, C.E., & Boese, T.K. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	This chapter provides insight into the nature of a meaningfully developed unfolding case and the learning theories that support use of unfolding cases in nursing education.
Using Simulations to Promote Clinical Decision Making. Willhaus, J. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer health.	Explores the use of clinical decision making and how to assist learners to develop decision-making skills as well as instruments and methods to measure decision making

3. Debriefing – Level of confidence during debriefing

DEBRIEFING: NOVICE LEVEL	
FACULTY DEVELOPMENT RESOURCES	DESCRIPTION OF RESOURCES
National League for Nursing Vision Series: *Debriefing across the curriculum: A living document from the national league for nursing in collaboration with the International Nursing Association for Clinical Simulation and Learning (INACSL)* http://www.nln.org/docs/default-source/about/nln-vision-series-(position-statements)/nln-vision-debriefing-across-the-curriculum.pdf?sfvrsn=0	A position statement from the NLN calling for advancing techniques and faculty expertise to teach higher-level reasoning skills throughout the program of learning. Debriefing is an essential methodology to fully promote thinking along a continuum from "knowing what" to "knowing how" and "knowing why,".
Standards of Best Practice: Simulation: Standard VI: The Debriefing Process (2013) http://www.nursingsimulation.org/article/S1876-1399(13)00079-0/pdf	Standards of best practice indicate that debriefing should be conducted by a faculty member who is skilled in the techniques of debriefing. Debriefing techniques are an essential element of successful high fidelity simulation.
Debriefing: An essential component for learning in simulation pedagogy. By Dreifuerst, K & Decker, S. pp. 105-129._in Jeffries, P. (2012) *Simulation in nursing education: From conceptualization to evaluation. 2nd edition.* New York: NY: National League for Nursing.	Jeffries' Chapter 7 identifies numerous debriefing methods and includes references for obtaining each type of debriefing.
SIRC course: " Debriefing Foundations" http://sirc.nln.org/mod/page/view.php?id=97	There are several video examples of debriefing sessions, and a debriefing/guided reflection tool.
Sim 104: Briefing and Debriefing – The Key to Learning in Simulation http://collaborate.uw.edu/faculty-development/teaching-with-simulation/basic/sim-104/sim-104-briefing-and-debriefing%E2%80%94the-key-t	Sim 104 is an online learning module that provides the novice an introduction to the role and responsibility of a debriefer (20 minutes)

DEBRIEFING: COMPETENT LEVEL	
FACULTY DEVELOPMENT RESOURCES	**DESCRIPTION OF RESOURCES**
Facilitated debriefing. Johnson-Russell, J., & Bailey, C. (2010). In Nehring, W. M., & Lashley, F. R. (2010). *High-fidelity patient simulation in nursing education* (pp. 369-385). Sudbury, MA: Jones and Bartlett Publishers.	Johnson-Russell and Bailey describe debriefing theory and practice with emphasis on methods of inquiry.
Meaningful Debriefing and Other Approaches. Dreifuerst, K.T., Horton-Deutsch, S.L., & Henao, H. (2014. In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	Meaningful Debriefing has been recognized as a well-developed method and provides vital guidance for quality debriefing that promotes student self-insight.
Rudolph, J. W., Simon, R., Dufresne, R. L., & Raemer, D. B. (2006). There's no such thing as "nonjudgmental" debriefing: A theory and method for debriefing with good judgment. Simulation in Healthcare: The Journal of the Society for Medical Simulation, 1(1), 49-55. 10	Debriefing for Good Judgment methodology is explored and highlighted
Eppich, W., & Cheng, A. (2015). Promoting excellence and reflective learning in simulation (PEARLS): Development and rationale for a blended approach to health care simulation debriefing. Simulation in Healthcare, 10(2), 106-115.	Promoting excellence and reflective learning in simulation (PEARLS) methodology is explored and highlighted.
DASH (Debriefing assessment for simulation in Healthcare) tool from the Center for Medical Simulation: https://harvardmedsim.org/debriefing-assesment-simulation-healthcare.php	Debriefers in the DASH training develop a debriefing quality improvement plan.

4. Teaching/Learning Strategies – Relates to "How To" facilitate the overall simulation education process and includes learning theory.

TEACHING/LEARNING STRATEGIES: NOVICE LEVEL	
FACULTY DEVELOPMENT RESOURCES	DESCRIPTION OF RESOURCES
SIRC courses: Simulation Pedagogy and Teaching & Learning Strategies http://sirc.nln.org	
INACSL Standards of Best Practice: Simulation℠ http://www.inacsl.org/i4a/pages/index.cfm?pageid=3407	Standards I and II are particularly appropriate: Standard I -clarity in use of terms promotes clear communication; Standard II – includes basic rules, such as confidentiality.
Sim 101: Introduction to Clinical Simulation http://collaborate.uw.edu/faculty-development/teaching-with-simulation/basic/sim-101/sim-101-introduction-to-clinical-simulati	Sim 101 is an online learning module that provides an introduction to using simulation as a teaching strategy
Sim 102: Pedagogical Approaches in Simulation for Developing Critical Thinking http://collaborate.uw.edu/faculty-development/teaching-with-simulation/basic/sim-102/sim-102-pedagogical-approaches-in-simulat	Sim 102 is an online learning module that provides an introduction to applying learning theory and simulation pedagogical best practices to achieve clinical reasoning learning outcomes.)
Implementing Clinical Simulations in the Clinical Practice Arena. Dwyer, J. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	This chapter explores the use of simulation in the practice setting including in situ and in center simulations with some discussion of orientation, continuing education and interprofessional uses of simulations.

Education theory/Learning styles Fountain, R.A., & Alfred, D. (2009). Student satisfaction with high-fidelity simulation: Does it correlate with learning styles? *Nursing Education Perspectives, 30*(2), 79-82.	
Developing and implementing a simulation protocol Larew, C., Lessans, S., Spunt, D., Foster, D., & Covington, B.G. (2006). Innovations in clinical simulation: Application of Benner's theory in an interactive patient care simulation. *Nursing Education Perspectives, 27*(1), 16-21.	This article provides a description of lessons learned in developing and implementing a simulation protocol as well as the challenges and limitations of the protocol. The authors suggested it is useful to have valid and reliable methods for evaluation of students to allow the simulation protocol to be utilized for clinical competency evaluation.
Learning Theory Zigmont, J. J., Kappus, L. J., & Sudikoff, S. N. (2011). Theoretical Foundations of Learning Through Simulation. *Seminars In Perinatology*, *35*(2), 47-51. doi:10.1053/j.semperi.2011.01.002	

TEACHING/LEARNING STRATEGIES: COMPETENT LEVEL	
FACULTY DEVELOPMENT RESOURCES	**DESCRIPTION OF RESOURCES**
SIRC course Unfolding cases: http://sirc.nln.org/	Presents strategies that present new information over time. The case may be presented in a day, a week, a term, or across the curriculum.
INACSL Standards of Best Practice: Simulation℠ http://www.inacsl.org/i4a/pages/index.cfm?pageid=3407	Standards III, IV, and V. are particularly appropriate: Standard III - use learning objectives to effectively facilitate the simulation learning experience to achieve desired learning outcomes; Standard IV - facilitation methods are intuitively chosen to best meet learner needs and achieve desired learning outcomes; Standard V - the proficient facilitator is essential to manage all aspects of simulation successfully
Faculty Development to Implement Simulations: Strategies and Possibilities. Waxman, K.T., & Miller, M.A.. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	This chapter addresses key elements of faculty development for successful simulation programs.
Implementing Simulations in the Clinical Practice Arena. Dwyer, J. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	
Certification in Clinical Simulations: The Process, Purpose, and Value Added. Decker, S.I., Lopreiato, J.O., & Patterson, M.D. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	

Using Simulations to Promote Clinical Decision Making. Willhaus, J. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	Explores the use of clinical decision making and how to assist learners to develop decision-making skills as well as instruments and methods to measure decision making
Self-regulated Learning Theory Kuiper, R.A., & Pesut, D.J. (2004). Promoting cognitive and metacognitive reflective reasoning skills in nursing practice: Self-regulated learning theory. *Journal of Advanced Nursing, 45*(4), 381-391.	
Problem Based Learning (PBL) KamYuet Wong, F., Cheung, S., Chung, L., Chan, K., Chan, A., To, T., & Wong, M. (2008). Framework for adopting a problem-based learning approach in a simulated clinical setting. *Journal of Nursing Education, 47*(11), 508-514.	
Team-based learning Birnback, D.J. & Salas, E. (2008). Can medical simulation and team training reduce errors in labor and delivery? *Anesthesiology Clinics, 26*, 159-168.	
Interprofessional Teaching Dillon, P.M., Noble, K.A., & Kaplan, L. (2009). Simulation as a means to foster collaborative interdisciplinary education. *Nursing Education Perspectives, 30*(2), 87-90.	
McNelis, A. (2009) Faculty matters. *Nursing Education Perspectives 30*(2), 72.	

5. Curriculum Integration – Strategic integration of simulation within the curriculum to identify learning needs and promote achievement of course and program outcomes

CURRICULUM INTEGRATION: NOVICE LEVEL	
FACULTY DEVELOPMENT RESOURCES	**DESCRIPTION OF RESOURCES**
SIRC course: Curriculum Integration http://sirc.nln.org/	Content in this course includes change agent roles, diffusion of innovation theory, types of adopters, and key people to include on an integration team. There is a toolkit that includes a technology checklist to assist in completing an inventory of simulation equipment and resources.
Articles on methods to support Curriculum Integration: Jeanette, M., Parker, R. A., Nadeau, J., Pelayo, L. W., & Cook, J. (2012). Developing nurse educator competency in the pedagogy of simulation. *Journal of Nursing Education, 51*(12), 685-91. doi:http://dx.doi.org/10.3928/01484834-20121030-01	*Educate yourself* regarding methods to promote curricular change.
Promoting Change: Embedding Simulation: Starkweather, A., & Kardong-Edgren, S. (2008). Diffusion of innovation: Embedding simulation into nursing curricula. *International Journal Of Nursing Education Scholarship (IJNES), 5*(1), doi:10.2202/1548-923X.1567	Changing the curriculum requires leading others. This article demonstrates application of change theory to promote curricular integration.

CURRICULUM INTEGRATION: COMPETENT LEVEL	
FACULTY DEVELOPMENT RESOURCES	**DESCRIPTION OF RESOURCES**
SIRC course: Integrating Concepts into Simulation http://sirc.nln.org	Contents in this course describe a process for identifying and integrating a wide range of concepts into simulation scenarios and shows how to apply these steps using patient safety as an example.
University of Washington Center for Health Sciences Interprofessional Education, Research and Practice; Simulation Team Training Faculty Toolkit http://collaborate.uw.edu/educators-toolkit/interprofessional-simulation-team-training-faculty-toolkit/set-up-and-curriculum-g	This toolkit from the University of Washington includes resources to teach interprofessional teamwork and communication in simulation.
Interprofessional Education Using Simulations. Palaganas, J.C., & Mancini, M.E. (2014). In Jeffries, P.R. (2014). Clinical simulations in nursing education: Advanced concepts, trends, and opportunities. Philadelphia, PA: Wolters Kluwer Health.	Incorporation of interprofessional experiences is an area where simulation can enrich the curriculum. This chapter explores how simulation can be used to help achieve the interprofessional competencies.
Incorporating Simulations into the Curriculum: Undergraduate and Graduate. Parsons-Schram, A. & Aschenbrenner, D.S. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	This chapter explores ways to meaningfully incorporate a variety of simulation methods to enrich the curriculum to support achievement of program outcomes.
Incorporating Simulations into the Curriculum: Undergraduate and Graduate. Parsons-Schram, A. & Aschenbrenner, D.S. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	

Curriculum integration of clinical simulation. Ravert, P. in Jeffries, P.R. (2012) *Simulation in nursing education: From conceptualization to evaluation*. 2nd edition. pp. 77-89. New York: NY: National League for Nursing.	
Faculty Development: Jeanette, M., Parker, R. A., Nadeau, J., Pelayo, L. W., & Cook, J. (2012). Developing nurse educator competency in the pedagogy of simulation. *Journal of Nursing Education, 51*(12), 685-91. doi:http://dx.doi.org/10.3928/01484834-20121030-01	Describes an application of research evidence to create and implement faculty development in simulation using National League for Nursing Core Competencies of Nurse Educators. (Parker, Nadeau, Pelayo & Cook, 2012).

6. Evaluation – Evaluation skills in the quality of the learning experience to include skills in formative and summative assessment

EVALUATION: NOVICE LEVEL	
FACULTY DEVELOPMENT RESOURCES	SUGGESTIONS FOR USE OF RESOURCES
SIRC Course: Evaluating Simulations http://sirc.nln.org	The course offers practical suggestions for evaluating a variety of aspects of the simulation experience. It provides examples of tools and an extensive reference list.
INACSL Standards of Best Practice: Simulation[SM] http://www.inacsl.org/i4a/pages/index.cfm?pageid=3407	Standard VII is particularly appropriate - novice simulation educators must learn the basics of what assessment and evaluation in simulation involve. The novice can assess learner behaviors, being skilled within the specific healthcare field in view. Summative and high stakes assessments, however, require advanced simulation education expertise.
Evaluating Teacher Effectiveness When Using Simulations. Reese, C.E. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	Sim 201 is an online learning module. Part 1 provides basics of embedding assessment and evaluation appropriate to the simulation desired outcome(s)
Sim 201: How to Evaluate Learning Using Simulation Part 1 http://collaborate.uw.edu/faculty-development/teaching-with-simulation/advanced/sim-201/sim-201-how-to-evaluate-learning-using	" The lesson is intended to provide the basics of embedding assessment and evaluation into simulation experiences, as well as the selection of a method and tool for either assessment or evaluation appropriate to the simulation desired outcomes."

EVALUATION: COMPETENT LEVEL	
FACULTY DEVELOPMENT RESOURCES	**SUGGESTIONS FOR USE OF RESOURCES**
SIRC Course: Advanced Evaluation http://sirc.nln.org/	The course is designed to help educators understand and apply the concepts of validity and reliability to simulation evaluation and identify strategies for evaluation using Kirkpatrick's levels of evaluation.
Developing and Using Simulation for High-Stakes Assessment. Rizzolo, M.A. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	Basic guidelines to determine readiness for using simulation for summative evaluation.
Using Simulations to Promote Clinical Decision Making. Willhaus, J. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	Explores the use of clinical decision making and how to assist learners to develop decision-making skills as well as instruments and methods to measure decision making
Sim 201: How to Evaluate Learning Using Simulation Part 2 http://collaborate.uw.edu/faculty-development/teaching-with-simulation/advanced/sim-201/sim-201-how-to-evaluate-learning-using	Sim 201 is an online learning module. Part 2 emphasizes selecting methods and tools for either assessment or evaluation and briefly reviews developing a remediation plan.
Evaluation Tools and Metrics for Simulations. Adamson, K.A. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	Learn about tools for evaluation in the simulation environment.

7. Realism/Fidelity – Development of skills specifically related to the areas of equipment fidelity (simulators/ medical equipment), psychological fidelity and environmental fidelity

REALISM/FIDELITY: NOVICE LEVEL	
FACULTY DEVELOPMENT RESOURCES	DESCRIPTION OF RESOURCES
Recognize some items can cause skin reactions and can permanently damage and discolor manikins.	The novice is directed to their experienced simulation colleagues and vendors to prevent such harm.
SIRC Course: Maximizing Realism http://sirc.nln.org/	"This course discusses an important consideration for a simulation experience: increasing realism or fidelity. Essential concepts and terms are defined, along with identifying different methods to increase realism. Best practices for creating a high level of realism are presented. The Educator's Toolkit includes recipes, resources, and references for this topic."
Merica, B.J. (2011), Medical Moulage: How to make your simulations come alive. Philadelphia, PA: FA Davis. ISBN-13: 978-0-8036-2499-3 i	This extensive book provides over 300 recipes designed for beginner to advanced moulage for both manikins and live actors
Limbs and things https://www.limbsandthings.com/	Products for skills-based education.
Health Simulation http://healthysimulation.com/moulage/	Explore simulation moulage and products
Behind the Sim Curtain http://www.behindthesimcurtain.com/moulage	Explore a variety of realistic moulage recipes and props
Moulage for Manikins (Sick Kitchens) http://sickkitchen.com/	Sick Kitchens sells a cookbook with recipes to create realistic body fluids, wounds and more

Sim 203: Bringing Realism to Simulation http://collaborate.uw.edu/faculty-development/teaching-with-simulation/advanced/sim-203/sim-203-bringing-realism-to-simulation	Learn basics of how to use moulage to enhance realism and what resources can help you get started.
Emergency medical moulage products http://www.buyemp.com/category/moulage-kits	Click on teaching and training to see products such as casualty simulation kits
Creating Effective Simulation Environments. Gore, T.N. & Lioce, L. (2014) in Ulrich, B., & Mancini, B. (2014). *Mastering simulation: A handbook for success.* Indianapolis, IN: Sigma Theta Tau International Honor Society of Nursing.	This chapter presents the knowledge needed to work at the competent level. The advanced beginner learns about levels of fidelity for effective simulation with many examples of moulage, web links, and information about how to use moulage to enhance learning.
Programmable thermometer: http://healthysimulation.com/2901/progra-temp-simulation-thermometer-from-pocket-nurse/	Use simulation resources to identify innovations in equipment to enhance fidelity such as this programmable thermometer by Pocket Nurse. The healthysimulation.com site provides a review and a video.
Image Perspectives injury moulage training and resources: http://www.moulage.net/	Get training for injury moulage or order products for a full range of moulage effects.
Vendor list available on the SIRC: http://sirc.nln.org	An extensive list of vendors who provide simulation products can be found in the link to “Centers and Vendors” on the SIRC.
REALISM/FIDELITY: COMPETENT LEVEL	
FACULTY DEVELOPMENT RESOURCES	**DESCRIPTION OF RESOURCES**
Moulage Concepts at: http://moulageconcepts.talkspot.com/	Moulage Concepts has a book, products and kits as well as workshops you can explore
Voice changer software reviews at: http://healthysimulation.com/1263/voice-changers-in-your-sim-lab/	New products are being developed all the time. Here is one example. Identify innovations is fostered by networking with other simulation educators and vendors.

8. Standardized/Simulated Patients – Working with individuals portraying a patient or other individual in a scripted scenario for the purposes of instruction, practice, or evaluation

STANDARDIZED/SIMULATED PATIENTS: NOVICE LEVEL .	
FACULTY DEVELOPMENT RESOURCES	DESCRIPTION OF RESOURCES
The Association of standardized patient educators http://www.aspeducators.org/	Connect with the professional organization and network with others interested in the educational use of SPs..
Article: Nestel, D., Mobley, B. L., Hunt, E. A., & Eppich, W. J. (2014, December). Confederates in health care simulations: Not as simple as it seems. Clinical Simulation in Nursing, 10(12), 611-616. http://dx.doi.org/10.1016/j.ecns.2014.09.007.	Understanding the roles and challenges of confederates prepares the educator to use the non-patient actor effectively to meet learning objectives. 01-2014 Debra Nestel, PhD, CHSE Professor of Simulation Education in Healthcare School of Rural Health Faculty of Medicine, Nursing and Health Sciences Monash University, Victoria, Australia
STANDARDIZED/SIMULATED PATIENTS: COMPETENT LEVEL	
FACULTY DEVELOPMENT RESOURCES	DESCRIPTION OF RESOURCES
SIRC Course: Standardized Simulated Patients http://sirc.nln.org/	This course is designed to help faculty develop the knowledge and skills necessary to more fully utilize standardized/simulated patients (SPs)

9. Simulation Management – Necessary skills for a sustainable and well-run simulation program

SIMULATION MANAGEMENT: NOVICE LEVEL	
FACULTY DEVELOPMENT RESOURCES	DESCRIPTION OF RESOURCES
SIRC Course: Teaching and Learning Strategies http://sirc.nln.org/.	Includes examples of rotation schedules and forms that can be used in daily management.
Anderson, M., Bond, M. L., Holmes, T. L., & Cason, C. L. (2012, February). Acquisition of simulation skills: survey of users. *Clinical Simulation in Nursing,* 8(2), e59- e65. doi:10.1016/j.ecns.2010.07.00	This describes and addresses predominant barriers to simulation use.
Jansen, D. A., Berry, C., Brenner, G. H., Johnson, N., & Larson, G. (2010, November). A collaborative project to influence nursing faculty interest in simulation. *Clinical Simulation in Nursing*, 6(6), e223-e229.doi:10.1016/j.ecns.2009.08.006.	This article describes multiple strategies for increasing faculty comfort in technology.
Top questions related to managing a Sim Center http://healthysimulation.com/2191/top-5-questions-i-should-be-asked-about-managing-a-medical-simulation-program/ and http://healthysimulation.com/2153/top-5-questions-i-am-asked-about-managing-a-medical-simulation-program/	Find links to job descriptions and other advice.
Healthy Sim Admin: http://www.healthysimadmin.com/	Recorded course for simulation administrative areas

SIMULATION MANAGEMENT: COMPETENT LEVEL	
FACULTY DEVELOPMENT RESOURCES	**DESCRIPTION OF RESOURCES**
Faculty Development to Implement Simulations: Strategies and Possibilities. Waxman, K.T., & Miller, M.A.. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	Managing a center will require understanding of the importance of using properly prepared educators.
Technological Considerations to Run and Manage a Simulation Center. Engum, S.A., & Dongilli, T. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	This chapter is a rich source for information relating to governance structure, inclusion of key stakeholders, strategic planning, models of operation and fiscal management for simulation leadership. Also addresses scheduling and inventory.
Level 3 Healthcare: multimedia solutions and consultations https://www.level3healthcare.com/#about	"Level 3 Healthcare provides advanced multimedia solutions in OR's, ER's, ED's and medical education centers. This healthcare engineering group has pioneered designs in large anatomy labs, dental training facilities, telehealth initiatives, live HD video distribution, 3-D surgical theaters, recording, archiving, content management and video media retrieval systems"
Using a Consortium Model to Develop a Simulation Center. Battin, A., Savage, R, Geers, J.W., & Jeffries, P.R. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	"This chapter discusses a consortium model used to assist different academic institutions, hospitals, and other organizations with the mission of embarking on and adopting the simulation pedagogy within their organizations, utilizing a collaborative approach" (2014, p. 251).
Baily, L., Bar-on, M., Yucha, C., & Snyder, S. J. (2013, June). *Six challenges encountered in the opening of a multi-institutional, interprofessional simulation center.* Clinical Simulation in Nursing, 9(6), e219-e223. doi:10.1016/j.ecns.2011.12.002.	

List of Simulation Centers http://sirc.nln.org/	Use this list of simulation centers to contact others and find out more about their centers.

Beginning Preparation at the Expert Level

END OF TOOLKIT – When you become an expert…..	
Take on a leadership role in a regional, national, or international simulation organization	
Developing a Research Focus in Simulations. Kardong-Edgren, S., & Roche, J. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health.	Provides guidance to explore simulation questions and identify a research focus for inquiry.
Evaluation Tools and Metrics for Simulations. Adamson, K.A. (2014). In Jeffries, P.R. (2014). *Clinical simulations in nursing education: Advanced concepts, trends, and opportunities.* Philadelphia, PA: Wolters Kluwer Health. Evaluation: A critical step in simulation practice and research. Adamson, K.A., Jeffries, P.R., and Rogers, K.J. in Jeffries, P.R. (2012) *Simulation in nursing education: From conceptualization to evaluation. 2nd edition*. pp. 131-161. New York, NY: National League for Nursing.	These chapters discuss the state of the science of performance evaluation in simulation delineating areas for future work and key concepts

GENERAL RESOURCES

Please note: This is not an exhaustive list and is not intended to endorse one product over another. At the time of publication the links in this document were valid.

Reference books:

Campbell, S.H., & Daley, K.M. (2009). *Simulation scenarios for nurse educators: Making it real.* New York: Springer Publishing Company.

Jeffries, P. R. (Ed.) (2014) *Clinical Simulations in Nursing Education: Advanced Concepts, Trends and Opportunities*. Philadelphia, PA: Wolters Kluwer Health.

Jeffries, P.R. (Ed.) (2012) *Simulation in nursing education: From conceptualization to evaluation, 2nd edition*. New York: National League for Nursing

Nehring, W. M., & Lashley, F. R. (2010). *High-fidelity patient simulation in nursing education*. Sudbury, MA: Jones and Bartlett Publishers.

Palaganas, J.C., Maxworthy, J.C., Epps, Chad A., & Mancini, M.E. (Eds). (2015). Defining *Excellence in Simulation Programs*. Society for Simulation in Healthcare, Wolters Kluwer.

Ulrich, B., & Mancini, B. (Eds.) (2014). *Mastering simulation: A handbook for success.* Indianapolis, IN: Sigma Theta Tau International Honor Society Of Nursing.

Simulation journals with peer-reviewed articles:

Clinical Simulation in Nursing http://www.nursingsimulation.org/

Simulation in Healthcare: Journal of the Society for Simulation in Healthcare
http://journals.lww.com/simulationinhealthcare/Pages/default.aspx

Professional Simulation Organizations:

International Nursing Association for Clinical Simulation and Learning (INACSL)
http://www.inacsl.org/i4a/pages/index.cfm?pageid=1

Society for Simulation in Healthcare (SSH) http://www.ssih.org/

The Association of Standardized Patient Educators: http://www.aspeducators.org

Webinars:

INACSL, SSH, and NLN offer webinars on simulation topics. Vendors often offer webinars or access to recordings of conference sessions.
SIMULATIONiQ™ offers free live webinars and access archived webinars at: http://www.simulationiq.com/news-and-resources/webinars/

Videos/slides:

Slides and some videos of Debra L. Spunt Lectures presented at the NLN Summit are available at http://sirc.nln.org/mod/page/view.php?id=843

Certifications:

Through the Society for Simulation in Healthcare: http://www.ssih.org/Certification/

Certified Healthcare Simulation Educator (CHSE),

Certified Healthcare Simulation Educator - Advanced (CHSE-A) and

Certified Healthcare Simulation Operations Specialist (CHSOS)