



Center for Simulation Innovation, Interdisciplinary Education, and Entrepreneurship
(CSIIDEE)

Policy and Procedure Handbook

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1. General Information

- a. **Mission:** The mission of the University of Delaware's Center for Simulation Innovation, Interdisciplinary Education, and Entrepreneurship (CSIIDEE) is to provide state of the art experiential learning opportunities for students in the College of Health Sciences/ School of Nursing and its community partners through deliberate practice, innovative multimodal simulation-based experiences, and patient-centered interprofessional collaborative practice.
- b. **Vision:** CSIIDEE aspires to become a national leader in simulation education and research to prepare the healthcare workforce of the future.
CSIIDEE's mission and vision are congruent with the mission and vision of the School of Nursing, College of Health Sciences, and University.
- c. **Code of Ethics:** The CSIIDEE has recently adopted the Society of Simulation Healthcare Simulationist Code of Ethics that emphasize six aspirational values including: Integrity, Transparency, Mutual Respect, Professionalism, Accountability, and Results Orientation.
- d. **Governance:** Organizational Chart: For leadership above the Director of Simulation and Interprofessional Education, please refer to the SON organizational chart in appendix A. For the organizational structure beneath the Director of Simulation and Interprofessional Education, please refer to the CSIIDEE organizational chart in appendix B.
- e. **Decision-making process:** The decision-making process follows the CSIIDEE Organizational Chart. Decisions regarding equipment purchases, prioritizing projects, resolving scheduling conflicts, establishing partnerships, and resolving challenges will be finalized by the Director of Simulation and Interprofessional Education with counsel from the operations specialist, simulation manager and simulation specialists. If decisions are related to major purchases outside of the simulation program's capital budget, the Director of Simulation and Interprofessional Education consults with the School of Nursing Senior Associate Dean or College of Health Sciences Dean. If decisions relate to a student's academic progression, the Director of Simulation and Interprofessional Education consults with the Director of the Undergraduate or Graduate Program and appropriate Associate Dean.
- f. **Required disclaimers and pre-event statements:** Outside presenters for simulation-related classes or events hosted or sponsored by the university will be required to report disclaimers. Additionally, all presenters will be vetted by the simulation faculty/staff for adherence to best practice standards, alignment with university values, and the CSIIDEE mission and vision.
- g. **Required event or course acknowledgements:** Approval for attending a conference as a presenter (podium and poster) must be in advance of registration for the event. Presenters must submit a draft of the presentation via email to the Director of Simulation and Interprofessional Education 2 weeks prior to submission for review of content; and if non-faculty are presenting, then this must be cleared 4 weeks prior to the event. The intent of this policy is to ensure that CSIIDEE has quality representation at all times.

- h. **Simulation facility “Brand” use policy:** University of Delaware’s CSIIDEE is referenced along with the specific discipline and program when presenting within the institution and at external events/ organizations. University of Delaware’s CSIIDEE is the official name to be included on electronic and printed abstracts, publications, and presentations, videos, and other/or, publicly presented products., and in all publications.
- i. **Hours of operation:** Normal hours of operation for School of Nursing/ College of Health Sciences graduate and undergraduate programs are Monday- Friday 8 am to 8 pm. CSIIDEE is closed on all federal holidays and school holidays. Saturday and Sunday hours are available for external clients; however, CSIIDEE reserves the right to use weekend hours to provide open lab sessions or other services to meet University of Delaware enrolled student learning needs.
- j. **Simulation center terminology:** CSIIDEE terminology reflects the International Nursing Association for Clinical Simulation and Learning INACSL Simulation glossary as well as the Society of Simulation in Healthcare Simulation Dictionary (2nd edition).

2. Personnel

Please refer to the organization charts referenced in section 1b and appendix A and B.

3. Administrative Information

- a. **Support staff and contact tree:** CSIIDEE’s communication contact tree is as follows: the Director of Simulation and Interprofessional Education communicates information to the Administrative Assistant and simulation center Manager who will communicate to simulation specialists, operation specialists, and student teaching assistants. Simulation specialists will then have the responsibility of notifying students of any pertinent information.
- b. **Overtime policy:** Please refer to the University of Delaware policy 4-95 which applies to staff members classified as non-exempt employees.
- c. **Scope of work/description for each personnel classification:** Please refer to appendix C for job descriptions.
- d. **Organizational chart:** Please refer to the organization charts referenced in section 1b and appendix A and B.
- e. **Staff Quality Improvement and Professional Development:** Annual appraisals of staff are conducted by the CSIIDEE Director according to UD policy 4-55. Faculty are evaluated by the School of Nursing Senior Associate Dean on an annual basis per section 4.3.5 of the UD faculty handbook, with input from the Director. Peer evaluation is a valued component of this process.
CSIIDEE Faculty and staff are encouraged to participate in continuing education through conference attendance, online webinars, etc., on a yearly basis. Simulation certification is also encouraged. Funding for travel and professional development is included in the annual School of Nursing and/or College of Health Sciences budget.

4. Course Directors and Instructors

- a. **Facilitator Development:** Development and delivery of simulation-based educational programs is standardized within CSIIDEE. Instructor training is accomplished in several ways including a) participation in Certified Simulation Healthcare Educator (CHSE) preparation courses and formal continuing education programs, b) four-week orientation with mentoring by seasoned simulation faculty, c) completion of online (Canvas) course (approximately 26 hours), and d) internally developed two-day course- INACSL Standards of Best Practice (SOBP), Healthcare Theatre/Technology, Student Evaluation, and Debriefing.
 - i. **Course/Scenario content:** Simulation-based experiences are integrated into select courses. Course (clinical or didactic) faculty work collaboratively with simulation specialists/facilitators to create simulation-based experiences that meet the course objectives using INACSL SOBP. Simulation specialists are assigned based on their professional experience and ultimately rests with the Simulation Director and Simulation Center Manager. Simulation-based experiences are developed at least one semester prior to implementing the course whenever possible. Scenario content should be validated before simulation delivery.
 - ii. **Simulation modalities:** Simulation-based experiences utilize various modalities within the simulation center. Simulation specialists operate all human patient simulators during immersive simulated clinical experiences. Non-simulation specialists are trained how to utilize the equipment pertinent to their simulation-based experience (i.e., task trainers). Select simulation-based experiences utilize standardized participants using wearable technology which requires simulation specialists for facilitation.
 - iii. **Respectful environment:** Simulation facilitators are trained to create a safe learning environment and to address psychological safety for all participants.
 - iv. **Feedback and reflection:** All simulated activities include a debriefing following the experience. The total debriefing time may vary but is not to be less than 20 minutes. Debriefing time is equal to or twice the length of time learners are actively engaged with the patient (ex. 20 minutes active patient engagement= 20 to 40 minutes debriefing time)
 - v. **Simulation technology:** Simulation-based experiences utilize various technologies within the simulation center. Technology is not limited to human patient simulators. Technology may include various types or multiple types of technology within the simulated experience. Technology may include, but is not limited to: electronic health records, patient care equipment, communication devices, patient monitors, and immersive walls.
- b. **Instructors/faculty/facilitators code of conduct:** Faculty and staff are expected to act professionally and abide by rules. Faculty follow the University's Faculty Handbook section [4.2.2 Professional Ethics Statement](#). Staff follow the

- [University's policy 4-44 and 4-45 on Ethics](#). Both faculty and staff follow the Society of Simulation in Healthcare Code of Ethics.
- c. **Course development policy:** Courses with simulation-based experiences are developed by the School of Nursing Curriculum Committee. All simulation-based experiences are developed using the National League of Nursing Scenario template. Please refer to appendix D and Section 4.
 - d. **Evaluation policy:** Students are asked to evaluate each simulation-based experience using a Qualtrics survey following the experience. At the conclusion of the semester, a Qualtrics survey is sent to all students who have participated in simulation-based experiences to evaluate effectiveness of simulated activities and facilitation. The completed surveys are reviewed by all simulation specialists and the Director of Simulation. A team meeting is scheduled at the end of the semester to review surveys and develop a plan for improvement. Non-simulation specialists are evaluated using the Facilitator Competency Rubric (refer to Appendix E).
 - e. **Course registration:** Course registration is completed through the university's registrar. Assignment to a simulation-based experience is coordinated by the clinical coordinator according to the learners assigned clinical practicum or by the simulation center's scheduling program Appointment-Plus. If the simulation-based experience is scheduled using Appointment-Plus, students will self-schedule and attendance is reviewed by the simulation specialist facilitating the experience.
 - f. **Equipment utilization:** CSIIDEE equipment including manikins, simulation devices, furniture, etc., are maintained by the Simulation Operations Specialist. Instructors must coordinate with the Simulation Operations Specialist for equipment availability and training prior to course start date. For detailed policies on equipment, please refer to chapter 9. Specific instructions regarding simulation lab "do's and don't's" may be found in Appendix F.
 - g. **Facilitator travel:** Simulation instructors and staff follow the [University's policy 3-07 on travel](#). Payment for travel is determined by the availability of School of Nursing/College funds. The Director of Simulation needs to approve travel requests before they are forwarded to the School of Nursing administration. Shipping of equipment would be overseen by the Simulation Operations Specialist with prior approval of the Director of Simulation.

5. Course Participant

- a. **Course preparation:** CSIIDEE is set up to be a fully immersive environment where participants are simulating a clinical experience. It is expected that students will arrive to the simulated experience exhibiting professional behavior. Professional behavior is defined as behavior that meets the established norms for students of professional nursing. The faculty considers professional behavior in the simulation laboratory essential.

Professional behaviors that are an expectation of all students participating in simulated learning experiences include but are not limited to the following:

- i. Be adequately prepared prior to a scheduled simulation experience. Preparation includes but is not limited to the use of videos, checklists, readings, and written materials.
 - ii. Communicate relevant information to faculty regarding scheduling, questions, conflicts, or any issues that interfere with completing simulated experiences. Students must communicate conflicts as soon as the conflicts are recognized or within 72 hours of the simulated learning experience.
 - iii. Arrive at the simulation center on time with required supplies.
 - iv. Report absence/tardiness in a timely and appropriate manner.
 - v. Report illnesses up to 2 hours prior to the simulated learning experience.
 - vi. Arrive for all simulation learning experiences at CSIIDEE in proper clinical attire. Students' professional appearance must be consistent with the dress code outlined in the [SON Undergraduate Student Handbook](#).
- b. **Participant Code of conduct:** CSIIDEE is aligned with the School of Nursing and College of Health and Sciences. For undergraduate nursing students, Section XIX. of the SON Undergraduate [Student Handbook](#) delineates professional behaviors and consequences of non-adherence. The course instructor has the right to remove any participant from the CSIIDEE for unsafe, unprofessional, and/ or unethical behavior. Additionally, students are required to adhere to the [UD Student Code of Conduct](#).
 - i. Disruptive behavior of any nature will not be tolerated in the CSIIDEE during simulation learning experiences and students will be asked to leave. Students who feel that peer behaviors are disrupting class are encouraged to diplomatically approach their peers. If this option does not bring resolution to the problem, students should inform faculty of the situation. Participant's failure to adhere to CSIIDEE policies and guidelines will receive appropriate disciplinary action. A Professional Behavior Feedback Form (Plan for Success) will be completed and retained in the student's file. A copy of the form and algorithm utilized to address students conduct can be found in the Undergraduate Student Handbook (Appendix G).
- c. **Cell phone usage:** Cell phones (including texting) and use of any other electronic device for personal use, are prohibited in CSIIDEE. Talking, texting, ringing/buzzing cell phones, communicating on social media, or other distractions disrupt both teacher and students. Students using electronic devices for personal use will be asked to leave the area (and will need to reschedule learning experiences). Use of cell phones for emergencies is allowed but these emergencies should be brought to the attention of CSIIDEE faculty/staff prior to using the cell phone. In the event of a personal emergency, the student is to take the call outside of CSIIDEE to minimize disruptions to the learning experience. The use of cell

phones for the purpose of video recording or taking of pictures is prohibited and is in violation of the CSIIDEE Student Contract (See Appendix H).

6. Healthcare Theatre

CSIIDEE has a long-standing partnership with [Healthcare Theatre](#) (HT). Healthcare Theatre offers multiple scaffolded university accredited courses built to provide a low-cost sustainable standardized participant pool. The use of HT enhances experiential learning experiences by facilitating discovery and communication for all students assigned to the simulation-based experience. Please reference Healthcare Theatre's policy and procedure manual for more information about this unique program and its impact on the sustainability of the SP program for CSIIDEE.

7. Scheduling Courses and Rooms

- a. **Approval process:** The course is approved by the Curriculum Committee. Because all simulation-based experiences are integrated into select courses, these experiences are developed by the simulation specialists in collaboration with the course faculty, acting as the content expert. The simulation-based learning is integrated as a teaching-learning strategy to meet course objectives.
- b. **Scheduling process:** Once a course has been created, course scheduling is completed through the University Registrar's Office. Once approved, the CSIIDEE Administrative Assistant reserves the lab/room within the CSIIDEE using the "CSIIDEE master calendar" established on a shared Google calendar. Scheduling is completed prior to the semester start date. Requests for lab/room scheduling outside of the SON (i.e. PT, Phlebotomy, etc.) are to be submitted electronically to the CSIIDEE Administrative Assistant. Lab/room usage approvals will be granted based on lab availability, equipment, and supplies.
- c. **Notification:** Scheduling notifications will be managed via email from the CSIIDEE's Administrative Assistant. If approved, the requestor will receive confirmation once the event/request has been entered into the CSIIDEE's master Google calendar. Instructors/facilitators are to notify students of any changes to the course schedule, lab location, and any additional pertinent information. If additional assistance is required, contact the administrative assistant. Both CSIIDEE's manager and director are kept abreast of all scheduling. If simulation-based experiences include HT, the Administrative Assistant and simulation facilitator should contact the HT program coordinator.
- d. **Priority of use:** CSIIDEE gives priority to the SON, including psychomotor skills instruction and simulation-based learning experiences. The CSIIDEE Master Calendar is populated with all nursing associated coursework prior to the semester start. Additional requests from departments outside of the SON may be scheduled

on a “first come, first serve” basis. Lab/room usage is subject to change and courses may be cancelled at the discretion of the CSIIDEE Director.

- e. **Cancellation policy:** Simulation-based experiences should not be cancelled except for the following: weather-related university closing, faculty emergency, and/or facility issue.
The following process is put in place when cancelling a simulation-based experience:
 - i. CSIIDEE instructor notifies the CSIIDEE Administrative Assistant.
 - ii. CSIIDEE Administrative Assistant notifies students of cancellation via email.
 - iii. If simulation-based experiences include HT, the Administrative Assistant and simulation facilitator should contact the HT program coordinator of the cancellation as soon as possible.
 - iv. Appointments within the Appointment Plus Scheduling System (scheduling software) are cancelled by the CSIIDEE Administrative Assistant. Cancellation using the Appointment-plus management system will generate a student cancellation notification.
 - v. If the simulation-based learning experience is to be rescheduled, the instructor/facilitator will work with the CSIIDEE Administrative Assistant to identify an alternative date and time for the experience. The CSIIDEE Administrative Assistant will reschedule the simulation-based learning experience and notify students via email using Appointment-Plus.
 - vi. Once the simulation-based experiences are rescheduled that include HT, the Administrative Assistant and simulation facilitator should contact the HT program coordinator of the proposed new dates and coordinate the HT student schedules.
- f. **Recording of scheduled events (e.g., calendar structure and information):** The CSIIDEE organizes all simulation activities and lab usage using CSIIDEE’s Google Master Calendar.” All calendar reservations and events are labeled by department, course, parties involved, and number of participants. For any simulation-based learning experiences scheduled in Appointment-Plus, a detailed report regarding the scheduled appointments can be generated upon request for attendance purposes.
- g. **Scheduling Disputes: (conflict resolution)** Because scheduling is completed before the semester begins, rarely will scheduling conflicts arise. However, in the case of a scheduling conflict, CSIIDEE instructors/faculty/facilitators will resolve the issue in a proactive manner noting the resolution in meeting minutes and shared in the Google drive.
If a scheduling conflict is identified, the CSIIDEE Administrative Assistant will identify alternative spaces to maintain all scheduled events. Significant consideration should be given to all experiences that integrate HT to prevent an interruption to HT student schedules and required hours.

- h. **Final arbiter of scheduling needs policy:** If a scheduling conflict is unable to be resolved at the Administrative Assistant or instructor level, the final arbiter of CSIIDEE scheduling will reside with the CSIIDEE Director.
- i. **Severe weather policy:** Faculty adhere to section [3.1.3 of the Faculty Handbook](#) regarding class cancellations. Also refer to the University of Delaware's Inclement Weather Policy, here: <https://www.pcs.udel.edu/weather-announcement-weather-policy/>
- j. **Observation for non-participants:** Prospective student/family tours are common occurrences during fall and spring semesters. Tours are guided by student volunteers. It is the responsibility of the student guide to obtain a key from the CSIIDEE Administrative Assistant to tour locked simulation spaces. CSIIDEE instructors/faculty/facilitators are permitted to invite touring guests to observe the simulation-based learning experiences, if permission from student participants is given. All observations should make every effort to limit disruption to the learning experience in progress.

Summative or high stakes assessments are not appropriate observation experiences.

All tours/events scheduled for groups outside of the university must be approved by the CSIIDEE Director and appropriately scheduled by the CSIIDEE Administrative Assistant. Faculty, instructors, and staff should be informed of planned observations ahead of the event whenever possible.

8. Tours

- a. **Requesting tours:** To request a tour contact the CSIIDEE Administrative Assistant via email. Please note that scheduling an outside tour is based on CSI IDEE faculty/staff availability. Tours will be permitted during operating hours if disruption to the learning experiences are kept to a minimum. Prospective students should request a guided nursing tour through the Student Nurse Organization, or the University Office of Admissions also offers a [webform for tour requests](#).
- b. **Tour requirements:** Tours vary in length to meet the needs of the university, prospective donors, and prospective students/families. Tour times are dependent on availability of simulation space and activities in progress.
- c. **Tour cancellation:** Whenever possible, please contact the CSIIDEE Administrative Assistant at least 3 business days in advance of the scheduled tour in the event of cancellation.

9. Equipment

- a. **Standard center equipment:** The Simulation Operations Specialist maintains a log of all static task trainers available for loan. This log will include equipment name,

capabilities, user instruction, and how to access/return items. All high-fidelity equipment is only available for use within CSIIDEЕ due to cost, technology requirements, size, and operator training needs. CSIIDEЕ's Director will approve all requests from outside users desiring access to the high-fidelity equipment within the confines of the CSIIDEЕ. Approval is dependent on availability of simulation faculty/staff to operate the equipment.

HT will have access to equipment and supplies during rehearsals and simulation-based experiences involving participants from CHS/SON.

Equipment utilized by CSIIDEЕ is not for human use. The academic simulation center does not provide care to human patients.

- b. **Inventory:** A database is to be maintained by the SOS indicating the date of purchase, cost, warranty and preventative maintenance, vendor, and serial number. Inventory database requests are directed to the Director of Simulation.

- c. **Acquisition policy and process:**
 - a. **New Purchase Request:** Requests should be emailed to the Director of Simulation with the name of equipment requested, rationale for purchase and users at least two full semesters in advance of utilization date. Approval of all equipment purchases are contingent on need and availability of funds. If approved, the Director of Simulation and SOS will work with the requesting party to assess available funding options.
 - b. All purchases of \$5,000 or greater require approval from the Director of CSIIDEЕ. Because it is a capital budget purchase, it requires at least 1-year advanced notice and the processing of a purchase order by the School of Nursing Business Administrator.
 - c. Acquisition requests exceeding \$50,000 must be approved by the Director of CSIIDEЕ and Senior Associate Dean. A web-form must be created for the purchasing department. All purchases exceeding \$50,000 must enter the bidding system with a minimum of 3 vendors. If a specific vendor is requested for purchases exceeding \$50,000, a "Sole-Source " form must be completed by the requesting party and approved by the UD purchasing department. Requesters should allow for a minimum of up to 18 months for equipment acquisition to be approved, purchased, and shipped. Time may vary if acquisition goes through university bidding.

- d. **Maintenance and care of equipment:** CSIIDEЕ's maintenance policy is managed by the SOS with oversight of the Director of Simulation. Equipment user guides are available upon request. The CSIIDEЕ maintenance includes daily maintenance (per usage), end of semester maintenance, and annual maintenance when required. Instructions and logs for each piece of equipment are kept and tracked in Asset Tiger (asset management software). Daily maintenance is completed by faculty/staff and includes wiping equipment with approved cleansers. End of semester and annual maintenance schedules are kept and scheduled by the SOS.

This includes Preventive Maintenance (PM) plans covered under warranty along with PM performed by the SOS for equipment with no associated warranty.

- e. **Breakage and repair policy (internal and external):** The SOS must be notified immediately if any equipment is not functioning properly or is broken while in use. For small items or equipment in need of repair, (less than 30 lbs), a repair shelf is kept in the equipment room, 211 McDowell Hall. Malfunctioning/broken equipment will be removed from service by the SOS/instructor/staff until repaired.
 - a. **Internal:** Any faculty/staff/students who witness or unintentionally damage equipment during its use within CSIIDEЕ are responsible for notifying a CSIIDEЕ faculty/staff member. Notification must include location of damage, how damaged occurred, and what was being done with the equipment when damage occurred. The CSIIDEЕ faculty/staff member should notify the SOS regarding the damaged equipment.
 - b. **External:** If equipment damage occurs outside CSIIDEЕ, the responsible party should immediately notify the SOS. The responsible party should follow the instructions provided by SOS to prevent potential user injury or further damage to the equipment. As referenced in section 8.a, the party to whom the equipment was loaned will be liable for any repair costs associated with the damage.
- f. **Loan policy:** Faculty/staff, students, and outside stakeholders may request to check out non-computerized equipment from CSIIDEЕ upon request and approval from the Simulation Operations Specialist (SOS). Any party interested in borrowing equipment will submit an Equipment/Space Request Form (https://docs.google.com/forms/d/1eey7b6IQDMmB09cbNA4Bip62qjEPSukEK4oW_GX7ZII). The form must be completed at least 5 business days prior to the date needed. Approval is dependent on the requested equipment's availability and the requested dates. Equipment loans are granted on a first-come, first-serve basis, and must be returned on the agreed upon date.
 - a. Information included in the form:
 - i. Name and contact information of the requesting party.
 - ii. Equipment requested.
 - iii. Dates requested.
 - iv. Intended use of the equipment.
 - v. Location of equipment use.
 - vi. Transfer of responsibility statement whereby the requesting party acknowledges that they will be held liable for any damage to equipment occurring while outside of the CSIIDEЕ's possession.
- g. **Off-site utilization:** Off-site utilization is defined as off University of Delaware's property. Off-site utilization is not permitted.

10. Supplies

- a. **Acquisition:** The CSIIDEE Administrative Assistant is responsible for acquisition of all needed supplies. CSIIDEE does not have an exclusive vendor contract and may solicit requests for supplies from multiple vendors to obtain the “best price” available for any item. Generally, the following vendors are used for regular supply stocking: Amazon, Medline, McKesson, and Hanna Medical Supply.
- a. **Biannual Stocking:** Approximately 1 month before the fall and spring semesters begin, the CSIIDEE team will evaluate the semester needs based on current inventory, course offerings, and number of enrolled students to order items in bulk. This process is intended to reduce ordering costs and streamline processes. Supply acquisitions are included in the annual CSIIDEE Budget.
- b. **General or New Supply Requests:** To ensure a proper lead time for delivery, faculty, staff, and/or student workers need to notify the CSIIDEE Administrative Assistant for all new supplies or restocking needs at least 2 to 4 weeks in advance. Supplies may be requested with less notice, but delivery time cannot be guaranteed.
- b. **Organization:** CSIIDEE repurposed supplies are in McDowell Hall 218 (Supply Room) and managed by student workers hired to repurpose select supplies. All stock items are to be placed in an appropriately sized bin and labeled. Any CSIIDEE faculty/staff taking items from room 218 must fill out the sign-out sheet located by the exit to keep track of what item(s) were taken, date, and quantity removed.
 - a. Each lab/simulation space includes “clean supply” stations where general supplies are also stocked and appropriately labeled. The SOS/faculty/staff are responsible for ensuring necessary supplies are stocked in labs for courses in session at the close of each day.
- c. **Inventory:** During the semester, weekly inventory checks are completed by the student workers and reported to the CSIIDEE Administrative Assistant and/or SOS. The end of the semester inventory is completed by both the SOS and Administrative Assistant. Supply inventory is stored in a Google Spreadsheet to ensure updated totals are tracked.
 - a. **Adding or Removing Inventory from Supply Room:** When new inventory is received or, when inventory is taken from the supply room for use in labs, a Google, “Check In/Out form” is to be used identifying the item, and quantity. The Master Inventory list is then updated by the student workers for accurate inventory tracking.
- d. **Budget Source:** Every Fiscal Year, July 1 - June 30, CSIIDEE is given a budget from the SON/College of Health Sciences that is utilized for student supplies, and general center expenses.
- e. **Repurposing Program and consumable supplies:** Repurpose supplies and kits are consumable supplies that are reused for simulation-based experiences. These supplies are labeled “not for human use” and are repackaged to create a “like-new”

sealed package facilitating higher fidelity. Examples of items that are repackaged for reuse include sterile kits, 10 mL syringes, IV tubing, and select dressings. A re-purposing instructional manual is kept in McDowell Hall 218 for student workers to re-assemble supplies to pre-use state. Needles, ampules, select syringes are not reused and must be discarded in a sharps container to ensure safety and compliance with the university's biohazard standards.

- a. Repurposed supplies are evaluated at the end of spring semester to assess usability. During the pre-brief or at the completion of the simulation-based activity, the CSIIDEE faculty/staff will advise students of which item(s) may be discarded and which items are to be saved for repurposing. The identified items are placed in the recycling bin and delivered to the repurposing station at the conclusion of each simulation day. The student workers will then repurpose items to its pre-use state utilizing a pictorial guide to ensure quality and fidelity.

11. Scenarios

- a. **Scenario development:** The Simulation Design Template used by University of Delaware CSIIDEE is the National League for Nursing (NLN) Simulation Template located in the shared Google Drive. The NLN Simulation Template follows the accepted standards of the International Nursing Association for Clinical Simulation and Learning (INACSL). Refer to Appendix D for template. Course faculty, simulation faculty and other key stakeholders who are tasked with creating new simulation-based experiences are required to utilize the template.
 - a. If the experience involves HT, the completed scenario is submitted to the HT Program Coordinator to complete a preliminary character description/script. The preliminary character description/script is reviewed by the scenario authors to ensure the scenario and character description coordinate to meet the educational objectives. A final character description/script review is conducted by HT Program Coordinator.
 - b. Completed scenarios and character descriptions/script are saved to the course folder on the shared Google drive and accessible to CSIIDEE faculty/staff. The final scenario and character description/script must be completed/uploaded to the shared drive at least 30 days prior to the semester's start.
 - c. If the scenario is new and/or utilizes HT, every effort is made to complete a dry run/pilot two weeks prior to the start of the semester. All revisions will be made to the scenario and/or character description/script within 2 business days and updated in the shared drive.
- b. **Scenario structure:** The NLN Simulation Template encompasses the key elements that the simulation-based experience facilitators/faculty/staff must know prior to organizing and preparing for the simulation activity. The NLN Simulation Template has been adopted by CSIIDEE to adhere to the INACSL SOBP. This template is accessible [NLN "SIRC Tools and Tips"](#) and contains the following elements:
 - Patient Description- current patient complaints

- Diagnostics/medications/provider orders: Any written lab work, diagnostic findings, medications, and provider orders that are needed for the student to perform successfully in a scenario should be written into the scenario. This information will either be presented in the educational electronic health record (DocuCare) or in a written form for use during the simulated experience.
 - Psychomotor skills required of participants prior to simulation.
 - Cognitive activities required of participants prior to simulation.
 - Objectives (Simulation/Scenario)
 - References, evidence-based practice guidelines, protocols, or algorithms used for the faculty facilitating the simulation-
 - Each written scenario should have at least four documented evidence-based practice references. All references should be published/updated to be within four years of the scenario development date.
 - Setting/Environment
 - Equipment/Supplies
 - Roles/Guideline & Information related to roles
 - PreBriefing
 - Report Students Receive before Simulation
 - Scenario Progression Outline- expected scenario events and results of events.
 - Debriefing- A preset list of questions written by the scenario authors that guides the debriefing should be included in the written scenario. These should align closely with scenario objectives. The primary framework for debriefing used by CSIIDE is the 3D Debriefing (Defusing, Discovery, Deepening) framework (See Appendix I).
 - The scenario structure should also contain the following information: case title, authorship, and goals and objectives.
- c. **Authorship:** Scenario authorship is based on the individuals who contributed to the development of the scenario. The primary author is the primary facilitator and/or simulation specialist. Any revisions to the scenario are to be uploaded to the shared Google drive and communicated to all scenario facilitators before implementation. The primary author has the responsibility/right to reject revisions and must review the scenario yearly to update references or update scenarios to reflect current literature on best practices. Any scenario outside usage of CSIIDE must be reviewed by the Director of Simulation.
- d. **Audiovisual storage:** All undergraduate simulation-based learning, psychomotor skills training, and debriefing videos are recorded using the KBPort A/V system. Retrieval of stored videos are requested through the Director of Simulation. The SOS retrieves the requested/approved video and will upload a shared link to the requesting faculty. All video-recordings are stored on a private network and backed up to the KBPort server located in McDowell Hall and the STAR Tower.

Video recordings are to be used for educational purposes only. Video-recordings may be used for debriefing training. All videos are kept for a minimum of 4 years.

- e. **Utilization of scenarios:** It is the responsibility of the authors of the scenario to ensure that there are at least four evidence-based practice articles supporting the goals and practice requirements modeled in the simulation. These references are to include current, acceptable standards of care. Resources used in the preparation of the scenario should be reviewed & updated annually by faculty/simulation instructors.
- f. **Clinical quality assurance:** Each scenario developed will be reviewed by the author or designated subject matter expert annually to ensure it follows current clinical practice guidelines or standards of care. All changes/modifications to the scenario will be highlighted in the document and re-shared with CSIIDEE instructors/faculty to note the changes and adapt the equipment/supplies as needed.
- g. **Debriefing:** All instructors/faculty members debriefing a simulated experience are required to complete the self-paced Simulation Course. The Simulation course is an internal course on Canvas, the University's Learning Management System. Instructors/faculty are required to complete a four-week orientation to ensure debriefing experience. At the conclusion of the orientation, each instructor/faculty will complete a Debriefing Assessment for Simulation in Healthcare to evaluate debriefing skills and develop a learning plan.
 - Debriefing promotes understanding and supports transfer of knowledge, skills, and attitudes with a focus on best practices to promote safe, quality patient care. To achieve the desired outcomes, the effective debriefing process should include the following:
 - facilitated by a person(s) competent in the process of debriefing
 - conducted in an environment that is conducive to learning and supports confidentiality, trust, open communication, self-analysis, and reflection
 - facilitated by a person(s) who observes the simulated experience
 - based on a structured framework for debriefing
 - congruent with the participants' objectives and outcomes of the simulation-based learning experience (INACSL Standard: Simulation Debriefing)

Audiovisual technology and playback may be used as part of the debriefing process. See Section 13 Video Recording.

12. Operations

- a. **Utilization of simulation center staff:** The CSIIDEE operational staff consists of the Simulation Operations Specialist (SOS), CSIIDEE Administrative Assistant, and student workers. All operational staff roles are approved by the CSIIDEE Director and are designed to support the education of undergraduate and graduate students through simulation-based education.

b. **Start-up and shut down process:**

- a. **McDowell Hall:** This building is shared by several departments including the School of Nursing, which occupies the clinical lab and simulation spaces on floors one and two. The building is unlocked by the UD custodial staff at 7:00 AM and locked after hours by the UD security staff. All CSIIDEE faculty, staff, and student workers have access to the building after hours with a university issued building keys. Permission to secure a key is granted by the CSIIDEE Director and, upon the Director's request, the CSIIDEE Administrative Assistant distributes the keys. Stated persons also have access to all simulation spaces including Rooms 103/105, 108, 115, 121, 125, 211, 215, 218, and 219 with a university issued master lab key. All simulation labs and storage spaces are to be always locked unless simulation activity is ongoing, and a faculty/staff member is present. For cases where other departments or individuals are requesting access to a simulation space, a temporary lab key may be distributed by the CSIIDEE Administrative Assistant upon approval of the CSIIDEE Director. Student workers return keys at the end of the academic year.
- b. **Tower at Star 4th Floor:** The College of Health Sciences (CHS) Interprofessional Education (IPE) Lab (419/420) is open during the hours of 7:00 AM - 7:00 PM. Faculty/staff must use a key fob when entering and exiting the building for the day. Permission to secure a key fob is granted by the CSIIDEE Director and, upon the Director's request, the Tower at Star building manager distributes the fobs. Rooms 419/420 are kept locked. The SOS and facilitating faculty are responsible for ensuring setup and tear down of each simulation space completed for all Nursing and Interprofessional education experiences. On occasion, the IPE room may be used for events outside of this scope and must be managed by appropriate parties in the SON/CHS.
- c. **Start Up & Shut Down of Equipment/Technology:**
 - i. **Simulators:** CSIIDEE uses a combination of Laerdal Nursing Anne Simulators and Gaumard Hi-Fidelity Simulators. Locations of each simulator are maintained in Asset Tiger (asset management software) and all components, including startup, operation, shutdown, operating documents are kept with the simulators. Simulation faculty must be oriented by the SOS on each simulator prior to utilizing the equipment "unsupervised" for any planned educational event. Simulators are turned on and off by the SOS and/or faculty/instructors using the equipment.
 - ii. **Audiovisuals:** All simulation spaces use the KBPort, web-based, system for recording and debriefing simulations. Faculty are given passwords to access and record data. Upon completion of the event, all faculty must log out of the system and log out of the Windows user account on each PC for security purposes.

- c. **Security of information:** CSIIDEE uses a shared drive for all simulation communication and simulation related storage. The secured drive is accessible to “@udel.edu” members only, and access must be approved by the SOS. Members of the shared drive include: All Nursing and CSIIDEE Faculty/Staff, as well as the Healthcare Theatre program directors and program coordinator. Courses are organized by folders and simulations are broken into sub-folders. All simulation related documentation, scenario development, supplies needed, video recordings, etc., may be stored in the Drive. Updates and backups to this drive occur instantly. Scheduling records are maintained in the CSIIDEE Master Google Calendar and more detailed records and attendance are maintained in Appointment-Plus scheduling software. Only Simulation Faculty and Staff members have access to Appointment Plus.
- d. **Course supplies:** CSIIDEE supplies are stored in clinical labs and simulation spaces on storage carts and wall mounted bins. Each supply bin is labeled. Supplies such as needles are labeled and kept in locked cabinets in each of the spaces and are only unlocked by the CSIIDEE staff when needed for the educational event.
 - a. **Restocking:** Student workers and CSIIDEE Teaching Assistants are responsible to maintain and check stock. Supply storage is in room 211 McDowell Hall and is kept locked at all times.
 - b. **Simulation Supplies:** Supplies such as moulage equipment, simulation clothing for manikins, and props such as a knee immobilizer are laundered utilizing the laundry service or wiped down with a sanitizing wipe. If any of the above is utilized by a Healthcare Theatre student/performer, the item is sanitized between uses. When these items are not in use, the accessories may be stored together and labeled in totes for organization.
- e. **Course with simulated experience integration preparation:**
 - a. **Student preparation:** Students are enrolled in select courses that will include simulation-based experiences. Students will rotate into simulation-based experiences based on their clinical schedule. Students are notified a week before the semester begins of their clinical schedules and scheduled simulation. For each course, students are directed to their course syllabus and associated Canvas course site. The course site includes but is not limited to the following: preparatory psychomotor skills checklists, reading, and videos. Students are required to complete a preparatory assignment to facilitate learning during and from the simulated experience. The preparatory assignments must be submitted onto Canvas prior to the simulation-based experience. The instructor/facilitator is responsible for reviewing the completed work.
 - i. Simulation-based experiences are closely monitored for attendance. Attendance is completed by either the facilitator or teaching assistant. Teaching assistants assist with checking attendance at the instructor’s discretion.
 - b. **Faculty preparation:**

- i. 4 weeks before the simulation-based experience
 - 1. Upload student assignments
 - 2. Confirm needed equipment and supplies
 - 3. Prepare student announcements for distribution 1 week before the simulation
 - 4. Prepare simulation student evaluation
 - 5. Prepare DocuCare/electronic health record
 - ii. 2 weeks before the simulation-based experience
 - 1. Check supplies
 - 2. Check equipment
 - 3. Stock simulation rooms
 - 4. Meet with SOS to ensure simulators are configured.
 - 5. Create a DocuCare class code and post on Canvas
 - iii. 1 week before simulation-based experience
 - 1. Configure AV equipment
 - 2. Configure environment
 - 3. Send announcement to students for participation including DocuCare class code
 - iv. Day of the experience
 - 1. Configure/run simulators
 - 2. Facilitate simulation experience
 - 3. Complete student simulation evaluation
 - 4. Have students complete simulation experience evaluation
- f. **Course turnover:** At least 30 minutes should be allotted to switch the simulation spaces to change from one learning activity to another. The amount of needed time may vary depending on the type of educational activity and additional time will be noted in the Google Master Calendar.
- g. **After-hours access:** Building access for McDowell Hall and the Tower at STAR after 7:00 PM, is available for School of Nursing faculty, staff, and student workers who possess a McDowell Hall building key or STAR key fob. Events scheduled after hours must be approved by the CSIIDEE Director. If approved, the Building Administrators must be notified along with the UD security staff.

13. Video Recording and Photo Release

- a. **Consent Form:** During the first week of the semester, all students enrolled in courses with simulation-based experience integration will complete a consent form via Qualtrics (See 12.C “Forms”). Additionally, signage is posted in simulation areas where recording capabilities are present.
- b. **CSIIDEE Video Recording Policy:** Simulated experiences may be video recorded for live observation, remediation, and debriefing sessions. Videos are used for educational and teaching purposes. Video recordings are considered confidential. All students, whether participating or observing, must agree to maintain confidentiality of simulated related content as well as participants.

- a. Recordings: Videos are recorded and stored locally on a secure, password protected A/V system that can only be accessed by CSIIDEЕ faculty, staff, and CHS-IT support staff.
- b. Video Distribution: Videos will be used internally for education and teaching purposes only. For instances where scenario-based simulations may be shared outside of the University, participant consent must be acquired before releasing any simulation-based recording(s).
- c. Video Destruction: Video Recordings of students will be archived until the time of graduation or four years. At the conclusion of four years, all videos will be permanently deleted.
- c. Forms:
 - a. [CHS Video/photo release](#)
 - b. [CSIIDEЕ Agreement Form](#)

14. Course Observation

- a. Observation policy for course/experience participants: Participants in the simulated clinical learning experience will be permitted to view simulations involving their peers in the observer role. The observers are expected to have an active role in the debriefing process and for some simulation-based education, the observers will rotate into an active participant role. During the pre-brief, students are reminded of confidentiality regarding any activity in the simulation center. Additionally, students are reminded that discussing the simulated experience with their classmates that have not yet completed the experience is considered academic dishonesty.
- b. Observation policy for non-participants: Non-participants may observe simulated clinical learning experiences at the discretion of the instructor/facilitator. Every effort should be made not to disrupt the learning experience in session. Observation must have permission from the CSIIDEЕ Director, and the active participants involved in the educational activity. No photography or video can be taken of any simulation-based educational experience without the written consent of the CSIIDEЕ Director.
- c. Required disclaimers and pre-event statements: Prior to observations, confidentiality is discussed with all observers. This includes, but is not limited to: Healthcare Theater students, visitors, prospective students/families, staff, current students, faculty, etc.
- d. Required event or course acknowledgements: Simulation-based education is a teaching strategy to meet course objectives. It is not used as a summative high-stakes competency evaluation.

15. Fiscal

- a. Fee Structure for use (internal and external use): There is no fee for use of the Simulation spaces or clinical Labs by internal users within the College of Health Sciences. CSIIDEЕ is shared with other disciplines for both interprofessional education (IPE) and single discipline simulation-based education. Simulation fees are linked to undergraduate nursing student tuition and reviewed on an annual basis by the Undergraduate Program Director, Senior Associate Dean, and SON/

CHS Business Administrators. Currently, there has not been a request to use the Simulation Labs by outside UD personnel.

- b. **Required reporting, (type and frequency) and to whom:** At the end of the academic year, the CSIIDEE Director works with faculty and staff to generate a year-end report including: a space usage reports, student evaluations, and a financial report to present to the leadership. The CSIIDEE Administrative Assistant is responsible for entering all financial transactions into the UDataGlance software for detailed records of revenue/expenses.
- c. **Annual budget reporting requirements:** The CSIIDEE budget projections are presented to the CHS Business Administrator and Chief Business Officer each January for the upcoming fiscal year. It is the duty of the CSIIDEE Director to stay within the budget each fiscal year. Supplies and/or Equipment needs that are beyond the budget are presented to the Business Administrator and Chief Business Officer for review and approval.
- d. **Required fiscal year end documentation:** Financial reports are available upon request from the CSIIDEE Director.
- e. **Purchase and acquisition procedure:** The CSIIDEE adheres to the University policy. Please see section 9.
- f. **Reimbursement process:** Develop a policy to describe reimbursement protocols. Unless the center is an independent center, reimbursement for expenses falls under the policy of the institution that hosts the simulation center. Reimbursements are subject to the [University of Delaware Policy](#) and must be submitted through Concur for approval. To reduce reimbursement requests, select faculty receive procards to utilize for approved purchases.
- g. **Financial accounting:** Financial accounting and reports to the Dean and upper administration is completed by the SON and CHS Business Administrators.
- h. **Conflict of Interest:** Please refer to the University of Delaware's Conflict of Interest [Policy](#) 6-11.
- i. **Purchasing equipment:** See section 9 c.
- j. **Purchasing approval process:** See section 9 c of this manual.
- k. **Payroll:** All employees of CSIIDEE are employed by The University of Delaware. All eligible student workers are paid through the Federal Work Study Program. See UD's Staff Resourcing [link](#) for more information. Hours worked are logged into the university's time tracking software, Workforce, by the student workers and approved by the CSIIDEE Administrative Assistant. Adjunct Instructors are paid

through an academic semester/session Supplemental-Contract (S-contract) by the School of Nursing Business Administrator.

16. Courses

- a. **Course approval process:** The course is approved by the School of Nursing Curriculum Committee. The SON Curriculum Committee includes a Simulation Subcommittee composed of 5 individuals who represent simulation center faculty, as well as undergraduate faculty and graduate faculty members. Decisions made in the subcommittee are presented to and voted on by the SON Curriculum Committee. Because all simulation-based experiences are integrated into select courses, these experiences are developed by the simulation specialists in collaboration with the course faculty, acting as the content expert. The simulation-based learning is integrated as a teaching-learning strategy to meet course objectives.
- b. **Funding and course financials:** All simulation-based experiences integrated into a course are funded through the College of Health Sciences or the School of Nursing's annual budget. Development time is considered part of simulation faculty and staff workload assignment. Budget requests from CSI IDEE are submitted annually to the CHS Chief Budget Officer and Dean and/or the Business Administrator and SON SADN by the CSIIDEED Director. Consumable simulation supplies used by students are purchased using a portion of the student lab fees collected within each clinical course. Proposed lab fees at the University of Delaware are submitted to the Senior Associate Dean of Nursing and then are approved by the Provost's office and the Board of Trustees before being shared with students and the public.
- c. **Mandatory elements for all simulation-based experiences as outlined in the National League of Nursing's design template (See Appendix D):**
 - i. **Course/Experience Description:** An outline of a simulation-based educational experience including a pre-briefing, expected simulation flow, debriefing, and evaluation criteria. Scenarios vary depending on learning objectives and student level.
 - ii. **Course/Simulation Objectives:** simulation objectives are mapped to course objectives.
 - iii. **Target Audience:** The educational level and discipline of the participants included in the experience.
 - iv. **Pre-course material:** Student preparatory work varies on the outcomes but should include one or more of the following: textbook assignments, journal articles, video reviews, simulated electronic health record, and / or preparation questions.
 - v. **Pre-Briefing Content:** An orientation prior to simulated clinical experience.
 - vi. **Debriefing Content:** Reflective process led by a trained facilitator after a simulation based educational experience meant to foster reflective,

self-evaluation, peer assisted learning, critical thinking, and clinical reasoning.

17. Remediation

- a. **General remediation policy:** This remediation policy applies to students in the traditional and accelerated undergraduate nursing programs only. Student information is listed in the School of [Nursing Undergraduate Student Handbook](#) available on the SON website. When a student needs remediation of a psychomotor skill(s) or simulation-based learning experience, the instructor communicates the concerns with the student, documents the clinical concern in the professional behavior feedback form, and informs the student to make an appointment at the CSIIDEE to schedule practice time prior to remediation.
 - a. **Clinical Based Remediation:** Refer to XV, Clinical Remediation in the [Undergraduate Student Handbook](#)
 - b. **Psychomotor Skills Based Remediation:** Refer to XIX, Section B Procedure for Addressing Student Competency in the Skills/Simulation Lab in the [Undergraduate Student Handbook](#)
 - i. Student preparatory work, pre-briefing, and debriefing will be completed as designed.
 - ii. Once remediation is completed, the video recording is stored in a secured shared drive. All hard copies of remediation documentation are stored in the CSIIDEE student files until graduation.
- b. **Policy for instructors:** Faculty/facilitators assigned to remediate students from clinical or practicum courses will follow the mandatory elements as outlined in section 4a for a scenario-based experience. The scenario development is a collaboration of both the faculty on record and simulation specialist to ensure the experience supports the learning needs/gaps identified in the [professional feedback form](#) (PFF). A simulation-based remediation is meant to foster reflective, self-evaluation, peer-assisted learning, critical thinking, clinical reasoning and/or determine psychomotor skill competence.
 - i. If the remediation is to determine skills competency, the remediation is recorded and reviewed by two unbiased faculty members.
- c. **Policy for participants:** If simulation is used for remediation in CSI IDEE, the student should have access to the center's policy. The CSIIDEE is a learning environment. Students should treat all scenarios for remediation, regardless of their outcome, in a professional manner. Student preparatory work for remediation is assigned based on the clinical or psychomotor skills needed. Preparatory work varies and may include, but is not limited to: textbook assignments, journal articles, video reviews, simulated electronic health records, and / or preparation questions. Students should use remediation situations simulated in the lab as a learning tool and no discussion of the action(s) completed should take place outside of the CSIDE. A debriefing session will take place after all remediation simulation experiences.

- d. **Documentation:** Once remediation is completed, the video recording and all referral documentation is stored in a secured shared drive. All hard copies of remediation documentation are stored in the CSIIDEE student files until graduation by the Director of Undergraduate Nursing.
- e. **Ethical guidelines:** The CSIIDEE has recently adopted the [Society of Simulation Healthcare Simulationist Code of Ethics](#) that emphasizes six aspirational values including: Integrity, Transparency, Mutual Respect, Professionalism, Accountability, and Results Orientation.

18. Customer Relations

- a. **Dispute resolution:** Please refer to section 6 for information regarding scheduling disputes and complaints. In addition to scheduling disputes, all other disputes and/or complaints, whether internal or external, should be brought to the attention of the Simulation Director or a simulation center faculty/staff member. The Simulation Director will communicate with the necessary parties to resolve the dispute/conflict and/or address any changes necessary to prevent disputes/conflicts in the future.
- b. **Marketing of center:** The Dean of the College of Health Sciences, Senior Associate Dean, Media Relations, Simulation Director are responsible for communicating with potential outside users and collaborators for simulation educational activities, research, and development.
- c. **Policy on use of the center's name:** Center for Simulation Innovation, Interdisciplinary Education, and Entrepreneurship (CSIIDEE) is the official name and acronym to be used in all communications and publications.
- d. **Web usage:** The CSIIDEE Director, with input from CSIIDEE faculty and staff decides information that belongs to the [center website](#). Content updates are usually filtered through the College of Health Sciences Communication team using a [CHS Communications Marketing Request](#) webform. If there are major changes, meetings with the Communication team will occur to facilitate the process. The Administrative Assistant is responsible for replying to requests or questions about the website.
- e. **Information dissemination:** The primary information channel is through the CSIIDEE website. Electronic articles about CSIIDEE activities and accomplishments are typically published in the *UDaily* and in the *CHS Insider*. Information is approved by the CSIIDEE Director. A database of faculty and staff users and class enrollment lists assist in electronic messaging of important news/updates. The Administrative Assistant most often sends group emails to the student participants.

- f. **Official media policy:** The CSIIDEE works with the [UD Office of Communication and Marketing](#) for formal media outlets. The office's External Relations team serves as the University's liaison to the news media. That responsibility includes news pitches, contributions to the UD official Experts webpage, and media training. The CSIIDEE Director is the primary individual to speak with the media but other faculty and staff may also participate with the Director's approval. Media are only permitted to observe pre-approved activities in the simulation spaces.

19. Travel and Meeting Attendance

- a. **Travel Policy:** The CSIIDEE follows the University of Delaware guidelines regarding travel located under the General Council "[Travel and Business Policy](#)".
- b. **Travel Requests/Funding:** When a Faculty or Staff member is requesting travel funding, they must obtain written or verbal approval from the CSIIDEE Director prior to submitting a formal request. All requests and reimbursements must be submitted through Concur under the faculty/staff member's account. The request needs to include the following: reason for travel, estimated cost(s), dates, etc., are to be submitted for approval. If approved by the CSIIDEE Director, the requests will then be reviewed by the School of Nursing Business Administrator and Senior Associate Dean for final approval and correct Purpose Code.

20. Research

- a. **IRB policy:** All expected paperwork and timelines are followed per the [University Human Subjects in Research policies and procedures](#). [University policy](#) and federal law ([45 CFR 4, 21 CFR Parts 50 and 56](#)) require that all research involving human subjects, biospecimens, and/or identifiable private information, must be reviewed by an Institutional Review Board (IRB). UD has one IRB registered with DHHS (IORG #0000279). UD IRB membership is in accordance with the applicable regulatory requirements in 45 CFR 46.107 and 21 CFR 56.107. IRB membership includes diverse backgrounds and expertise to promote adequate review of research commonly conducted by UD researchers.
 - i. All faculty, staff, and students involved in research activities in the CSIIDEE must complete required [training via CITI Program](#). Educational Activities that involve Human Subjects Research include those with the possibility that a proposed research project may result in a formal presentation or publication. Training in the protection of human subjects in research is required for all university members (i.e., faculty, students, researchers, and staff), and collaborators, who will directly interact with research participants or have access to identifiable private information. After completing the Human Subjects Protections - Social-Behavioral-Educational Focus and Responsible Conduct of Research (RCR), the certificates are uploaded to the IRBNet when submitting an IRB proposal and updated as required. The [IRBNet](#) is the protocol management system that offers secure, web-based collaboration tools to support the design, management, review, and oversight of research involving human subjects.

- ii. UD IRB meetings are held monthly. Generally, meetings will be at noon on the third Wednesday of each month. Meeting dates and times are posted on the Research Office calendar of events. Protocols eligible for expedited review are evaluated on a rolling basis as they are submitted to IRBNet. Review times for expedited reviews vary depending on the total IRB submissions load at any given time and may take, on average, about two weeks from the time of complete submission.
- b. **CSIIDEE Approval:** The CSIIDEE Director should be informed of and approve any research/EBP proposals prior to submission to the University IRB. Simulation center faculty and staff should be aware of ongoing research studies.
- c. **Security:** The institutional review board of UD governs all protection of research data and the protection of participants' confidentiality. All federal regulations pertaining to the protection of human subjects and the protection of students (FERPA) will be followed.
 - i. Paper files related to human subjects' participation in research will be securely stored on campus. Access to files will be restricted to key personnel and supervised by the principal investigator(s) of the study. Locked file cabinets will be used and located in secured locations (i.e., locked office or laboratory). If research activities are not carried on campus and it is necessary to maintain the consent forms at the research site, copies of the signed consent forms will be also stored at a secure UD location (either as a paper copy or in digital form). Digital files containing human subjects research data will be stored in password protected files, on UD maintained servers with regular and secured back-up. Any videos used in research will be kept locked and confidential per UD protocol. Sensitive data will also be encrypted, stored, and securely erased when appropriate, according to the [UD guidelines for protecting Personally Identifiable Information \(PII\)](#).
 - ii. Select research activities may choose to collect data using UD CHS REDCap (Research Electronic Data Capture). REDCap is a secure web application for building and managing online surveys and databases for research projects. REDCap can be used to collect virtually any type of data in any environment (including compliance with 21 CFR Part 11, FISMA, HIPAA, and GDPR), and is specifically geared to support online and offline data capture for research studies and operations. The REDCap Consortium, a vast support network of collaborators, is composed of thousands of active institutional partners in over one hundred countries who utilize and support their own individual REDCap systems.

- d. **Fiscal impact:** All principal investigators will contact the CSIIDEE Director with any research interest involving the faculty or staff of CSIIDEE as well as equipment and/or simulation space. Funding secured by the Principal Investigator or as previously arranged with the CSIIDEE Director will absorb all costs associated with the research affiliated with CSIIDEE. The PI and the CSIIDEE Director collaborate to explore the fiscal impact using the [university proposal development as a guide](#). All CSIIDEE related research projects that receive grant awards will follow [the Facilities & Administrative Costs \(F&A\)](#) policies of the Research Office within UD.
- e. **Publication policy:** Any production of intellectual property including publications, abstracts, presentations, product development, etc., must include all parties involved in the research activities affiliated with the project/study. All research activities will be disseminated accordingly, and authorship rules are followed as outlined below for publication.
- f. **Authorship rules:** UD's CSIIDEE follows the [International Committee of Medical Journal Editors \(ICMJE\) recommendations](#) that authorship be based on the following 4 criteria:
 - i. Substantial contributions to the conception or design of the work and the acquisition, analysis, or interpretation of data for the work.
 - ii. Drafting the work or revising it critically for important intellectual content.
 - iii. Final approval of the version to be published.
 - iv. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.
- g. **Data collection responsibility:** Data collection responsibility is determined by the PI in collaboration with the CSIIDEE Team. Ultimately it will be the responsibility of the PI to ensure that the data are being collected accurately and according to the UD IRB and Office of Research protocol. The PI, in collaboration with the CSIIDEE faculty and staff, will determine all research protocols including data collection. Data collected using CSIIDEE equipment and technology must be planned with CSIIDEE faculty and staff in accordance with IRB protocol.

21. Security and Safety

- a. **Emergencies:**
 - a. **Medical emergencies:** In case of a medical emergency, contact 911 or dial extension 2222 from a campus phone. The equipment in the simulation room is not approved for use other than simulation and not appropriate to use for medical emergencies. In the event of an injury, the faculty/staff/student should complete an injury report form located on page 59-61 if the SON student handbook. Once the form is completed, send it to Environmental Health &

Safety (Fax: 302-831-1528) and University of Delaware Department's Director's Office. Automatic External Defibrillators (AEDs) are available on the first floor of McDowell Hall and in several locations on the 1st through 7th floor in the STAR Tower. See this [AED location list](#) from the UD Office of Environmental Health and Safety.

- b. **Non-medical emergencies:** All nonmedical emergencies are handled by faculty/staff and reported to the simulation director.
- c. **Psychological Safety Plan:** If a participant verbalizes or demonstrates signs of high anxiety related to participation in any simulation-based education, the simulation faculty/staff should ask the participant to step away from the simulation. Faculty/staff should assess the person for harm to self or others, address immediate needs (If an immediate danger or risk of suicide, call 911 for immediate assistance), listen to the participants concerns, and provide resources for help (Student Health Services, Nurse Managed Health Services, and/or Center for Counseling and Student Services).
- d. **Contact numbers:**
 - i. Student Health 302-831-2226
 - ii. Nurse Managed Health Services 302-831-3193
 - iii. Center for Counseling and Student Services 302-831-2141
 - iv. Students can also reach mental health support 24 hours a day on the UD Helpline or the Crisis Text Line 302-831-1001
- e. **Campus emergencies:** In case of an emergency or a drill, everyone in the building should follow the evacuation plan as outlined in Section XIII in the undergraduate [student handbook](#). Campus and Public Safety will notify Many communication methods will be used depending on the nature of the emergency. Information will always be available on the UD home page (www.udel.edu), UD alerts, and UDaily. For frequently asked questions, please see [University of Delaware Emergency Management Frequently Asked Questions](#).
- b. **Identification badges:** UD name tag- Students must always display their University of Delaware photo ID and the School of Nursing name tag above their waist while in CSIIDEE labs and rooms. All students will follow the University of Delaware [School of Nursing handbook policy](#) for uniform requirements while attending any educational experience within CSIIDEE. SON faculty and staff must wear their University of Delaware School of Nursing name tags when teaching in the simulation labs or other environments where simulations occur.

22. Biohazard Material

- a. **Authorization for use:** The UD Environmental Health & Safety (EHS) Department oversees all policies and procedures relevant to biohazard material on campus. The Simulation Center adheres to [Protocol L-02 Control of Biohazards in Research and](#)

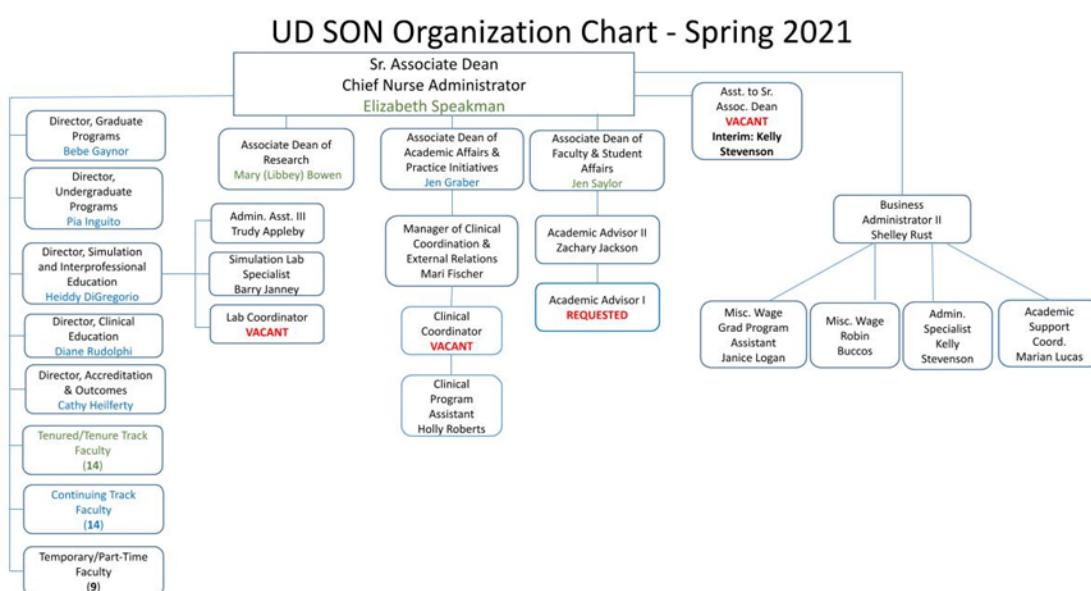
[Education](#) and policies included in the [UD Biosafety Manual. EHS Protocol L-05](#) addresses the management of infectious waste at the university. The university's program meets the requirements of the State of Delaware's Department of Natural Resources and Environmental Control (DNREC). Needles and syringes that may be used in simulation are addressed by this protocol and policy section 5.1 in the UD Biosafety Manual. See previous information on clean needle and syringe storage in 11e.

- b. **Preparation:** Prior to simulation activities involving the use of needles, sharps containers need to be available in areas easily accessible to participants and instructors. Replacement sharps containers can be found in McDowell Hall room 103 or room 218.
 - i. Annual online Biohazard training, including *General Safety Right to Know*, and *Bloodborne Pathogen*, is required for all faculty, staff and students working, teaching, and learning in the Simulation spaces (McDowell Hall and the STAR Tower) in the College of Health Sciences. This requirement is included in the UD Undergraduate [Student Handbook](#) (Section IX) and the Graduate Programs (MSN, DNP, PhD) Policy Manual & [Graduate Student Handbook](#) (Section on Clinical and Simulation Mandatory Requirements). Procedures on Exposures (Section XXVI Bloodborne Pathogen and Non-Bloodborne Pathogen for Undergraduates and Safety Section in Graduate Programs Policy Manual & Student Handbook) are also included in the handbooks.
- c. **Removal:** There is no biohazard bodily waste used within the CSIIDEE. Any blood, or other bodily fluid is simulated moulage and is not true biohazard material. Any gowns, gloves, masks, etc. can be discarded in trash bins when simulation activities have concluded.
 - i. In the simulation lab, all needles and syringes, regardless of their use, are to be placed in a sharps container located on the walls and on top of counters in the lab spaces. Per UD Policy (section 13-3 of [Biosafety Manual](#)), sharps are to be placed into rigid, puncture-resistant containers supplied or approved by EHS. Clipping, breaking, and recapping of needles and resheathing of scalpels is not permitted to prevent aerosol generation and accidental punctures or cuts. Under no circumstances shall a discarded sharp (used or unused) be removed from a sharps container. Do not overfill the container. The container should be discarded when it is 3/4 full. When the sharps container is 3/4 full, tightly seal the container and place into a properly lined infectious waste disposal box.
 - ii. Please use the following guidelines for disposal of sharps: Syringes with or without a needle attached must all go into a sharps container. This is a state regulation. When the infectious waste box is full and the box has been sealed, EHS is contacted to arrange.

The EHS website has a [form to request an infectious waste pickup](#). Infectious waste will be picked up on a weekly basis. The following information will be required at the time of the request for service: a. Name b. Building c. Laboratory room number d. Number of boxes to be picked up e. Packaging supplies needed (number of boxes and/or sharps containers) Departments may be authorized by EHS to establish a local storage area for waste prior to collection by the disposal contractor.

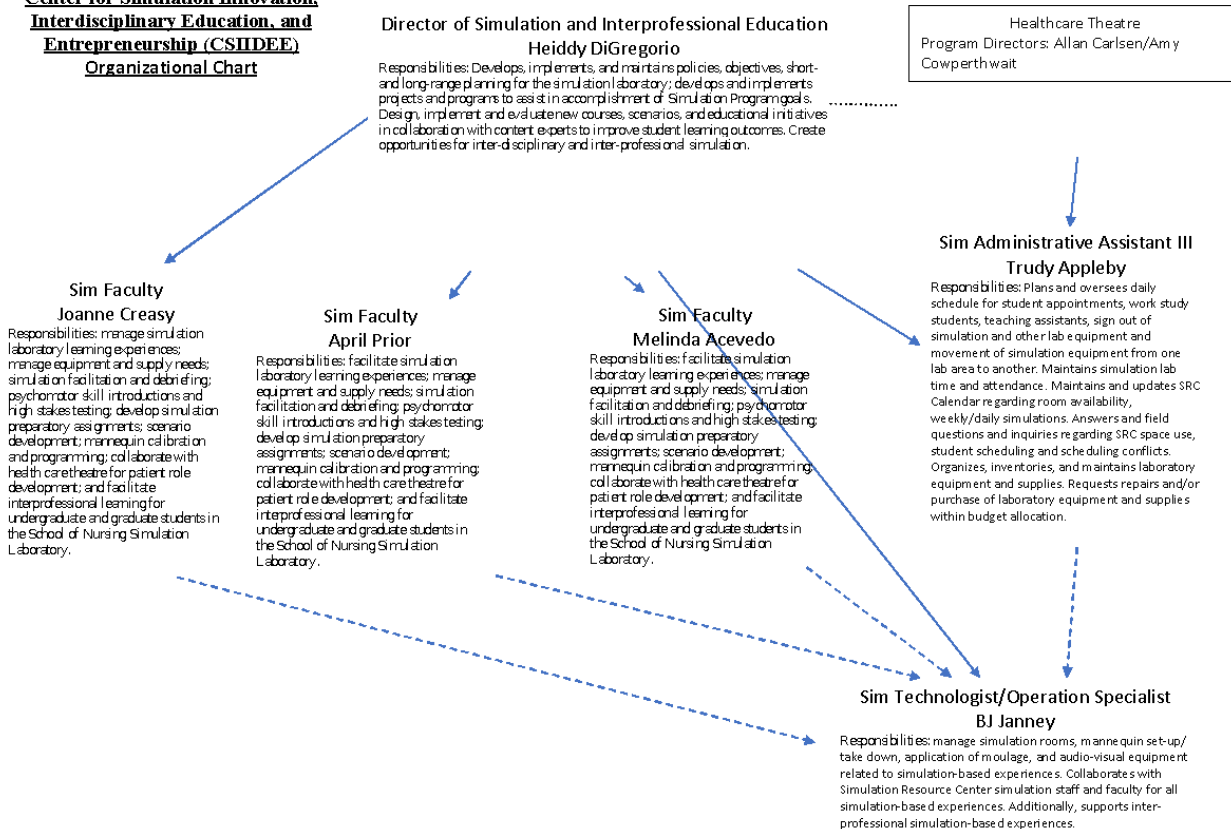
- d. **Cleaning:** All sharps are properly disposed of in the appropriate sharps container and packaged for sharps disposal. Blood or bodily fluids in simulated spaces that appear to be biohazardous material is simulated and thus, no equipment will require special cleaning or disinfection prior to use in subsequent simulation-based experiences.

Appendix A University of Delaware School of Nursing Organizational Chart



Appendix B Center for Simulation, Innovation, Interdisciplinary Education, and Entrepreneurship (CSIIDEE) Organizational Chart

Center for Simulation Innovation, Interdisciplinary Education, and Entrepreneurship (CSIIDEE) Organizational Chart



Appendix C: [Job Descriptions](#)

Appendix D: [Simulation Templates](#)

Appendix E: [Facilitator Competency Rubric](#)

Appendix F: [CSIIDEE Do's and Don'ts](#)

Appendix G: [Undergraduate Student Handbook](#)

Appendix H: [CSIIDEE Student Contract](#)

Appendix I: [3D Debriefing \(Defusing, Discovery, Deepening\) framework](#)

Simulation Design Template

(revised March 2018)

(name of patient) **Simulation****Date:****Discipline:** Nursing**Expected Simulation Run Time:****Location:****Today's Date:****File Name:****Student Level:****Guided Reflection Time:** Twice the amount of time that the simulation runs.**Location for Reflection:**

Brief Description of Client

Name:**Date of Birth:****Gender:** **Age:** **Weight:** **Height:****Race:** **Religion:****Major Support:** **Support Phone:****Allergies:** **Immunizations:****Attending Provider/Team:****Past Medical History:****History of Present Illness:****Social History:****Primary Medical Diagnosis:****Surgeries/Procedures & Dates:**

Simulation Design Template (revised March 2018)

© 2018, National League for Nursing. Originally adapted from Childs, Sepples, Chambers (2007). Designing simulations for nursing education. In P.R. Jeffries (Ed.) *Simulation in nursing education: From conceptualization to evaluation* (p 42-58). Washington, DC: National League for Nursing.

This Simulation Design Template may be reproduced and used as a template for the purpose of adding content for specific simulations for non-commercial use as long as the NLN copyright statement is retained on the Template. When used for this purpose, no specific permission is required from the NLN.

Psychomotor Skills Required of Participants Prior to Simulation

(list skills)

.....

Cognitive Activities Required of Participants Prior to Simulation

(textbooks, lecture notes, articles, websites, etc.)

.....

Simulation Learning Objectives

General Objectives (Note: The objectives listed below are general in nature and once learners have been exposed to the content, they are expected to maintain competency in these areas. Not every simulation will include all of the objectives listed.)

1. Practice standard precautions.
2. Employ strategies to reduce risk of harm to the patient.
3. Conduct assessments appropriate for care of patient in an organized and systematic manner.
4. Perform priority nursing actions based on assessment and clinical data.
5. Reassess/monitor patient status following nursing interventions.
6. Communicate with patient and family in a manner that illustrates caring, reflects cultural awareness, and addresses psychosocial needs.
7. Communicate appropriately with other health care team members in a timely, organized, patient-specific manner.
8. Make clinical judgments and decisions that are evidence-based.
9. Practice within nursing scope of practice.
10. Demonstrate knowledge of legal and ethical obligations.

Simulation Scenario Objectives (limit to 3 or 4)

.....

For Faculty: References, Evidence-Based Practice Guidelines, Protocols, or Algorithms Used for This Scenario:

.....

Setting/Environment

<input type="checkbox"/> Emergency Room <input type="checkbox"/> Medical-Surgical Unit <input type="checkbox"/> Pediatric Unit <input type="checkbox"/> Maternity Unit <input type="checkbox"/> Behavioral Health Unit	<input type="checkbox"/> ICU <input type="checkbox"/> OR / PACU <input type="checkbox"/> Rehabilitation Unit <input type="checkbox"/> Home <input type="checkbox"/> Outpatient Clinic <input type="checkbox"/> Other:
--	--

Equipment/Supplies (choose all that apply to this simulation)

Simulated Patient/Manikin/s Needed:

Recommended Mode for Simulator:

(i.e. manual, programmed, etc.)

Other Props & Moulage:

Equipment Attached to Manikin/Simulated Patient: <input type="checkbox"/> ID band <input type="checkbox"/> IV tubing with primary line fluids running at ____mL/hr <input type="checkbox"/> Secondary IV line running at ____mL/hr <input type="checkbox"/> IVPB with _____ running at mL/hr <input type="checkbox"/> IV pump <input type="checkbox"/> PCA pump <input type="checkbox"/> Foley catheter with ____mL output <input type="checkbox"/> O2	Equipment Available in Room: <input type="checkbox"/> Bedpan/urinal <input type="checkbox"/> O2 delivery device (type) <input type="checkbox"/> Foley kit <input type="checkbox"/> Straight catheter kit <input type="checkbox"/> Incentive spirometer <input type="checkbox"/> Fluids <input type="checkbox"/> IV start kit <input type="checkbox"/> IV tubing <input type="checkbox"/> IVPB tubing <input type="checkbox"/> IV pump
---	--

<input type="checkbox"/> Monitor attached <input type="checkbox"/> Other: Other Essential Equipment: Medications and Fluids: <input type="checkbox"/> Oral Meds: <input type="checkbox"/> IV Fluids: <input type="checkbox"/> IVPB: <input type="checkbox"/> IV Push: <input type="checkbox"/> IM or SC:	<input type="checkbox"/> Feeding pump <input type="checkbox"/> Crash cart with airway devices and emergency medications <input type="checkbox"/> Defibrillator/pacer <input type="checkbox"/> Suction <input type="checkbox"/> Other:
--	---

Roles

<input type="checkbox"/> Nurse 1 <input type="checkbox"/> Nurse 2 <input type="checkbox"/> Nurse 3 <input type="checkbox"/> Provider (physician/advanced practice nurse) <input type="checkbox"/> Other healthcare professionals: (pharmacist, respiratory therapist, etc,)	<input type="checkbox"/> Observer(s) <input type="checkbox"/> Recorder(s) <input type="checkbox"/> Family member #1 <input type="checkbox"/> Family member #2 <input type="checkbox"/> Clergy <input type="checkbox"/> Unlicensed assistive personnel <input type="checkbox"/> Other:
--	---

Guidelines/Information Related to Roles

Learners in role of nurse should determine which assessments and interventions each will be responsible for, or facilitator can assign nurse 1 and nurse 2 roles with related responsibilities.

Information on behaviors, emotional tone, and what cues are permitted should be clearly communicated for each role. A script may be created from Scenario Progression Outline.

Pre-briefing/Briefing

Prior to report, participants will need pre-briefing/briefing. During this time, faculty/facilitators should identify expectations and orient participants to the environment, scenario, roles, time allotment, and objectives.

Debriefing/Guided Reflection

Themes for this scenario:

We do not expect you to introduce all of the questions listed below. The questions are presented only to suggest topics that may inspire the learning conversation. Learner actions and responses observed by the debriefer should be specifically addressed using a theory-based debriefing methodology (e.g., Debriefing with Good Judgment, Debriefing for Meaningful Learning, PEARLS). Remember to also identify important concepts or curricular threads that are specific to your program.

1. How did you feel throughout the simulation experience?
2. Give a brief summary of this patient and what happened in the simulation.
3. What were the main problems that you identified?
4. Discuss the knowledge guiding your thinking surrounding these main problems.
5. What were the key assessment and interventions for this patient?
6. Discuss how you identified these key assessments and interventions.
7. Discuss the information resources you used to assess this patient. How did this guide your care planning?
8. Discuss the clinical manifestations evidenced during your assessment. How would you explain these manifestations?
9. Explain the nursing management considerations for this patient. Discuss the knowledge guiding your thinking.
10. What information and information management tools did you use to monitor this patient's outcomes? Explain your thinking.
11. How did you communicate with the patient?
12. What specific issues would you want to take into consideration to provide for this patient's unique care needs?
13. Discuss the safety issues you considered when implementing care for this patient.
14. What measures did you implement to ensure safe patient care?
15. What other members of the care team should you consider important to achieving good care outcomes?
16. How would you assess the quality of care provided?
17. What could you do improve the quality of care for this patient?
18. If you were able to do this again, how would you handle the situation differently?
19. What did you learn from this experience?
20. How will you apply what you learned today to your clinical practice?
21. Is there anything else you would like to discuss?

Trainer Resource #2 (3 pages)

Facilitator Competency Rubric

Competency	Excellent Rating 3	Good Rating 2	Fair Rating 1	Not Ready Rating 0
Speaking	Consistently expresses thoughts clearly, articulately, coherently. Projects voice well.	Usually expresses thoughts clearly, articulately, coherently. May need to adjust volume or tone.	Inconsistently expresses thoughts clearly, articulately and coherently. Needs to improve vocal tone, volume, speed, etc.	Uses inappropriate language, tone, and/or manner of speaking.
Listening	Consistently responds in an affirming way to others. Shares the floor.	Usually responds in an affirming way to others; usually shares the floor.	Inconsistently responds in an affirming way to others; tends to interrupt or be one of the first to speak.	Does not share the floor. Does not affirm others' comments. Interrupts consistently.
Respect	Consistently acts in and communicates in a respectful and supportive manner.	Usually acts in and communicates in a respectful and supportive manner.	Inconsistently acts in and communicates in a respectful and supportive manner.	Causes tension or shows disrespectful behavior
Interpersonal Skills	Consistently shows the ability to respectfully, form a professional relationship with OWL trainers and peers. Very likeable.	Usually shows the ability to respectfully form a professional relationship with OWL trainers and peers. Likeable.	Seems timid or uncomfortable. Responds well to trainer feedback.	Unable to develop a good professional relationship with OWL trainers and peers. Unlikeable or otherwise off-putting.
Knowledge of Curriculum	Did assigned pre-reading. Consistently demonstrates familiarity with the curriculum. Understands developmental stage of intended OWL participants.	Usually demonstrates familiarity with the curriculum. Expresses some understanding of the developmental stage of intended OWL participants.	Somewhat familiar with the curriculum. Illustrates some critical misunderstandings of the material and/or developmental stage of intended OWL participants.	Not familiar with the curriculum. Does not understand or appreciate the material and/or the developmental stage of intended OWL participants.
Commitment to OWL Values and Assumptions	Full understanding of and commitment to OWL values and assumptions	Attains full understanding of and commitment to OWL values and assumptions during training	Indicates some questions about the OWL values and assumptions	Consistently questions the values or assumptions. Not likely to commit to them or express them in OWL settings.

Competency	Excellent Rating 3	Good Rating 2	Fair Rating 1	Not Ready Rating 0
Commitment to the OWL Curriculum as Published	Enthusiastic. Agrees to orient parents to added films, content.	Enthusiastic. "May not orient parents to additions/changes in timely manner"?	Seems confused by boundary between adding current events and changing curriculum	Demonstrates resistance to curriculum. Likely to blend in non-OWL topics or curricula.
Peer Facilitation Skills	Excellent collaboration. Appropriate energy and control of own portions of the activity. Engaging.	Collaborates well. Appropriate energy and control of own portions of the activity. Responds well to feedback.	Seems out of sync with co-facilitator(s). Pacing, energy, and/or body language need improvement	Does not collaborate well; does not share the floor or engage with others.
General Facilitation Skills	Uses all appropriate forms of engagement to stimulate peer involvement.	Uses at least two forms of engagement to stimulate peer involvement.	Uses only one form of engagement to stimulate peer involvement.	Does not succeed at engaging peers or stimulating their involvement.
Receiving Feedback	Consistently demonstrates openness to feedback and puts it into practice.	Usually demonstrates openness to receiving feedback and can explain how it will be used.	Inconsistently demonstrates openness to receiving feedback or does not put it to use.	Responds defensively to feedback or ignores it.
Flexibility and Adaptability	Consistently demonstrates ability to calmly adapt to unexpected changes in the training, training venue, food, catering, peer facilitation plan, etc.	Usually demonstrates ability to adapt to unexpected changes in the training, training venue, food, catering, peer facilitation plan, etc.	Expresses discomfort with unexpected changes in the training, training venue, food, catering, peer facilitation plan, etc.	Reacts poorly and/or rudely to unexpected changes in the training, training venue, food, catering, peer facilitation plan, etc.
Comfort with Own Sexuality	Consistently illustrates comfort with own sexual identity and experiences.	Usually illustrates comfort with own sexual identity and experiences.	Expresses some discomfort with or questioning of own sexual identity and experiences.	Expresses discomfort with or questioning of own sexual identity and experiences. May benefit from counseling.

Competency	Excellent Rating 3	Good Rating 2	Fair Rating 1	Not Ready Rating 0
Respect for Boundaries	Consistently contributes to creating a safe environment. Does not disclose information related to own sexual interests or activities. Never infringes on others' boundaries.	Usually contributes to creating a safe environment. Does not disclose information related to own sexual interests or activities. Never infringes on others' boundaries.	Discloses information related to own sexual interests or activities, but responds well to feedback. May infringe on others' boundaries once.	Consistently overshares about own sexual interests or activities. Does not respond to feedback by changing behavior. Consistently infringes on others' boundaries.
Respect for Diversity	Consistently models inclusive attitudes, language and appreciation for diversity.	Usually demonstrates respect for diversity. May make an error in inclusive language or comment indicating unawareness but responds well to feedback.	Demonstrates some lack of respect for diversity. May make several less-than appropriate comments or jokes. May not respond well to trainer feedback.	Demonstrates a distinct lack of appreciation for diversity. Makes repeated inappropriate comments or jokes. Laughs off or rejects trainer feedback.
<p>Score: _____ out of 42 points</p> <p>General Impressions:</p> <p>Recommendation (circle one): Approve Approved Conditionally Not Approved</p>				

Appendix F:

CSIDEE Simulation Lab “Do’s and Don’ts”

This document serves as a general reference guide for simulation users to identify specific “do’s” and “don’ts” when operating equipment within the CSIDEE labs.

Simulation Labs (McDowell Hall rooms 103/105, 115, 121, 125, 215, 215 & Star Tower 417, 419/420)

Equipment:

Manikin/Simulator Do’s

- Always review the manikin start-up guide to ensure proper usage.
- When devices need to be operational, ensure batteries are charged on appropriate devices prior to session.
- Report any issues to the SimOps Specialist.
- Clean and wipe off any adhesive residue or moulage used during lab sessions.
- Power down equipment and charge overnight if the simulator will be in use the following day.

DON'TS

- Do not apply any moulage materials not approved within the equipment manual or SimOps Specialist.
- Do not use any cleaning solutions apart from rubbing alcohol to clean manikin skin unless otherwise directed by the SimOps Specialist. In rare instances, certain products may be used to remove difficult adhesives from skin.
- Do Not attempt to use another manikin’s controller tablet to power on and use device. (all simulators have their own assigned devices for operation)
- Do not attempt to color or draw with any utensil on manikin skins. Doing so may cause permanent discoloration.
- Do Not inject any liquid other than distilled water into manikin locations marked as injection sites.

STUDENT RESPONSIBILITIES - CSIIDEE STUDENT ORIENTATION & CONTRACT

Welcome to the Center for Simulation Innovation, Interdisciplinary Education and Entrepreneurship (CSIIDEE). The CSIIDEE has lab hours specific to each course with some extended hours to be determined per semester. This laboratory was designed to give students the practice time needed to develop nursing skills. Each nursing course that utilizes simulation will use the CSIIDEE differently.

Courses that include psycho-motor skills will follow a schedule of a faculty led skill introduction followed by two additional one- hour sessions of guided practice. Practice sessions will be completed in a semi-independent fashion, the laboratory coordinator and instructors will be available to manage, coach, and answer student questions. During experiences, students are encouraged to work in small groups of two or three students. There are several clinical scenario simulations during the semester in which students incorporate learned skills and classroom information in providing safe competent patient care.

Clinical scenario simulations are small group learning experiences where up to four students will perform patient care as directed by the preparatory assignment. Psycho-motor skills learned will be incorporated into the immersive clinical scenarios.

EXPECTATIONS FOR DRESS/ BEHAVIOR:

Because the laboratory is set up to be an environment where students are simulating a clinical experience, it is expected students will arrive to CSIIDEE experiences exhibiting both professional appearance as well as professional behavior.

Professionalism is extremely important in the clinical setting. As noted in the senior level clinical evaluation tool, all University of Delaware students are expected to behave as professional nurses. Failure to behave as a professional may result in not achieving a passing grade. Professional behaviors that are an expectation of all nursing students during simulated learning experiences include but are not limited to: adequate preparation for experiences, arrival at CSIIDEE on time with appropriate materials and equipment, timely and appropriate reporting of absences/tardiness, completion of assignments within the specified time frame, and adherence to the School of Nursing dress code. Dress in required UD nursing uniform and wear ID badge when working in the lab. Refer to Student Handbook for more specific information regarding the Clinical Dress for Nursing Majors. Leave food, drinks, and chewing gum outside the labs. Lockers or an area to place belongings will be provided for your convenience. Cell phones (including texting) and use of any electronic device for personal use, in the clinical area are prohibited and students using electronic devices for personal use will be asked to leave the area (and will need to reschedule learning experiences). Unless pre-approved by the simulation coordinator/ instructors, computers in the CSIIDEE lab are only to be used for simulated learning concepts/skills/patient care activities. Students will refrain from personal discussions in the simulation learning areas. Students will clean up each work site and put equipment away appropriately, leaving the patient, equipment, bed, and work area in order.

INTEGRITY

It is imperative that the people in the nursing profession have integrity. The simulated learning experiences are typically the same for each group. Students may not share the content or events of the simulation with anyone. It is imperative that students are able to participate in the simulated learning experience without information from other students. If this is discovered, it will be dealt with as academic dishonesty. Many clinical scenario-learning experiences require the student to complete preparatory work. All preparatory work and medication cards must be completed in order to participate in the simulated learning experience.

HERE'S HOW IT WORKS:

CSIIDEE psychomotor skills sessions will be divided into a faculty led review of complex concepts and two practice sessions. All simulated learning sessions will be held in McDowell Hall 103/105, 121, 125, 215 and 219. Please refer to the schedules posted on Canvas. Maternity simulations are in McDowell 125 and Pediatrics will be located in Star Tower 419/420. Some skills may require more practice than others. Students may come in during open lab hours for additional independent practice. Open lab hours will require appointments. Complete assigned readings, watch associated videos review the skills checklist(s) and complete and medication cards prior to the simulated learning experiences. Students are expected to bring the skills textbook and corresponding skills checklist, with him or her to each psychomotor skills experience and/or clinical scenario simulation. Students are expected to arrive (on time) for all simulated learning experiences with necessary equipment (ex. BP cuff, stethoscope, watch etc.), psychomotor skills checklists, medication cards, and preparatory materials/questions. Being unprepared or arriving late or without required equipment and/or materials will result in the student needing to reschedule their simulated learning experience. Content taught in the CSIIDEE at times requires students to work with other students (partnered or in small groups). As one student follows the psychomotor skills checklists the second student is performing the skill. After completion of the skill, roles are then reversed so that all follow the checklist and all practice the skill.

REMINDERS:

AND IN CONCLUSION, THE STUDENT SHOULD BE AWARE THAT...

Professionalism (appearance and behavior) is an important component of simulated learning experiences and must be adhered to at all times. The CSIIDEE is designed for students to learn in a professional, comfortable and safe environment. The CSIIDEE should be kept clean and students must be courteous to other students working in the area.

CSIIDEE Video Recording Policy:

Simulated experiences may be video recorded for live observation, remediation, and debriefing sessions. Videos are used for educational and teaching purposes. Video recordings are considered confidential. All students, whether participating or observing, must agree to maintain confidentiality of simulated related content as well as participants.

- A. Recordings: Recorded videos are recorded and stored locally on a secure, password protected A/V system that can only be accessed by SRCfaculty, staff, and IT support staff.
- B. Video Distribution: Videos will be used internally for education and teaching purposes only. For instances where scenario-based simulations maybe shared outside of the University, participant consent must be acquired before releasing any simulation-based recording(s).
- C. Duration: Video Recordings of students will be archived until the time of graduation when videos will be permanently deleted.

Please type your first name.

Please type your last name.

Please type your email address (@udel.edu)

I have read the above information, and understand the contents. I have been given an opportunity to ask questions to clarify any content, and I agree to abide by the student handbook and utilize the CSIIDEE for its intended purpose. I consent to be videotaped while in the CSIIDEE under the outlined guidelines.

- ☐ I agree
- ☐ I do NOT agree



The 3D Model of Debriefing: Defusing, Discovering, and Deepening

Jason J. Zigmont, PhD,* Liana J. Kappus, MEd,* and Stephanie N. Sudikoff, MD*,†

The experiential learning process involves participation in key experiences and analysis of those experiences. In health care, these experiences can occur through high-fidelity simulation or in the actual clinical setting. The most important component of this process is the postexperience analysis or debriefing. During the debriefing, individuals must reflect upon the experience, identify the mental models that led to behaviors or cognitive processes, and then build or enhance new mental models to be used in future experiences. On the basis of adult learning theory, the Kolb Experiential Learning Cycle, and the Learning Outcomes Model, we structured a framework for facilitators of debriefings entitled “the 3D Model of Debriefing: Defusing, Discovering, and Deepening.” It incorporates common phases prevalent in the debriefing literature, including description of and reactions to the experience, analysis of behaviors, and application or synthesis of new knowledge into clinical practice. It can be used to enhance learning after real or simulated events.

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KEYWORDS debriefing, experiential learning, high-fidelity simulation, postexperience analysis

The key components of simulation-based learning in health care are the simulated experiences and subsequent “post-experience analysis” or debriefing.¹ Simulation alone will not facilitate learning; rather, it provides opportunity for learning if debriefed skillfully. This feedback on the simulation is the most important component of simulation-based education.²⁻⁶ For learning to take place, individuals must actively reflect upon the experience, identify the mental models that led to behaviors or cognitive processes, and then build or enhance new mental models to be used in future experiences.⁷⁻¹⁰

Debriefing has historically been practiced in the military to recap events and strategize for future events, in psychology to inform participants after deception studies, and after critical incidents to reduce stress.^{5,11-13} However, a paucity of literature exists in the educational arena on debriefing with the goal of learning from an experience.¹⁴ We report on a framework to facilitate learning from experience (simulated or real) entitled the 3D Model of Debriefing: Defusing, Discovering

and Deepening. The 3D Model is a process based on common phases prevalent in the debriefing literature and taught at the Institute for Medical Simulation, Cambridge, MA, including description of and reactions to the experience, analysis of behaviors, and application or synthesis of new knowledge into clinical practice. It incorporates widely accepted debriefing facilitation strategies from health care simulation, aviation, and psychology.^{5,14-16} This model is based on strong adult learning theory and facilitates all aspects of the Experiential Learning Cycle and the Learning Outcomes Model (Fig. 1, Table 1).^{9,17,18} The goal of the 3D Model is to help debriefers facilitate learning to improve daily practice and patient outcomes.

For learning to be effective and ultimately change practice, educators must consider the immersive relationship that exists between learning and factors related to: the individual learner, the learning experience, and the environment in which learning occurs (Fig. 1, Table 1).¹⁹ Key attributes of each component related to the 3D Model of Debriefing are described to follow.

The Individual

In health care simulation, adults are the learners. According to adult learning theory, there are several key differences to consider between adults and children and how they learn: (1) Adults are self-regulated meaning that they decide what and

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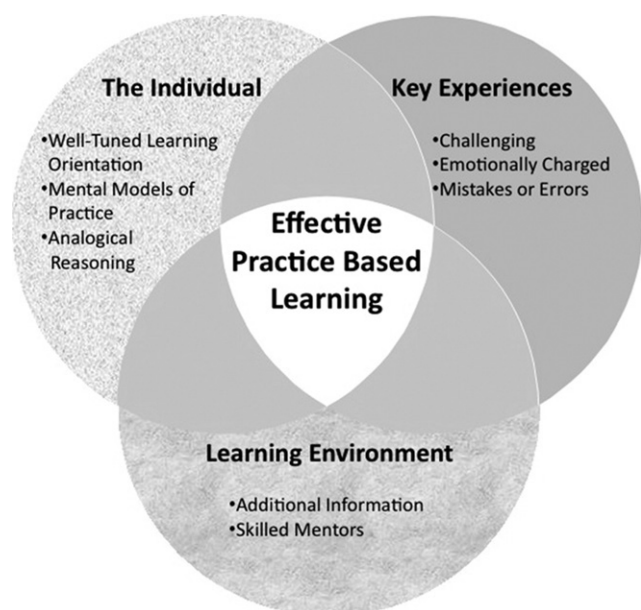


Figure 1 Learning Outcomes Model. For effective learning to take place, educators must consider the relationships between the individual learner, their key experiences, and the learning environment.

when they want and need to learn,²⁰ (2) adult learners are intrinsically motivated, often by their self-efficacy or their belief in their ability to complete a task, their feelings of competence and their psychological safety,^{21–23} (3) adult learners have prior knowledge and experience that form mental models that guide behavior and cognitive processing,^{8,9,17,24} and (4) adults use analogical reasoning in learning and practice.^{18,25,26} For this work, the individual is referred to as the participant or learner.

The Experience

Kolb's Experiential Learning Cycle suggests that active participation or having a "concrete experience" is an important factor in effective learning.⁹ This experience should be considered alongside one's previous experience and connections must be made to future experiences.⁷ These connections can be discussed in a postexperience debriefing. For the debriefing to be fruitful, the experience must be based on learning objectives that are practical, useful for the individual, and relevant to practice. In addition, the experience should have an impact, ie, adequately challenge the participants or invoke emotion.^{4,5,27}

Environment

Educators must consider both the learning environment and the larger clinical environment to promote effective learning. The learning environment, ie, the classroom or laboratory setting, should be a place where the adult, self-regulated, intrinsically motivated individual feels safe to practice, experiment and discuss openly and honestly.^{6,20,28,29} In addition, educators must consider the larger clinical environment and how it affects new learning, experimentation, and sustained

practice change. For the purposes of this work, we will refer to the learning environment as the microenvironment and the clinical environment as the macroenvironment.

The 3D Model

The 3D Model (Table 2) is designed to address the individual, the experience and both the micro- and macro-environments. The model has 3 distinct parts: Defusing, Discovering and Deepening and is preceded by a Pre-briefing or introduction to the process and ends with a Summary of lessons learned. The Pre-briefing outlines the ground rules for the debriefing session and sets the stage for learning in the microenvironment.^{6,14,30} Defusing is designed to help the individual voice the impact of the experience and clarify the events so that they are ready for reflection.^{5,6,14–16} Discovering facilitates "reflective observation" and "abstract conceptualization" (AC) of the experience to help the learner develop mental models that can be tested during "active experimentation."⁹ Deepening helps the learner connect new learning to potential changes in practice within a greater context, ie, the macro-environment.^{14,15} Finally, a brief Summary of key objectives and lessons learned closes the debriefing.³⁰

Setting the Learning Microenvironment

The first step in facilitating effective adult learning is creating a microenvironment that supports learning. This environment should be established at the beginning of a simulation-based course or even before the course day with a written description of goals and expectations. Adult learners must feel that the environment is safe and focused primarily on learning before they will be able to actively reflect on and share their experiences with others.^{6,28} To achieve this, facilitators should clearly articulate that the goals of the session are self-reflection and learning, not assessment. In addition, facilitators should set the expectations for the course, including ground rules for participating in the scenarios and maintaining the confidentiality of individual performance and group discussions. Participants should be asked to engage in the "fiction contract," ie, an informal agreement between educators and learners to commit to making the experience real and relevant.^{31,32} The learners must understand that it is safe to make mistakes, and encouraged to honestly talk about them within the confines of the course structure.

If the goal of the course is to assess competence, the safe environment is compromised. Adult learners are less likely to talk openly about their weaknesses if they feel they are being judged. Simulation can be used as a tool for competency assessment, but assessment should occur completely separate from education or learning. Ideally, any assessment should occur at a different time from the learning opportunities and new rules specified when the simulations "change" from learning to assessment.

Table 1 3D Model Components.

Kolb's Experiential Learning Cycle	3D Model Components	Learning Outcomes Model
Concrete experience	Creating a safe environment <ul style="list-style-type: none"> • Introductions • Ground rules and expectations • Confidentiality • Orientation to simulation environment Simulation exercise <ul style="list-style-type: none"> • Define objectives • Enhance realism: care-team, environment, progression • Challenging to invoke emotional response Pre-briefing <ul style="list-style-type: none"> • Ground rules • Set expectations • Explain format 	Individual <ul style="list-style-type: none"> • ... feels "safe" • ... knows what to expect • ... is prepared to complete the task Experience <ul style="list-style-type: none"> • ... creates a change in body state for individual • ... is realistic to evoke emotion for individual • ... is relevant, practical and useful to individual Individual <ul style="list-style-type: none"> • ... knows what to expect
Reflective observation	Defusing <ul style="list-style-type: none"> • Discuss emotions • Recap events • Conduct Needs Assessment Discovering <ul style="list-style-type: none"> • Prompt reflection through objective observation and video review 	Environment (micro) <ul style="list-style-type: none"> • ... is safe for learning Individual <ul style="list-style-type: none"> • ... distresses to set stage for learning • ... engages in student-centered learning Individual on Experience <ul style="list-style-type: none"> • ... analyzes behaviors and intended outcomes
Abstract conceptualization	Discovering <ul style="list-style-type: none"> • Discover mental models guiding behavior • Discuss target mental models • Cue analogical reasoning 	Individual <ul style="list-style-type: none"> • ... uses "analogical reasoning" to compare existing mental model to target mental model
Active experimentation	Deepening <ul style="list-style-type: none"> • Prompt individual to apply new information to practice Summary <ul style="list-style-type: none"> • Restate learning objectives discussed and lessons learned. Simulation Exercise 2 <ul style="list-style-type: none"> • Allow individual to apply new information 	Individual within macroenvironment <ul style="list-style-type: none"> • ... mentally connects target mental model to practice use within larger clinical environment Individual <ul style="list-style-type: none"> • ... leaves with practical and useful information. Individual within microenvironment <ul style="list-style-type: none"> • ... actively connects target

The 3D Model of Debriefing is based on Kolb's Experiential Learning Cycle, Adult Learning Theory, and the Learning Outcomes Model. It incorporates well-established debriefing phases and addresses the adult learner, key experiences, and the learning environment(s).

Pre-Briefing

As a prelude to the debriefing session, the pre-briefing should state the process for debriefing so the learner knows how to participate. McDonnell et al³⁰ describe that introduction to process increases the depth of participation among learners. Facilitators should: (1) State the general objectives of the simulation experience; (2) clarify the role of the instructor as a "facilitator of learning" who will help guide the discussion rather than a "teacher;" (3) detail expectations for participation in the debriefing, and encourage participants to be actively involved in the process by reflecting upon and analyzing

performance; and (4) outline the format that the debriefing will follow.

Defusing

The Defusing phase follows the simulation and Pre-briefing; the facilitators should prompt discussion surrounding the emotional impact of the experience on the learners and the description of the event and how it unfolded.^{5,14-16} the purpose of discussing the impact and unleashing emotions is 2-fold: (1) to reduce any anxiety and stress and allow the

Table 2 3D Model Breakdown

		Examples
Prebriefing	<p>Purpose: To explicitly state how the learners should participate in the debriefing and how you as the instructor will participate.</p> <p>Points to Include</p> <ul style="list-style-type: none"> - Clarify your role as instructor - Detail your expectations for learner participation - Explain the format the debriefing will follow - Tell the learners how long the session will last. 	<p>"My role as an instructor is not to evaluate your performance, but to help facilitate a discussion and prompt self-reflection.</p> <p>I expect you to do most of the talking, raise questions about what was going on, identify issues, and volunteer your perspectives.</p> <p>The format of the discussion is as follows: we are going to debrief in three parts. First, we will have an opportunity to talk about our emotions and the impact of the simulation. Next, we will clarify the clinical details of the scenario. During the second part, you will analyze your own performance and evaluate how well the management of those situations worked. Our goal during this phase is to discover your mental model that guided your behavior and then talk about that mental model utilizing all the experience in the room. We will then connect new learning to future clinical situations. Finally we will summarize key learning points.</p>
Defusing	<p>Purpose: To allow learner to "vent" emotions. To recap and clarify what happened during the scenario. To conduct a needs analysis of objectives important to the learner.</p> <p>Points to Include</p> <ul style="list-style-type: none"> - Elicit reactions and emotions - Describe what happened 	<p>"How did it feel to be part of that scenario?"</p> <p>"Thank you for bringing that up Let's hold that thought and come back to it during the second part of the debriefing"</p> <p>"Let's recap WHAT happened during that scenario so that we can then discuss WHY during the second part of the debriefing."</p>
Discovering	<p>Purpose: To analyze and evaluate performance through reflection. To discover mental models or rationale for specific behaviors through Inquiry. To identify gaps/matches between existing and targeted mental models.</p> <p>Points to Include</p> <ul style="list-style-type: none"> - Identify an observed behavior or outcome - Ask a question to discover the mental model guiding that action - Cue Individual to make/identify analogy/connection to Target Mental Model 	<p>"Person A, I noticed that you did x in y situation.</p> <p>I was curious about that action because . . . (instructor offers his own mental model about how to deal with y).</p> <p>Can you tell me why you did x?"</p> <p>"Thanks for sharing the rationale. Has anyone else every experienced this? What did you do to deal with that situation and why?"</p> <p>"Person A, how might this situation have been different if you had used that strategy".</p> <p>Or</p> <p>"Another way to handle x is z (target mental model). If you had done z, how would that change y?"</p>
Deepening	<p>Purpose: To apply lessons from simulation and make connections to clinical practice.</p> <p>Points to Include</p> <ul style="list-style-type: none"> - Prompt learner to connect new learning to larger clinical environment 	<p>"If you were to encounter a similar situation in the future, how would you handle it?"</p> <p>"How can you use the information we just discussed in your clinical practice?"</p> <p>"Can you think of other situations where this information could be applied?"</p>
Summary	<p>Purpose: To review what was learned throughout the session</p> <p>Points to Include</p> <ul style="list-style-type: none"> - Highlight the key objectives and lessons learned 	<p>"Today we learned the following:"</p> <p>"Let's end with this . . . What is one thing that you can take away from this session to use in your practice?"</p>

learner to engage in meaningful discussion¹³; and (2) to allow the facilitator to conduct a needs assessment of key points for discussion. The importance of allowing the participants to describe or recap the experience is to achieve a shared understanding of the events of the experience.¹⁵

Defusing naturally occurs immediately after the simulation, and participants will often start this process on their own. As students leave the simulation, they may begin talking about their experience, providing insight into the feelings and the simulation provoked. The facilitator should continue this natural venting process during the Defusing phase.

To launch this part of the debriefing, facilitators should encourage participants to talk about their feelings, both during and after the experience. Every learner does not have to share their feelings, but they should be given the opportunity. If a safe environment has been set before the experience, the learner will be more likely to share their feelings. Facilitators must consciously guide the discussion to avoid analyzing the experience prematurely. For example, if a participant begins to analyze the experience before others have had the opportunity to vent their emotions, or before a description of the experience has been outlined, a facilitator might say, "Thank you for bringing up the issue of 'x.' This will be important to discuss, and we will come back to it during the next phase of the debriefing. However, first, I want to give the rest of the participants an opportunity to discuss their feelings."

Asking about feelings has a powerful impact on the learners. The learners will have just been through a stressful and emotional simulation (if crafted and implemented well) and will need to de-stress by releasing emotion. Students may not be ready to learn until they discuss their feelings, as they may be too emotionally involved to think clearly or reflect objectively on their experience. The goal is to acknowledge the feelings and clear the slate for learning.^{13,27}

After this "venting," it is important to allow participants to describe the experience so that everyone in the debriefing session has the same overall understanding of the series of events and can move from understanding what happened to why it happened.³³ This description should be a discussion of the facts (ie, clinical management) or a recap of the order of events. The recap can either come from participants or the facilitators. During this time, participants may reveal gaps in knowledge regarding clinical management. This is an opportunity for content experts to engage in clinical teaching.

This discussion about emotions, impact, and facts during the Defusing phase will set the tone for analysis during the Discovering phase. Facilitators must actively listen to the participants' responses and dialogue, as they provide an assessment that highlights key issues for the learners. Individuals learn more from experiences that cause a change of body state, or a physical/emotional change. Therefore, when learners share their emotions, they reveal the moments that caused the most intense feelings (anger, anxiety, frustration, pleasure, pride) and on which they would like to focus. These moments should be considered part of the learners' objectives for the debriefing, and can be added into the overall objectives to promote student-centered learning. This is a

shift from teacher-centered learning during which the instructor identifies the learning objectives and, then, imparts knowledge or the "right way" to accomplish a task.¹⁴

Discovering

The second phase, Discovering is based on Steinwach's "analogy/analysis" and Kolb's Experiential Learning Cycle.¹⁵ The goals are (1) to facilitate learners' engagement in reflective observation on their own performance and (2) to prompt AC of new information to build or enhance one's mental model.⁹ This requires the facilitator to have keen observation skills and work with the learner's mental models to improve the practice of individuals.

During reflective observation, the facilitator provides an objective perspective on the experience to help the learner identify strengths and opportunities for improvement, specifically related to those points of emotion identified during Defusing. The facilitator needs to observe the simulation experience to identify behaviors of the individual and positive and negative outcomes of these behaviors. The participants are often unaware of these behaviors while immersed in a scenario. The video recordings of simulations can be used to enhance reflective observation by providing an objective, "third party" view during the debriefing. This triad of information, including the facilitators' observations, the participants' recalled experience, and the video depiction, helps facilitators to guide self-reflection. The aforementioned information is the substrate for analysis of behaviors.

This analysis is known as AC, during which learners think about the events, actions, and outcomes that occurred during the experience, they then process these ideas to enhance existing mental models that can be applied in future situations. During AC, both learner and facilitator must identify the mental model or decision-making process that led to the observed action.^{8,9,16}

The learner's mental model cannot be seen; furthermore, the learner may not even be aware of the mental model that led to the action.^{8,10} The facilitator must maintain a stance of genuine curiosity throughout the debriefing to avoid making assumptions about the learners' mental models.¹⁶ The facilitator must focus on identifying the learners' mental model before any learning can occur.

The key to identifying mental models is to engage the learner in conversation. Facilitators need to delve deep into the rationale for certain behaviors through inquiry. Rudolph et al¹⁶ pioneered a tool for identifying mental models or "frames" called Advocacy/Inquiry. The tool pairs an objective observation, assertion or statement with an inquiry to probe for the etiology of individual behavior. Example: "Dr. X, I noticed that during the delivery, after the mother arrested, you did not make effort to deliver the fetus until the mother was stable. I was concerned because it is my understanding that delivery of the fetus can actually aid the resuscitation of the mother. Can you tell me why you chose to concentrate solely on the mother?" In this way, the facilitator alerts the participant of the observation (either positive or negative behavior) and assumes a stance of curiosity as to rationale.

There is then a 2-way dialogue rather than the more typical instructor-centered approach. Example: “Dr. X, during a maternal arrest, to achieve a better outcome for the mother, you need to deliver the fetus.”

Once the learner has shared their mental model, or the team has explained their shared mental model, the facilitator can then identify gaps or opportunities for learning. Identifying the gaps requires the facilitator to compare the learners’ mental model with the expected or target mental model (ie, newer evidence). If the learner uses an “old” method of treating a patient and the facilitator is looking to teach a new method, the gap is the difference in decision making or knowledge.

In the aforementioned example, Dr. X may offer his mental model: “I believe that ‘mom is first’ and no effort should be made to deliver the fetus until the mother is stable.” The facilitator should then allow time for discussion about this mental model so the individual can learn. The prior experience that exists among the group will add to the depth of the discussion. The facilitator should prompt the learner and, in fact, all learners in the group to activate their previous experience with the current topic and compare their own mental models with the target mental model (ie, delivery of the fetus aids in resuscitation of the mother and should be undertaken to save the mother’s life). Target mental models or standards of practice can be explicitly offered by the facilitator if he or she is a content expert or can be “discovered” by the group through discussion.

Once the target mental is revealed, the facilitator should prompt the learner to engage in analogical reasoning so that he/she can adapt the mental model for use in future experiences. As Bakken³⁴ describes, when doctors are faced with a complex diagnosis process, they rely on their previous experiences of “cases” and “counter cases” to help the current patient. In simulation, this occurs when learners try to compare the current simulation to their previous experiences inside and outside the simulation arena. Without well developed mental models to guide decision-making, learners often make erroneous connections, which may lead to errors. The most common error occurs when a learner makes a “surface” connection rather than a “structural” connection. This is analogous to treating the symptoms rather than the disease. The symptoms may abate in the short term but will reappear if the underlying disease is not addressed.

The process of making structural connections between a past and new patient or experience is analogical reasoning. Analogical reasoning is the process by which learners adapt their mental models to apply them to novel experiences, and improve them for future use.^{25,26} Facilitators should prompt participants to recall past experiences that were analogous or offer analogs that the learner can consider. For example: a facilitator can ask “how have you handled this situation in the past?” During this process of comparing, learners are expanding their mental models to incorporate new concepts.

Deepening

Deepening is an explicit connection of the learning (new or target mental model) to practice (the environment), aka syn-

thesis.¹⁵ Ideally, there would be an immediate opportunity for active experimentation on an actual or simulated patient. The active experimentation that occurs in the Deepening phase is an opportunity for the learner to test out their new mental model and decide whether to keep it.⁹ Without the chance for immediate experimentation, the learner will have to attempt to retain the new information until a clinical opportunity arises. In most cases, this delay will cause the information to be lost and the learner to revert back to their old mental model.

Learners often want to repeat a simulation to try out their new mental model, especially after the Deepening discussion, and this should be encouraged. Although it may be difficult due to time and logistical constraints, learners will get more out of the simulation by having the opportunity to actively experiment with their new mental models. The second simulation should have the same structural issues as the first simulation and may even be the same simulation. Simply making small changes (ie, the name of the baby and background) to allow the learners to practice may be sufficient.

In lieu of a second simulation, Deepening can be facilitated during the debriefing by prompting the learners to connect what they just learned to actual practice. A simple strategy is to ask individuals how they can use the new strategy or information in actual practice.

At the close of the debriefing, facilitators should provide a Summary of lessons learned. This should be a brief listing of the topics that were discussed during the debriefing and solutions or target mental models that were revealed. In this way, the adult learner leaves feeling that they have learned information that is practical and useful.³⁰

Conclusions

The individual, their experiences, and both the micro- and macroenvironments must be considered to effectively achieve life-long learning.¹⁸ Simulation and debriefing are powerful tools to assist individuals in learning from experiences. When handled skillfully, debriefing is the most important aspect of simulation-based education, as it is where the learning and processing of new information occurs.^{2-6,14}

For adults to learn from experience in the simulated environment the individual must feel safe to explore and experiment during the experience, the experience must have an impact on the individual and highlight learning objectives that are relevant, and the individual must have the opportunity to reflect on or analyze the experience.^{5,7,9,29}

The 3D Model of Debriefing is a framework based upon experiential learning theory and common debriefing strategies. It offers a step-wise approach to student-centered learning. Defusing allows the learner to release emotions and describe the experience. During this phase, the facilitator should decide what issues are most important to the learner. Discovering prompts the learner to identify and analyze the mental models guiding behaviors and then compare them with new information introduced by other participants or the facilitator. During this phase, learners should be encouraged to use analogical reasoning to apply enhanced mental models

to novel situations. During the Deepening phase, the learner cognitively applies the new information to the clinical environment. Deepening can be enhanced by a second simulation and reinforced by mentors in the macro-environment.

Although this article was written to address debriefing after simulated experiences, the 3D model can be and should be used within the macroenvironment after real events to reinforce positive behaviors and to allow learners to discover their own gaps frequently and in real-time. It is this continuous self-reflection, self-discovery and self-improvement that will ultimately lead to changes in outcomes.³⁵

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