Steps to Transforming Clinical Education with On-campus Simulation: The Experience of One BSN Program

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College of Health Professions
Lienhard School of Nursing
Faculty Disclosure
Session Objectives

<table>
<thead>
<tr>
<th>Name</th>
<th>Employer</th>
<th>Conflict of Interest</th>
<th>Sponsor or Commercial Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhonda Maneval</td>
<td>Pace University</td>
<td>None</td>
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Objectives

Discuss the process used to effectively replace a percentage of agency-based clinical experiences with simulated clinical learning experiences.

Discuss the benefits and challenges of implementing this new model of clinical education in nursing.
Background

Our goal
Redistribution of clinical credit hours to incorporate more on-campus simulation experiences in the accelerated (ABSN) program.

Rationale
1. Improve the quality of clinical education for students
2. Potential opportunity to expand pre-licensure enrollments
Background

Simulation

• “...technique, not a technology, to replace or amplify real experiences with guided experiences, often immersive in nature, that evoke or replicate substantial aspects of the real world in a fully interactive fashion” (Gaba, 2004, p. i2)

• “the most accurate possible representation of a care situation” (Larue, C., Pepin, J. & Allard, É, 2015) and can be accomplished through the use of standardized patients and patient simulators of varying fidelity simulating encounters with patients in hospital, outpatient and community settings.
Why simulation?

• Enormous amount of content and skills to be taught
  • Programs getting shorter
• Decrease in clinical time
• Limited clinical settings
• Limited ability to engage in the role of the nurse
• Increase in patient complexity
• Disparity between “entry into practice” and “reality”
Benefits of simulation

• Similarity of learning experiences (Baillie L. & Curzio J., 2009)

• Opportunities to experience critical patient care events in an environment that is safe for both patients and students (Moule P., Wilford A, Sales R, et al. 2006).

• Student confidence building (Moule, P. et al., 2006; Leigh G., 2008; Lambton, J., 2008).


• The use of simulation has been endorsed by the National Council of State Boards of Nursing (NCSBN) (Alexander, M., Hooper, C., Jeffries, J., et al., 2015). NCSBN National Simulation Study demonstrated that simulation could be as effective as traditional clinical experiences in educating pre-licensure nursing students. (Hayden JK, Smiley R, Alexander M, et al., 2014).
Does Simulation count as clinical time?
NCSBN Survey

<table>
<thead>
<tr>
<th></th>
<th>No, simulation is a supplement to clinical</th>
<th>Yes, simulation is used as a substitute for clinical</th>
<th>Yes, simulation has been used as a substitute on occasion</th>
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<tbody>
<tr>
<td>Overall</td>
<td>29%</td>
<td>46%</td>
<td>18%</td>
</tr>
<tr>
<td>Associate</td>
<td>29%</td>
<td>47%</td>
<td>17%</td>
</tr>
<tr>
<td>Baccalaureate</td>
<td>27%</td>
<td>48%</td>
<td>18%</td>
</tr>
<tr>
<td>Diploma</td>
<td>21%</td>
<td>53%</td>
<td>21%</td>
</tr>
<tr>
<td>Prelicensure MSN</td>
<td>16%</td>
<td>51%</td>
<td>22%</td>
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</table>
Assembling the team

- ABSN Program Director
- CEL Director
- CEL Coordinators
- Key faculty
- Clinical placement coordinator
Assessing resources

• Space
• Staffing
• Equipment (computers, software, supplies)
• Simulators
• Standardized patients
• Faculty and staff development
Current resources

• Current state of the Clinical Education Labs (CEL)
  • Located on 2 campuses
  • Low to high fidelity simulation, skill trainers, human patient simulators, standardized patients, and hospital-like settings and clinic-simulated environments.
  • Video capture technology is available and allows student self-evaluation and opportunities to identify areas for improvement in small group debriefing sessions.

• CEL Staffing
  • Director (1); Coordinators (2); Simulation/skills faculty (1); Sim Techs (2); Faculty FTEs (.5 each campus); Adjunct faculty
Additional resources needed

• Staffing
  • 2 FT Simulation Educators
  • 1.5 Sim Techs
  • Additional adjunct hours
  • Additional SP hours

• Supplies

• Equipment
Mapping the clinical courses

• Determine which courses to be selected, how many hours of direct patient care essential for professional role development, and the amount of on-campus simulation that should be offered to enrich and expand clinical knowledge per course.

• The amount of simulation varied based on the course.

• Used a 2:1 formula – 2 hours of agency-based clinical equals 1 hour of on-campus simulated clinical.
Determining the amount of on-campus simulation appropriate for each course.

- Difficulty in student placement.
- Lack of consistency of student learning experiences
- Courses that presented the greatest challenges to placement and quality learning experiences.
- Courses in which professional role development would not be compromised
<table>
<thead>
<tr>
<th>Course</th>
<th>Total Credits</th>
<th>Didactic/Clinical Credits</th>
<th>Clinical/Lab Hours</th>
<th>Sim hours clinical equivalent</th>
<th>% of clinical time</th>
<th>Number of Events</th>
<th>Agency-based hours</th>
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<tr>
<td>402 Foundations</td>
<td>4</td>
<td>2:2</td>
<td>90</td>
<td>24</td>
<td>27%</td>
<td>4</td>
<td>66</td>
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<tr>
<td>406 Mental Health</td>
<td>3</td>
<td>2:1</td>
<td>45</td>
<td>18</td>
<td>40%</td>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>412 M/S</td>
<td>6</td>
<td>4:2</td>
<td>90</td>
<td>24</td>
<td>27%</td>
<td>3</td>
<td>66</td>
</tr>
<tr>
<td>414 OB</td>
<td>3</td>
<td>2:1</td>
<td>45</td>
<td>12</td>
<td>27%</td>
<td>2</td>
<td>33</td>
</tr>
<tr>
<td>416 Peds</td>
<td>3</td>
<td>2:1</td>
<td>45</td>
<td>12</td>
<td>27%</td>
<td>2</td>
<td>33</td>
</tr>
<tr>
<td>424 Leadership</td>
<td>3</td>
<td>2:1</td>
<td>45</td>
<td>12</td>
<td>27%</td>
<td>1</td>
<td>33</td>
</tr>
<tr>
<td>428 Critical Care</td>
<td>6</td>
<td>4:2</td>
<td>90</td>
<td>24</td>
<td>27%</td>
<td>3</td>
<td>66</td>
</tr>
<tr>
<td>424 Community</td>
<td>3</td>
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<td>12</td>
<td>27%</td>
<td>2</td>
<td>33</td>
</tr>
<tr>
<td>434 Gerontology</td>
<td>3</td>
<td>2:1</td>
<td>45</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>45</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
<td><strong>22:12</strong></td>
<td><strong>540</strong></td>
<td><strong>138</strong></td>
<td><strong>25.5%</strong></td>
<td><strong>20</strong></td>
<td><strong>402</strong></td>
</tr>
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Course planning for Simulation-based Experiences (SBE)

• Courses in which SBE is appropriate were identified
• SBE’s appropriate for each course were selected. These experiences focused on frequent and routine types of nurse-patient events.
• Clinical groups are scheduled for the CEL on the same day they would normally attend agency-based clinical
• The group’s clinical faculty member accompany them to the CEL ad participate as a content expert and evaluator
• The CEL Director, CEL faculty, placement coordinator, faculty course coordinators develop a master schedule each semester that includes all planned SBEs for each clinical group.
Professional Simulation Team (PST)

3 Member Team

• Content Expert
• Simulation Facilitator
• Simulation Operator
## Evaluation Plan

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>Cohort</th>
<th>Program Completion Date</th>
<th>Will be submitted to NYSED</th>
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<tbody>
<tr>
<td>HESI Critical Thinking Total Mean Score</td>
<td>Fall 2017 Spring 2018</td>
<td>August 2018</td>
<td>February 2018</td>
</tr>
<tr>
<td></td>
<td>Fall 2018 Spring 2019</td>
<td>December 2018</td>
<td>June 2019</td>
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<tr>
<td></td>
<td></td>
<td>August 2019</td>
<td>February 2019</td>
</tr>
<tr>
<td></td>
<td></td>
<td>December 2019</td>
<td>June 2020</td>
</tr>
<tr>
<td>HESI Exit Exam Total Mean Score</td>
<td>Fall 2017 Spring 2018</td>
<td>August 2018</td>
<td>February 2018</td>
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<tr>
<td></td>
<td>Fall 2018 Spring 2019</td>
<td>December 2018</td>
<td>June 2019</td>
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<td></td>
<td></td>
<td>August 2019</td>
<td>February 2019</td>
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<tr>
<td></td>
<td></td>
<td>December 2019</td>
<td>June 2020</td>
</tr>
<tr>
<td>NCLEX-RN Pass Rates</td>
<td>Fall 2017 Spring 2018</td>
<td>August 2018</td>
<td>February 2018</td>
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<tr>
<td></td>
<td>Fall 2018 Spring 2019</td>
<td>December 2018</td>
<td>June 2019</td>
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<td></td>
<td></td>
<td>August 2019</td>
<td>February 2019</td>
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<tr>
<td></td>
<td></td>
<td>December 2019</td>
<td>June 2020</td>
</tr>
<tr>
<td>Student Learning Needs– Overall mean score</td>
<td>Fall 2017 Spring 2018</td>
<td>August 2018</td>
<td>February 2018</td>
</tr>
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<td></td>
<td>Fall 2018 Spring 2019</td>
<td>December 2018</td>
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<td>August 2019</td>
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<tr>
<td></td>
<td></td>
<td>December 2019</td>
<td>June 2020</td>
</tr>
<tr>
<td>Employer Satisfaction – Overall evaluation mean score</td>
<td>Fall 2017 Spring 2018</td>
<td>August 2018</td>
<td>February 2018</td>
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<td></td>
<td>Fall 2018 Spring 2019</td>
<td>December 2018</td>
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<td></td>
<td>December 2019</td>
<td>June 2020</td>
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Benefits and Challenges

**Benefits**

- Ensure similarity of learning experiences
- Opportunity for students to experience both routine and critical patient events in a safe environment
- Increase student confidence
- Enhance engagement in clinical thinking and reasoning
- Faculty research opportunities
- Improved simulation experience for all students

**Challenges**

- Faculty and staff development needs
- CEL space and resources
- Maintaining consistency and quality of experiences across groups and courses
- Scheduling rotations with clinical agencies in a manner that ensures best use of this resource.
Conclusion

Redistributing select amounts of traditional agency-based clinical time with on-campus simulated experiences required detailed planning, incorporation of evidence-based best practices, thoughtful and well-designed implementation and ongoing evaluation.


