

Hands-On, Minds-On: Transforming NICU Nursing Education with Skills Stations



Jacklyn Cabrera MSN, APRN, FNP-C, CPN, Ashley Darcy Mahoney, PhD, NNP, Sarah Hardan BSN, RNC-NIC, C-ELBW, Blaise Huntley BSN, C-ELBW, Sherry Lanthier BSN, RNC-NIC, Patricia Marcos BSN, Chelsea Off MSN-FNP, CCRN- Pediatric, CCRN-Neonatal, CPN, C-ELBW, Nicole Perez BSN, CCRN, CPN, C-ELBW, Isabella Sarabia BSN, Isadora Sztokfisz BSN, CCRN, C-ELBW

Background

- Maintaining competence in high acuity NICU skills is critical to delivering safe, high quality patient care.
- Traditionally led education may not provide enough hands-on practice, or real-time troubleshooting opportunities.
- A unit-based Learning Needs Assessment identified priority areas where nurses wanted additional skills reinforcement.
- These findings guided the creation of interactive skills stations to strengthen nurse confidence and improve bedside readiness.

Objectives

- To describe the role of hands-on education as an innovative teaching strategy in nursing.
- Identify NICU nursing learning priorities using a Learning Needs Assessment.
- Demonstrate how skills stations promotes active engagement and peer-to-peer learning among nurses.
- Implement a hands-on, station-based skills fair targeting five high-impact topics.
- Evaluate changes in self-reported nurse comfort/confidence from pre- to post-intervention.
- Encourage the adoption of gamification as a tool to create safe, interactive, and learner-centered educational experiences in nursing practice.

Results

Post-surveys conducted by all attendees showed that nurse comfort levels had improved in all five areas:

- **Criticool troubleshooting:** 5.88 → 9.11 (*largest gain*)
- **Chest tube management:** 7.26 → 9.11
- **Arterial line management:** 7.27 → 8.91
- **Ventilator knowledge:** 6.57 → 8.61
- **Code blue documentation:** 5.17 → 8.53

Overall, results reflected a **mean increase of 39.8%** in comfort/effectiveness ratings following participation in the skills stations.

Methods/Implementation

- **Design:** Pre–post educational QI initiative.
- **Participants:** NICU nursing staff (mandatory annually)
- **Learning Needs Assessment:** Staff completed an LNA to assess highest priority gaps.
- **Intervention:** An interactive skills fair with five hands-on stations:
 - Criticool machine troubleshooting
 - Chest tube management
 - Arterial line management
 - Ventilator knowledge
 - Code blue documentation
- **Evaluation:** Nurses completed **pre- and post-surveys** rating comfort level with each topic.

Conclusion

- A hands-on approach is a safe and positive learning environment that promotes active engagement and knowledge retention.
- A learning needs assessment driven NICU skills-station fair increased nurses' self-reported confidence across multiple critical care skills.
- The greatest perceived gains were in equipment troubleshooting and resuscitation/code documentation.
- Next steps include expanding station topics and assessing long-term impact.

References

- Barile, L., McNiesh, S., & Walker-Vischer, L. (2022). Intensive care unit nurses' perceptions and experience using the American Heart Association Resuscitation Quality Improvement Program. *Clinical Nurse Specialist*, 36(3), 143–152. <https://doi.org/10.1097/NUR.0000000000000673>
- De Silva, A. P., Stephens, T., Welch, J., Sigera, C., De Alwis, S., Athapattu, P., Dharmagunawardene, D., Olupeliyawa, A., de Abrew, A., Peiris, L., Siriwardana, S., Karunathilake, I., Dondorp, A., & Haniffa, R. (2021). Nursing intensive care skillstraining: A nurse led, short, structured, and practical training program, developed and tested in a resource-limited setting. *Journal of Critical Care*, 30(2), 438.e7–438.e11. <https://doi.org/10.1016/j.jcrc.2014.10.024>
- Latour, J. M., Kentish-Barnes, N., Jacques, T., Wysocki, M., Azoulay, E., & Metaxa, V. (2022). Improving the intensive care experience from the perspectives of different stakeholders. *Critical Care*, 26(1), 218. <https://doi.org/10.1186/s13054-022-04094->

