**Mapping the Way to Critical Thinking Skills**

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Emily Hirsch, MSN, MHA, RNC-NIC, Nicole Malec, BSN, RNC-NIC, Nellann Nipper, RNC-NNP-BC

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**Introduction**
Orientation is focused on learning new skills and knowledge. The learning is often task-oriented and skills are acquired without strong emphasis on critical thinking. Concept mapping has shown to enhance meaningful learning and improve processing skills. Development of critical thinking skills occurs as the new nurse engages in an interactive learning session.

NICU requires staff to demonstrate independent critical thinking skills in their approach to planning, implementing, and evaluating patient care with appropriate and timely notification to the medical provider. The goal of the concept mapping session for new NICU nurses was to develop critical thinking skills related to admission of NICU infants. Additionally, the simulation lab provided hands-on experience by integrating critical thinking skills with tasks associated with an admission.

**Objectives**
1. Describe and identify key components of concept mapping to enhance new knowledge and develop critical thinking skills in new nurses.
2. Identify methods to incorporate concept mapping with hands-on learning in the simulation lab.
3. Discuss potential benefits of using concept mapping to create an interactive learning environment.

**Methodology**
- New NICU RNs, <6 months
- Four hour session in Simulation Lab Classroom
- Pre-test
- Describe concept mapping and review objectives of learning session
- Review anticipated needs of infant and admission bed set-up
- Begin concept mapping with simple NICU admission and move toward complex admission
- Provide admission scenario data and use simulation lab where RNs anticipate infant needs and set up admission equipment using critical thinking skills to anticipate and understand admission plan of care
- Post-test
- Survey Monkey

**Results**
- Data analysis using a T-test compared pre- and post-test scores. The pre-test scores demonstrated a mean score of 47 and a post-test mean score of 89.25. The t-value comparing pre- and post-test scores indicated a t-Stat of 9.22 and a t-Critical of 2.99 indicating a statistically significant difference between the pre- and post-test scores.
- Nurses rated the Concept Mapping activity using a 3 point Likert Scale:
  - 100% felt that new learning occurred
  - 66% felt critical thinking skills improved
  - 34% felt skills somewhat improved
  - 50% stated the hands-on simulation supplemented the concept mapping session and reinforced critical thinking skills while 50% said it was somewhat helpful
  - 50% felt they were encouraged to use more critical thinking skills, 33% were moderately encouraged, and 17% didn’t feel the activity impacted 50% felt very confident about doing an admission independently and 50% were somewhat confident
  - 83% would recommend this type of learning for others
  - 80% would recommend this style of learning for their own future education

**Subjective comments:**
- “It was awesome!”
- “More educational material prior to session and then use concept mapping as a review”
- “Very educational”
- “More sessions on other topics”

**References**


**Future Concept Mapping Sessions**
High-risk Delivery Attendance Regional Transports of High-risk newborns

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**Example of Simplified Concept Map**

**References**