Abstract
The education and training of new clinicians is a crucial topic for leaders in vascular access, yet there is a paucity of published work in this arena. This presentation describes an original orientation plan based upon Patricia Benner’s “Novice to Expert” theory, encompassing all stages of learning and development, as well as the three learning domains. Minimizing the risk of overlooking important content areas during the orientation process, while developing well rounded, highly skilled vascular access clinicians is the expected outcome.

Goal
To equip new members of the Vascular Access Team with knowledge, skills and values for providing high quality, evidence-based vascular access services to the people of Central Texas.

Patricia Benner’s Novice to Expert Learning Theory
Patricia Benner based her Novice to Expert Learning Theory on the Dreyfus model of Skill Acquisition.

Bloom’s Taxonomy
- **Cognitive**
  - Thinking Domain
- **Psychomotor**
  - Doing Domain
- **Affective**
  - Feeling Domain

**Cognitive**
- Self-Paced Study
- Case Study
- Simulation
- Concept Mapping

**Psychomotor**
- Demonstration/Return Demonstration
- Observation/Modeling
- Simulation

**Affective**
- Case Study
- Storytelling
- Reflective Journaling
- Role-Playing
Patricia Benner’s Novice to Expert Learning Theory

- **Novice**
  - No situational context
  - No experience in new area of practice
  - Needs concrete rules to govern actions

- **Advanced Beginner**
  - Recognizes meaningful elements of cases in context
  - Needs preceptor support in the clinical setting
  - Needs help setting priorities
  - Applies guidelines

- **Competent**
  - Feeling of mastery
  - Able to manage contingencies and troubleshoot problems
  - Effective and organized
  - Conscious and deliberate planning
  - Needs to develop speed and flexibility

- **Proficient**
  - Perceives situations holistically
  - Sees what is most important and anticipates needs
  - Sets priorities
  - Recognizes early warning signals
  - Flexible and efficient

- **Expert**
  - Broad array of experiences
  - Intuitive grasp of situations
  - Highly skilled analysis
  - Vision of what is possible
### Outcomes

<table>
<thead>
<tr>
<th>Former Plan</th>
<th>Theory-based Plan</th>
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<tbody>
<tr>
<td>• 12 weeks average time to competency</td>
<td>• 8 weeks average time to competency</td>
</tr>
<tr>
<td>• Less comprehensive</td>
<td>• More comprehensive</td>
</tr>
<tr>
<td>• Longer time to success rate &gt;90%</td>
<td>• Shorter time to success rate &gt;90%</td>
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<tr>
<td>• $15,000 (orientee salary only)</td>
<td>• $10,000 (orientee salary only)</td>
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### Lessons Learned

- Weekly meetings with manager and preceptor
  - Leadership connection and support
  - Develop relationships
  - Communicate confidence in preceptor and learner
  - Solve problems early
  - Celebrate wins

Questions we still have:
- Would one preceptor throughout be best? Or several preceptors?
- More time spent with US machine?
- More time spent on anatomy?

### Conclusion

Utilization of this orientation method in a network of seven hospitals in Central Texas has:
- Reduced the time required for inexperienced clinicians to achieve independent practice by 30%
- Prepared the clinicians to advance to higher levels of vascular access knowledge and skills
- Added value to the organization by reducing training costs.

### References


Thank you!

Seton Family of Hospitals Vascular Access Team