



# Building Nursing Pathways

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## Bellingham Technical College Nursing Clinical Redesign Report

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September 2016

*This workforce product was 100% funded by a \$2.7m grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The U.S. Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.*



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## Introduction

Registered Nursing (RN) is at the top of the national list of occupations with the largest projected employment growth between 2010 and 2020 (BLS, 2013). In Washington State, it has been anticipated that there will be a shortage of 12,000-20,000 RNs by the year 2031 (Skillman, Holly, et al, 2011). Furthermore, standards for nurses are increasing - the 2010 Institute of Medicine Report recommends that at least 80% of RNs pursue a Bachelor of Science in Nursing (BSN) by the year 2020 (IMNA, 2010). Only 51% of RNs in Washington, however, currently hold a BSN (WCN, 2012). With nursing jobs in such high demand, many community and technical colleges across the United States have had to restructure nursing programs in recent years, in order to serve the growing numbers of students seeking to pursue new careers or advance existing careers in the field. As a result, colleges and healthcare organizations have had to collaborate to design and implement early and continuous inter-professional learning strategies.

The Nursing Program at Bellingham Technical College (BTC) is dedicated to meeting the current challenges facing the nursing field by providing training to students seeking to become registered nurses or who intend to continue to earn BSN degrees. In fall 2013, the Nursing Program received a major boost in the form of a 2.7 million dollar Trade Adjustment Assistance Community College Career Training (TAACCCT) grant from the U.S. Department of Labor: Building Nursing Pathways (BNP). One major focus of this project was to develop a clinical redesign (CR) project. Specifically, the aim was to expand clinical placement through new clinical partnerships, collaborate with local and regional healthcare organizations to develop and prioritize competencies, and ultimately require all nursing students to demonstrate a comprehensive set of clinical performance competencies.

This report captures how the college has been successful in reaching these core outcomes through the clinical redesign project. There is a brief look into the history of the Nursing Program at BTC, followed by how the CRP has been influenced by the Concept Based Curriculum (CBC) model. The report then describes how the Nursing Program placed emphasis on creating and implementing a modified version of the Dedicated Education Unit (DEU) model, and the significance to how this modified DEU model has increased the academic and hands-on practical performance of Nursing Program students.



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## Background

The Nursing Program at Bellingham Technical College has been in operation since 1958, and has evolved since that time to meet the changing needs of industry. In recent years, the college has experienced an overwhelming increase in applicants for the Nursing program. Program directors, faculty, and supporting staff have had to adapt and redesign offerings to keep pace with this evolving field. In 2013, the college received funding for the Building Nursing Pathways project, intended to enhance and expanded Nursing Program offerings to respond to emerging trends in nursing education and the healthcare industry.

## Clinical Redesign Project

The BTC Nursing Program faculty focused on a number of factors to achieve the CR project core competencies, such as:

- How to improve content saturation in nursing education
- How to improve instructor-to-student ratios at clinical facilities
- How to relieve pressure on clinical sites
- How to reduce competition for limited clinical space in the local community

BTC Nursing Program faculty began to research the various best practices of national healthcare organizations. Two primary solutions became clear as research suggested that healthcare organizations and educators across the country were commonly adopting what is known as the “Concept-Based Curriculum” (CBC) and Dedicated Education Unit (DEU) models. These two models became the foundation for the BTC Nursing program CR project, and worked hand-in-hand together as they overlap to achieve solutions towards reaching core competencies. The following will describe why BTC Nursing Faculty decided to implement these two models and how each model works. Please note, the DEU model implemented at BTC is a modified version of the original model.



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## Concept-Based Curriculum

First, what is Concept-Based Curriculum (CBC)? The term, adopted by H. Lynn Erickson (Ed.D) in 2002, suggests that CBC is driven by “big ideas” rather than subject-specific content (Erickson, 2002). By leading students to consider the context in which they will use their understanding, concept-based learning brings “real world” meaning to content knowledge and skills. Students become critical thinkers which is essential to their ability to creatively solve problems in the 21<sup>st</sup> century. By introducing students to universal themes and engaging them in active learning, concept-based instruction creates connections to students’ prior experience brings relevance to student learning, facilitates deeper understanding of content knowledge, and acts as a springboard for students to respond to their learning with action (Erickson, 2002).

BTC Faculty became highly interested in this approach and saw the potential for implementation into the Nursing program. However, more researched was required, as they needed to see how the model had been working for other organizations. North Carolina’s statewide Curriculum Improvement Project (CIP) became the focus. In sum, the CIP discovered that there are three overlapping concept pillars that need to be addressed for effective nursing education:

- Nursing Concepts
- Healthcare Concepts
- Individual Concepts

North Carolina State’s CIP program revealed the CBC approached allowed for:

- Deep learning of these concepts, which promoted the development of clinical judgment
- Providing methods for content management, which deterred content saturation
- Students focusing on learning common concepts, while faculty reinforces concept with exemplars
- Concepts to be applied and reinforced across clinical settings, which also promotes deeper understanding
- Allowed for more efficient use of the limited clinical space

The results and findings with North Carolina’s CIP would become the supporting rational for implementation to the Nursing Program. The BTC faculty was specifically interested in how the CBC implements a solution to categorize and organize information into broader principles or concepts. The aim was to push students beyond simple memorization of facts, and promote understanding of the larger patterns and relationships that define patient care and patient



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illness. As a result, the CBC model became the primary approach to overcoming content saturation in the BTC Nursing program.

Yet, a number of factors still remained in order for the Nursing Program faculty to reach their core competency objectives. Therefore, ideas sprang up revolving around combining the CBC model with other models. To address these challenges, program faculty wanted to incorporate an additional model that would implement conceptual, experiential, and hands-on learning environments. Though additional research, a modified version of the Dedicated Education Unit (DEU) model emerged as the most effective model for implementing these various learning environments.

## Dedicated Education Unit

A traditional Dedicated Education Unit (DEU) is a clinical unit which has been developed into an optimal teaching/learning environment through the collaborative efforts of nurses, clinicians, management, and faculty. It is designed to provide students with a positive clinical learning environment to maximize achievement of learning outcomes through proven teaching/learning strategies. The DEU concept is built on the belief that the clinician's educational role is vital to the development of students' professional skills and knowledge. Clinicians are the primary teachers of students in the DEU model. Staff are selected to work on this unit and agree to collaborate with faculty to be preceptors, teachers, and clinical expert role models for the students.

Originally developed at Flinders University on Australia, the DEU model was implemented through a partnership between the University of Portland (Oregon) and Providence Health and Services in an effort to address increasing student enrollments, redistribute faculty workloads, and bridge the gap between education theories and practice (Warner and Burton, 2009). The concept grew out of a strategic plan developed by a coalition of Oregon nursing leaders to address the nursing shortage. Over time, the DEU climate has become one of mutual respect, open communication, and collaboration. It provides an opportunity for clinicians to stay freshly motivated in their roles as mentors and role models, and a way for faculty to remain grounded in current clinical reality. Ultimately, DEU clinicians, faculty, and students claim the model has increased their commitment to working together to build an optimal learning community (Warner and Burton, 2009).

In 2013, BTC Nursing Program faculty and a representative from the county's acute care institution took advantage of an opportunity to visit the University of Portland to learn more about the DEU model. University of Portland Nursing educators had been implementing the DEU model in their programs for a number of years. Understanding the limitations of



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implementing a complete and tradition DEU, such as local clinical sites not having implemented the DEU model yet into their operations, BTC stakeholders concluded that perhaps a modified DEU (MDEU) model was still feasible and could play a key role in the redesign project.

## Modifying the DEU

Modifying the DEU to work with the new CBC model would allow for a framework for restructuring the BNP Clinical Redesign project. The modifications of the new MDEU was to build a new simulation lab to replicate the clinical setting, and to collaborate with local nursing clinical sites to implement concept-based clinical activities. The following lays out the strategy for each of these modifications.

### Simulation Lab:

The objective of building a new simulation lab was to bring the clinical education setting to the college campus. Simulation in healthcare education has been proven through evidence-based studies to enhance and improve student and patient outcomes (Warner and Burton, 2009). The use of integrated clinical simulation – the use of a simulation laboratory, overseen by specially trained nursing faculty – became an outplacement site for clinical that has been incorporated into the clinical redesign. Grant funding allowed for the college to develop a conceptually-simulated lab to bring real-life experiences in the clinical setting to the college classroom. The primary strategy of the project was to focus on the implementation of real-life simulations healthcare professionals experience on a daily basis.

The new simulation lab launched in winter quarter 2014. The simulation lab contains an A/V system; control room system with high, medium, and low fidelity human patient simulators; a medication dispense system; and other related technologies. Patient care areas in the simulation lab include birthing, pediatric, acute medical surgical, and skilled nursing environments. The simulation lab provides a clean, state of the art, safe, and realistic simulation environment for effective skills practice. Students spend approximately 20% of their clinical time in the simulation lab implementing relevant scenarios.

This structure reduces the overall demand for clinical education space in the community by

- Reducing number of students at clinical site per day,
- Increasing instructor one-on-one supervision of students to reduce pressure on facility staff nurses, and
- Reducing number of clinical days at clinical site



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Providing a structured and intentional approach to the student clinical experience has only increased clinical capacity. The implementation of simulation scenarios, accompanied by industry-standard equipment, encourages students to actively engage in problem solving, care coordination and decision-making – reflecting primary skills which employers have identified as critical for new RNs. BTC Nursing Program staff claim that the implementation of simulation learning has increased student grades, NCLEX exam scores, student satisfaction, job placement ratings, and eligibility for national accreditation. As a result, simulation has now been incorporated into the clinical curriculum for all six quarters of the Nursing Program.

## Collaboration with Local Clinical Sites:

The Associate Dean of Nursing, in conjunction with BTC Nursing Program faculty, local hospital unit managers, hospital staff nurses, and hospital nursing administrators worked on a variety of solutions to expand and enhance clinical placement, improve clinical agency relationships, and foster greater student outcomes and success. The following is an outline of how these stakeholders restructured clinical placement in the local community.

- Restructuring Clinical Scheduling
  - Stakeholders agreed to increase numbers of students on two floors to take five students each.
  - 4<sup>th</sup> & 5<sup>th</sup> quarter clinical sections scheduled together. 5<sup>th</sup> quarter students go to specialty units to work independently with staff nurses freeing up their instructor to assist the 4<sup>th</sup> quarter instructor with those students who require more direct supervision.
  - 3<sup>rd</sup> & 5<sup>th</sup> quarters have also been scheduled similarly to the model above.
  - Simulation scheduled as an outplacement site in 1<sup>st</sup> and 3<sup>rd</sup> quarters.
  - 20% of clinical in 1<sup>st</sup>-5<sup>th</sup> quarters in integrated clinical simulation.
- Implementing Concept Based Clinical:
  - 1<sup>st</sup>-4<sup>th</sup> quarters: 2 students per clinical shift are assigned Concept Based Clinical activities. These independent student assignments free up instructor to work more closely with students on skill acquisition (such as medication administration).
  - Each student is assigned 1-2 concept based clinical activity days per quarter.
  - Reduces demand on staff nurses at clinical facility.
- Clinical Placement at Clinical sites:
  - 1<sup>st</sup> & 2<sup>nd</sup> quarter: skilled nursing, simulation, & outplacement sites.





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- 3<sup>rd</sup> quarter: hospital, outpatient surgery center, simulation & outplacement sites.
- 4<sup>th</sup> & 5<sup>th</sup> quarter: hospital medical-surgical (4<sup>th</sup> quarter) & specialty care units (5<sup>th</sup> quarter).
- 6<sup>th</sup> quarter preceptorship: hospital, outpatient surgery center, skilled nursing, home care, etc.

The clinical redesign has helped improve the training students receive in the Nursing Program, as students are encouraged to work through increasingly complex scenarios in the simulation lab.



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## Conclusion

After two years of implementation, the BTC Nursing Program curriculum and clinical redesign CRP has allowed the college to expand clinical instruction through new clinical partnerships, collaborate with local and regional healthcare organizations to develop and prioritize competencies, and to ensure that all Nursing Program students demonstrate a comprehensive set of clinical performance competencies. The college has been able to contend with content saturation in nursing education by categorizing and organizing information into broader concepts, through the implementation of the Concept-Based Curriculum model. The Modified Dedicated Education Unit model at BTC has allowed for the Nursing Program to provide an optimal teaching/learning environment through the collaborative efforts of nurses, community health care team members, management, and faculty. Furthermore, the addition of the simulation lab as an outplacement clinical site has relieved some of the burden on the region's clinical agencies.

Consequently, the CR project has led to an expansion in BTC Nursing Program enrollment. This has assisted BTC stakeholders by increasing the number of RNs in the community. The reorganization of the clinical schedules allowed for more faculty to be available to assist the students and facilitate the staff nurse-student relationship. BTC has been able to improve how the clinical learning environment maximizes the achievement of student learning outcomes. The CR project has reinforced strong relationships with community partners, including major healthcare unions, hospitals, skilled nursing facilities, and other employers, community and technical colleges, four-year universities, and workforce agencies. The CR project has helped increase diversity of the healthcare workforce, enable seamless career advancement through clearly defined pathway programs, and increase education options and related career advancement opportunities for incumbent workers.

BTC has also cultivated various national partnerships to support the Nursing Program with federal agencies and national organizations, including the US Department of Labor, Department of Health and Human Services and Department of Education. Nongovernmental partnerships include initiatives with the Lumina Foundation and the American Association of Community and Technical Colleges. Through these partnerships, BTC has engaged in significant initiatives to support excellence in college and nursing education, support student success, and benefit the community, and workforce.



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