

***Are there Outcome Differences between NMNEC ADN,
BSN, and ADN/BSN Co-enrolled Students:
Results of the NCSBN Research Project
March 22, 2021***

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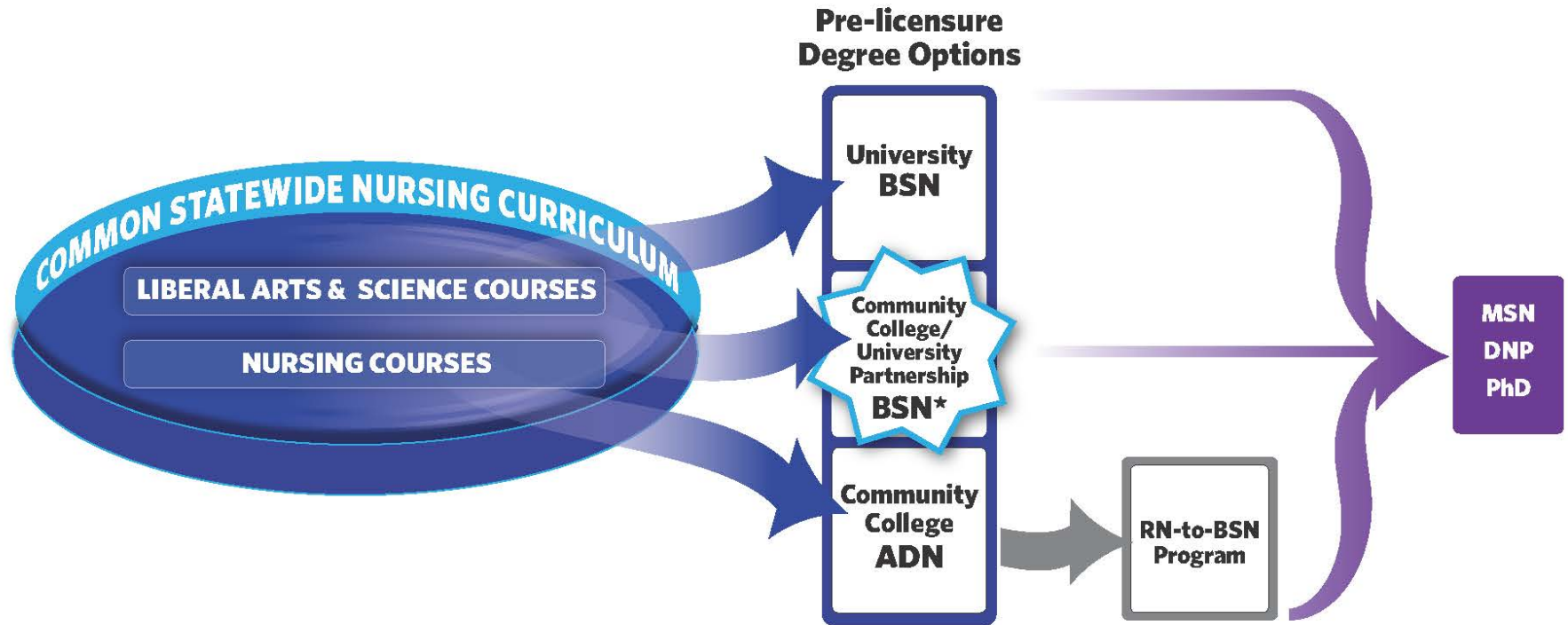
NM | NURSING EDUCATION CONSORTIUM

What Sparked this Project?

- ▶ The New Mexico Nursing Education Consortium (NMNEC) includes 12 state funded schools in 16 locations. This includes ADN, BSN, and ADN/BSN co-enrolled students with a community college (CC) and university. Courses for co-enrolled students are on the CC campus. All schools share a common concept-based curriculum.
- ▶ Our model needed rigorous testing: funding applied for through NCSBN's Center for Regulatory Excellence




Nursing Educational Model



BSN is offered on community college campuses. Baccalaureate and Associate degrees are conferred concurrently.

Aligning Our Study with Nursing Regulation

- ▶ Taxonomy of Error Root Cause Analysis of Practice (TERCAP)
 - ▶ TERCAP's goals: to categorize and track practice breakdown with a comprehensive standardized system
 - ▶ Clinical reasoning and professional responsibility/values found to be the top two reasons for practice breakdown
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Purpose of the Study

How can NMNEC show that we are graduating safe, competent, professional students with excellent clinical reasoning skills?



Our Hypotheses

Determine if there are differences in clinical reasoning, professional values, motivation, and demographics for senior-level nursing students in the NMNEC Curriculum between the three sectors of students:

- 1. ADN students
- 2. University based-BSN students
- 3. Community College/University ADN/BSN co-enrolled students

Participating NMNEC Schools*

Community college pre-
licensure ADN and co-
enrolled pre-licensure BSN

- Central New Mexico College (CNM)
- New Mexico Junior College (NMJC)
- San Juan College (SJC)
- Santa Fe Community College (SFCC)

University pre-licensure BSN

- New Mexico State University (NMSU)
- University of New Mexico – Albuquerque (UNM)
- IRB approval and letters of support obtained


*Criteria: teaching the NMNEC curriculum for at least one year

The Grant Team


Funding awarded by NCSBN

- ▶ Project Dates: April 1, 2017 to March 30, 2019

Grant Personnel:

- Judy Liesveld, PI
 - Beth Rodgers, VCU, Co-PI
 - Mary Wright, Project Outreach Manager
 - Blake Boursaw, Statistician
 - Jenny Landen, MSN, RN
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Senior level nursing students, near the end of their program at each participating school, were invited to complete four paper research instruments at the end of their program:

- ADN Programs:
 - Level 4
 - Pre-licensure BSN and co-enrolled ADN/BSN
 - Level 5
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Research Instruments


1. Brief custom demographic instrument
2. Script Concordance Test (SCT) Cronbach's alpha: .855
Assess clinical reasoning
3. Nurses Professional Values Scale – Revised (NPVS–R) Cronbach's alpha: .92–.94
Assess professional values identity as RNs
4. Academic Motivation Scale (AMS) Cronbach's alpha: .70–.91 on subscales

Script Concordance Test (SCT)

Example

SCENARIO

78 year-old Ms. Davis presents to the hospital with complaints of difficulty breathing which has gotten worse over the past few days. She has suffered with COPD (pulmonary bronchitis) (obstructive chronic) for several years. She asks you if she can go outside to smoke without the oxygen.



If you think:	And then you find:	This hypothesis is:	Legend:
*That Ms. Davis is not aware of the seriousness of her condition and that she denies her state of health.	Oxygenation saturation of 91% with oxygen in place.	-2 -1 0 1 2	<p>-2: rejected</p> <p>-1: less relevant or possibly less appropriate</p> <p>0: the information has no effect on the assumption</p>
	A history of compliance with treatment as ordered by the pulmonologist written in the file.	-2 -1 0 1 2	<p>1: needs to be explored in the near future</p> <p>2: needs to be explored in the immediate future</p>

Nurses Professional Values Scale – Revised (NPVS–R)

Example

Directions:

Indicate the importance of the following value statements relative to nursing practice.

[A = not important to E = most important]

Example value statement:

- Assume responsibility for meeting health needs of the culturally diverse population.

Academic Motivation Scale (AMS)

Example

Directions:

Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why you go to college (CEGEP).

[1 = does not correspond at all to 7 = corresponds exactly]

Example item:

- Because with only a high-school degree I would not find a high-paying job later on.

Key Points on Administration of Research Instruments

Participation was voluntary!

Administered:

- ▶ Near the completion of the program
- ▶ During **regularly scheduled** class time
 - Minimum of 75–90 minutes
- ▶ By a faculty member not associated with the course
 - Course instructor out of the room
- ▶ Each participating cohort received a \$150 gift card

Analysis

- Data entry
 - No linkage to any individual student
- Data analyzed by statistician and project co-investigators
- Quarterly Reports to NCSBN

Statistical Analysis

- ▶ Means and standard deviations were calculated for instrument scale and subscale scores and then compared across educational patterns (ADN, co-enrolled ADN/BSN in community college environment, and traditional university-based BSN) using ANOVAs with planned pairwise post hoc comparisons. Statistical significance for all analyses set at 0.05.

Sample Size

- ▶ Surveys from 569 students in the final term of their programs in 2017–2019 were analyzed: 207 AND, 232 university-based BSN, and 130 co-enrolled ADN/BSN community college students.




Instrument Results

- ▶ Students did not show statistically significant different scores by educational pattern on the Academic Motivation Scale or the Nurses Professional Values Scale–Revised.
- ▶ Script Concordance Test scores, which are on a 0–100 scale, did vary significantly ($F(2,566)=5.67, p=.004$) by educational pattern with ADN students ($M=67.7, SD=11.5$) showing higher scores than BSN students ($M=64.0, SD=11.6$), but not co-enrolled students ($M=65.8, SD=11.0$)
- ▶ The effect size was, however, small [eta-squared = .02 with .01, .06. and .14 as the standard thresholds for "small", "medium", and "large"]

Discussion of Results

- ▶ Our study showed that traditional BSN students on university campuses and ADN and BSN/ADN co-enrolled students on community college campuses had similar outcomes with clinical reasoning, professional identity/values, and motivation. The model was successful with the common statewide curriculum taught at all sites. ADN students sitting in the same classroom as the ADN/BSN students benefitted from a high level curriculum meeting both ADN and BSN accreditation standards.

Implications

- ▶ Continue curriculum integrity
 - ▶ Continue to support faculty development
 - ▶ Continue good communication via web page, networking, our statewide meetings, newsletter
 - ▶ Continue our solid infrastructure: staff, leadership council, committees
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What's Next:

- ▶ Continued dissemination of findings
- ▶ More evaluative studies
- ▶ Student outcomes research following entry to practice
- ▶ Patient outcomes research

This study was funded by NCSBN, R100009



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- ▶ Dory, V., Gagnon, R., Vanpee, D., & Charlin, B. (2012). How to construct and implement script concordance tests: Insights from a systematic review. *Medical Education*, 46(6), 552-563.
- ▶ Vallerand, R. J., Pelletier, L. G., Blais, M. R., Briere, N. M., Senecal, C., & Vallieres, E. F. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and Psychological Measurement*, 52(4), 1003-1017.
- ▶ Weis, D., & Schank, M. J. (2009). Development and psychometric evaluation of the Nurses Professional Values Scale--Revised [corrected] [published erratum appears in J NURS MEAS 2010;18(1):70-2]. *Journal of Nursing Measurement*, 17(3), 221-231 211p. doi:10.1891/1061-3749.17.3.221

