Time-Tested Approaches to DNP Scholarly Projects

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Rutgers
NYU
UC Denver
Pitt
Michigan
Ohio State
North Carolina
Virginia
Case Western
work jointly on an activity, especially to produce or create something

The Problem

It has been said that the DNP .......

• Will be bad for our profession
• Will reduce the number of scientists
• Will be the bud light of doctoral education
• Lacks consistency

Cronenwett, Dracup, Grey, McCauley & Meleis (2011)
More recently it has been said .......

- It is a great way to raise revenue
- It has been taken to scale at the expense of quality
- Pressure to produce prevents application of new competencies

And yet

AACN (2019)
Background

• 14 years
• 348 programs
• 50 states
• 7,039 graduates
• 32,678 students enrolled
• 7,039 projects
• Marked innovation in education & evaluation
• Highly variable approaches
• Inconsistent expectations

Questions

1. What can be learned from the experiences of established DNP programs that might benefit all DNP programs?

2. What is the nature of the scholarly projects being conducted?
Purpose

To describe the scholarly projects accepted in partial fulfillment of requirements for graduation from DNP programs across the United States:

– Nature of the work
– Outcomes achieved
– Challenges encountered
– Lessons learned

Bigger Plan

Phase I
2014
Initial Study

Tool Development
1 Program

Phase II
2019
Expanded Study

Feasibility & Refinement
22 Schools

Phase III
2020
Inclusive Study & RCPI

All Welcome
Methods

• Convenience sample
• 22 established DNP programs
• 25 projects randomly selected from each participating program (graduated 2018 - 2019)
• 2 faculty from each program review every project using tool to describe work

Deemed exempt by CWRU IRB

Framework

Uncertainty, Pace & Complexity Model (Shenhar & Dvir, 2007)

2 streams of work in any enterprise

1. Operation – capable management
2. Innovation – impactful projects
Research Questions Based on the Model

- How uncertain was the outcome?
- What was the pace of the change required to meet demand?
- How complex was the intervention?
- What was the scope of the work?
- What business goal was targeted?
### Research Questions of Interest to the Team

<table>
<thead>
<tr>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>• What were the aims of the work?</strong></td>
<td><strong>• What were the lessons learned regarding organizational change?</strong></td>
</tr>
<tr>
<td><strong>• What framework guided the work?</strong></td>
<td><strong>• What were the unintended consequences?</strong></td>
</tr>
<tr>
<td><strong>• What methods were used?</strong></td>
<td><strong>• How has the work been disseminated?</strong></td>
</tr>
<tr>
<td><strong>• What was the IRB decision?</strong></td>
<td><strong>• What threats and challenges were encountered?</strong></td>
</tr>
<tr>
<td><strong>• What analytics were used?</strong></td>
<td><strong>• What was the return on investment?</strong></td>
</tr>
<tr>
<td><strong>• Was statistical power achieved (reported)?</strong></td>
<td><strong>• How will the work be sustained?</strong></td>
</tr>
<tr>
<td><strong>• What outcomes were achieved?</strong></td>
<td></td>
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</table>
Research Questions of Interest to the Team

• How are we doing with regard to the 2015 White Paper recommendations?
• What can we learn about our projects?
• What can we learn about our curricula?
• What can we learn from each other?

Methods

• Descriptive
• Exploratory
Tool Development

• What did we want to learn from projects
• Value inclusion
• Value description above evaluation
  o provide benchmark data
  o stimulate reflection
  o support PI in each school

Methods

• Tool development & revision
• Random selection of 25 projects per school over past 2 academic years
• 2 reviews
• Discussion, consensus, report
**Logic Model – Description of Projects from DNP Programs**

<table>
<thead>
<tr>
<th>INPUTS</th>
<th>THROUGHPUTS</th>
<th>OUTPUTS</th>
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</thead>
<tbody>
<tr>
<td>Top DNP programs rated by US News &amp; World Report (n=22)</td>
<td>Activities</td>
<td>Short Term</td>
</tr>
<tr>
<td></td>
<td>Measurements</td>
<td>Description of DNP scholarship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>List of time-tested practices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>List of methods</td>
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<tr>
<td></td>
<td></td>
<td>Identify potential barriers</td>
</tr>
<tr>
<td>25 final scholarly projects from each participating school AY 2017 - 2018 2018 – 2019 (n=550)</td>
<td></td>
<td>Identify unintended consequences</td>
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<td></td>
<td></td>
<td>Share strategies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drive program improvement</td>
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<tr>
<td></td>
<td></td>
<td>Disseminate findings</td>
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<tr>
<td></td>
<td></td>
<td>Share resources across DNP programs</td>
</tr>
<tr>
<td>2 faculty members per school (n=44)</td>
<td></td>
<td>Repeat including interested DNP programs</td>
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<tr>
<td></td>
<td></td>
<td>Drive program improvement</td>
</tr>
</tbody>
</table>

**Activities**: Train all faculty to use UPC instrument

**Measurements**: Uncertainty, Pace, Complexity, Aims, Framework, Design, Innovation, Methods, Analytics, Results

**Throughputs**

1. Train all faculty to use the UPC instrument
2. Conduct criterion referenced evaluation of all projects
3. Summarize the scholarship produced in top programs
4. Report time-tested practices for consideration

**Outputs**

- **Short Term**
  - Description of DNP scholarship
  - List of time-tested practices
  - List of methods
  - Identify potential barriers
  - Identify unintended consequences
  - Share strategies

- **Long Term**
  - Disseminate findings
  - Share resources across DNP programs
  - Repeat including interested DNP programs
  - Drive program improvement

**Logic Model**

- **Input**: Top DNP programs
- **Throughput**: Activities (Train all faculty to use UPC instrument, Conduct criterion referenced evaluation of all projects, Summarize the scholarship produced in top programs, Report time-tested practices for consideration)
- **Output**: Measurements (Uncertainty, Pace, Complexity, Aims, Framework, Design, Innovation, Methods, Analytics, Results)

**Description of Projects from DNP Programs**

1. Pace
2. Complexity
3. Aims
4. Framework
5. Design
6. Innovation
7. Methods
8. Analytics
9. Results

**Language**
<table>
<thead>
<tr>
<th>UNCERTAINTY</th>
<th>THE TECHNOLOGIC INNOVATION INTRODUCED IN THE PROJECT</th>
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</thead>
<tbody>
<tr>
<td>Low-tech</td>
<td>No new tech introduced</td>
</tr>
<tr>
<td>Medium-tech</td>
<td>Some new tech introduced</td>
</tr>
<tr>
<td>High-tech</td>
<td>A good deal of new tech introduced</td>
</tr>
<tr>
<td>Super high-tech</td>
<td>Tech introduced that was non-existent at the start of the project</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PACE</th>
<th>THE SPEED AT WHICH THE PROJECT OR INNOVATION NEEDED TO BE IMPLEMENTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>Delays were not critical</td>
</tr>
<tr>
<td>Fast/Competitive</td>
<td>Time to market was a competitive advantage</td>
</tr>
<tr>
<td>Time-Critical</td>
<td>There is a window for success. Time is critical.</td>
</tr>
<tr>
<td>Blitz</td>
<td>Crisis situation</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>COMPLEXITY</th>
<th>EXTENT TO WHICH A PROJECT PENETRATES THROUGH THE ORGANIZATION OR SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly</td>
<td>Project involves a sub-system that performs a single function</td>
</tr>
<tr>
<td>System</td>
<td>Project involves a collection of sub-systems that perform multiple functions</td>
</tr>
<tr>
<td>Array</td>
<td>Project impacts a system of systems</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOVELTY</th>
<th>THE NEWNESS &amp; INNOVATION OF THE PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Improvement</td>
<td>Adjustments were made to the current system</td>
</tr>
<tr>
<td>Derivative</td>
<td>Significant improvements made</td>
</tr>
<tr>
<td>Platform</td>
<td>A new generation of an existing service or product-line</td>
</tr>
<tr>
<td>Breakthrough</td>
<td>New-to-the-world product or service</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUSINESS GOAL</th>
<th>THE CONNECTION BETWEEN THE PROJECT &amp; THE MISSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational</td>
<td>Extends existing business</td>
</tr>
<tr>
<td>Strategic</td>
<td>Creates new business</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CUSTOMER</th>
<th>THE CUSTOMER TO BE IMPACTED BY THE PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>Customers you already have. Those internal to the organization.</td>
</tr>
<tr>
<td>External</td>
<td>Customers new to the organization. Those inside the organization.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STRATEGIC GOAL</th>
<th>THE PRIMARY INTENT OF THE PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension</td>
<td>Improve or upgrade an existing product or service</td>
</tr>
<tr>
<td>Strategic</td>
<td>Create strategic position through new products or markets</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>Develop new capability</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Routine maintenance. Fixing regular problems</td>
</tr>
<tr>
<td>Utility</td>
<td>Keep the lights on. Acquire &amp; install new software or equipment</td>
</tr>
<tr>
<td>Research &amp; Development</td>
<td>Explore new ideas</td>
</tr>
</tbody>
</table>
Preliminary Findings

Characteristics of Participating Schools
• 12 Schools have completed analyses

• 292 projects
  – Year of project
    • 89 from 2017-2018
    • 203 from 2018-2019
  – Program Specialty Focus
    • 134 from Post Baccalaureate
    • 41 from Post Masters Specialty
    • 115 from Post Masters Generalist

The Work of the Projects
WHO was the project intended to benefit?

Project Specialty Focus

- Adult 15%
- Adult/Gerontology 33%
- Perinatal 1%
- Family 4%
- Family 4%
- Neonatal 1%
- Pediatric 9%
- Health 3%
- Includes
  - Nurses
  - Other Healthcare Providers
  - Students
  - Men’s Health
  - Combinations

Includes
- Nurses
- Other Healthcare Providers
- Students
- Men’s Health
- Combinations
WHERE was the project conducted?

Project Site

Includes
- School of Nursing
- Church
- Dentistry Clinic
- FQHC
- Critical Care/ICU
- Virtual/Online Survey
- Rehabilitation
- Indian Health Service
- Maternity
- Hospice
- Telehealth

31

32
Description of Scholarly Work

HOW was the improvement to be accomplished?

Description of Scholarly Work

Includes

- Academic
- Leadership
- Health Policy
- Administration
### How the Results or Impact of the Project was Evaluated

<table>
<thead>
<tr>
<th>Method Used to Evaluate Project Results</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>43.2%</td>
</tr>
<tr>
<td>Pre-Test Post-Test Approach</td>
<td>24.7%</td>
</tr>
<tr>
<td>Descriptive Approach</td>
<td>18.8%</td>
</tr>
<tr>
<td>Mixed Methods (Qualitative &amp; Quantitative)</td>
<td>2.7%</td>
</tr>
<tr>
<td>Qualitative Approach</td>
<td>2.1%</td>
</tr>
<tr>
<td>The Project was Considered to be a Pilot</td>
<td>2.1%</td>
</tr>
<tr>
<td>Results were not Reported</td>
<td>1.4%</td>
</tr>
<tr>
<td>Feasibility of an Intervention was Evaluated</td>
<td>0.7%</td>
</tr>
<tr>
<td>Time Series Approach</td>
<td>0.7%</td>
</tr>
<tr>
<td>Causal Comparative</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

*The majority falling under “other” were combinations of the categories*
• 33% reported not using a translational framework
• 15% used Knowledge to Action Framework
• 13% used RCPI/PDSA
• Others included
  – PARiHs
  – IHI
  – Ottawa
  – Iowa
  – Rogers Diffusion
  – Lean
  – Planned Adaptation Framework
Uncertainty, Pace & Complexity

Uncertainty
Use of Technology

High-Tech
All or mostly new but existing technologies

Medium-Tech
Some new technologies

Low-Tech
No new technologies
Uncertainty Use of Technology

- **High-Tech**: All or mostly new but existing technologies, 3.8%
- **Medium-Tech**: Some new technologies, 23.3%
- **Low-Tech**: No new technologies, 72.6%

Pace How Quickly the Project Needed to Proceed

- **Blitz**: Resolves or addresses a crisis
- **Time Critical**: Time to implement is critical to success
- **Fast/Competitive**: Time to implement is a competitive advantage
- **Regular**: Delays not critical
Pace
How Quickly the Project Needed to Proceed

0%  Blitz  Resolves or addresses a crisis
5.8%  Time Critical  Time to implement is critical to success
13.7%  Fast/Competitive  Time to implement is a competitive advantage
80.1%  Regular  Delays not critical

System Level
Scale of the System Targeted by the Intervention

Macro
Meso
Micro
System Level
Scale of the System Targeted by the Intervention

5.8% Macro
19.9% Meso
74.0% Micro

Complexity

Array
Impacts a system of systems which are widely dispersed

System
Impacts a collection of subsystems performing multiple functions

Assembly
Effects subsystem performing a single function
Complexity

- **Array**
  - Impacts a system of systems which are widely dispersed
  - 4.5%

- **System**
  - Impacts a collection of subsystems performing multiple functions
  - 31.8%

- **Assembly**
  - Effects subsystem performing a single function
  - 63.7%

Novelty

Originality of the Project

- **Breakthrough**
  - Implements a new-to-the-world product or process

- **Platform**
  - Implements a new generation in an existing product line

- **Derivative**
  - Targets broad or significant improvement

- **Process Improvement**
  - Refines and improves an existing process
Novelty
Originality of the Project

- Breakthrough (0.7%)
  - Implements a new-to-the-world product or process
- Platform (7.5%)
  - Implements a new generation in an existing product line
- Derivative (11.6%)
  - Targets broad or significant improvement
- Process Improvement (79.5%)
  - Refines and improves an existing process

Lessons Learned
CLOSING THOUGHTS

Tools
- Home grown
- Psychometrics not regularly provided
- Great opportunity to improve

Challenges

Unintended Consequences

Outcomes

Impact

Dissemination
• SBIRT
• STOP Bang
• ABCDE Bundle
• AGREE II
• aPCL PTSD Screening
• Caprini Assessment

• Casey Fink Nurse Retention Survey
• HCAPs
• JHM Healthcare Solutions Patient Mobilization Attitudes & Beliefs Tool
• LACE
• Second Victim Experience and Support Tool
CHALLENGES

• Competing priorities
• Data & technology issues
• Union rep didn’t approve
• Short implementation time
• Changing leadership

CHALLENGES

• IRB processes
• Turnover
• EHR issues
• Staff & MD buy in
UNINTENDED CONSEQUENCES

- Less than anticipated
- Cost to implement
- Cost reduction led to budget cuts

OUTCOMES

- Increased knowledge
- Improved communication
- Increased satisfaction
- Increased competence
- Reduced sequelae
- Decreased pain
- Decreased stiffness
OUTCOMES
- Reduced cost
- Reduced readmission
- Increased access to care
- Reduced delay to care
- Reduced utilization
- Multiple outcomes
- Improved documentation

IMPACT
- EHR improvements
- Process improvements
- Work flow improvements
- Improved patient flow
DISSEMINATION

- Presentations on campus
- Presentations on site
- Publications
- Posters
- Local podium presentations

CLOSING THOUGHTS

Tools
Challenges
Unintended Consequences

Outcomes
Impact
Dissemination

WARNING
UNINTENDED CONSEQUENCE AHEAD
Bigger Plan

Phase I
2014
Initial Study
Tool Development
1 Program

Phase II
2019
Expanded Study
Feasibility & Refinement
22 Schools

Phase III
2020
Inclusive Study & RCPI
All Welcome

You!

Research Team

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## Research Team

<table>
<thead>
<tr>
<th>Location</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rush</strong></td>
<td>Mary E. Johnson, PhD, RN, PMHCNS-BC, CNE, FAAN</td>
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<td>Elias Provencio-Vasquez, PhD, RN</td>
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<td>Jacqueline Dunbar-Jacob, PhD, RN</td>
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<td></td>
<td>Donna G. Nativio PhD CRNP CPNP FAAN, FAAN</td>
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<td>Lauren Diegel-Vacek, DNP, APRN, FNP-BC</td>
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<td>Anita Stineman, PhD, RN</td>
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<td>Mary Dirks, DNP, RN, ARNP, CPNP-PC, FAANBP</td>
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<td><strong>U Michigan</strong></td>
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<td>Lisa Kane Low, CNM, FACNM, FAAN</td>
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<td></td>
<td>Michelle Pardee DNP, FNP-BC</td>
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<td></td>
<td>Dana Tschannen, PhD, RN</td>
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<td></td>
<td>Christine Mueller, PhD, RN, FGSA, FAAN</td>
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<td></td>
<td>Judith M. Pechacek DNP, RN, CENP</td>
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## Research Team

<table>
<thead>
<tr>
<th>University</th>
<th>Team Members</th>
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<tbody>
<tr>
<td>UNC Chapel Hill</td>
<td>Jennifer Piersma D’Auria, PhD, RN, CPNP</td>
</tr>
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<td>Julee Waldrop, DNP, MSN, RN, FNP-BC</td>
</tr>
<tr>
<td>U Virginia</td>
<td>Elizabeth Friberg, DNP, RN</td>
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<tr>
<td></td>
<td>Clareen Wienczek RN PhD ACNP</td>
</tr>
<tr>
<td>Vanderbilt</td>
<td>Terri Allison, DNP, ACNP-BC, FAANNP</td>
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<td>Karen Hande, DNP, ANP-BC, CNE</td>
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<td>U Washington</td>
<td>Hilaire Thompson, PhD, RN, APRN, CNRN, AGACNP-BC, FAAN</td>
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<td>Elaine Walsh, , DNP, RN, PMHCNS-BC</td>
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<tr>
<td>Yale</td>
<td>Carmen Portillo, PhD, RN, FAAN</td>
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<td></td>
<td>Joan Kearney, PhD, RN, APRN</td>
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### Thank you

- Mary Kerr, PhD, RN, FAAN
- Ann Kurth, PhD, CNM, MPH, FAAN
- Judy Kunish, MBA, RN
REFERENCES


