

Evidence-Based Implementation Educational Strategies: A Path to Building DNP Project Quality & Rigor



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Presentation Objectives

1. Identify phases of the DNP Project process and faculty-student expectations during the various stages.
2. Describe best practices of each phase of the DNP Project process and implications for successful and impactful outcomes.
3. Appreciate the many challenges during each phase of the DNP Project trajectory.

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DNP Program Facts

- Enrollment: **32,678**
 - *Growth (2017-2018): 29,093 to 32,678*
- Graduates: **7,039**
 - *Growth (2017-2018): 6,090 to 7,039*
- Programs: **348** (286 CCNE accredited)
- Programs (*In Development*): **98**

(AACN, n.d)

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Closer Look at DNP Project “Rigor”

“A **systematic**, **logical**, and **thorough** approach to the design and implementation of a project that addresses a significant problem and includes an **evaluation process** based on **appropriate metrics**, collected and analyzed using **methods** that provide a **valid** and **reliable** determination of project **outcomes**”

(Roush & Tesoro, 2018, p. 438)

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DNP Project “Fatal Flaws”

- **Ethical considerations**- no human subject protection
- **Project design/Intervention** – missing evidence to support design
- **Data collection** – inappropriate data collected to evaluate outcomes
- **Evaluation/Data Analysis** – sample size; no psychometrics for instruments
- **Results** – No relation to objectives; unable to determine if outcomes achieved

(Roush & Tesoro, 2018)

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Contributing Issues

- Nursing Faculty Shortage
- Qualified Faculty
- Faculty Workload
- DNP-Prepared “vs” PhD-Prepared Faculty
- AACN DNP Essentials
- “Grow Your Own” Philosophy
- Scholarship of Teaching
- Evidence-Based Teaching Practice

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Implementation Science & Strategies

- Implementation *Science*:
 - “Integration of research findings into healthcare practice/policy understanding facilitators/barriers to evidence uptake” (NIH, n.d.)
 - determine factors that promote use of innovations in practice to fullest extent and most effective
- Implementation *Strategies*:
 - “methods or techniques used to enhance the adoption, implementation, and sustainability of clinical program or practice”
 - efforts to identify, develop, and test implementation strategies have lacked conceptual clarity
- Integrate a “toolbox” of *strategies* to improve success of implementing EBP changes
 - leadership
 - coaching
 - communication
 - reinforcement
 - recognition
 - measurement
 - reporting

(Day, 2017; Picarillo, 2018; Tucker, 2018)

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DNP Project Phases

DNP Project Team must fully embrace all phases of the project

- Problem Identification
- Review of literature
- Planning
- Implementation
- Evaluation
- Dissemination

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Problem Identification

- Analysis of clinical practice setting
 - What is the current state of practice? (i.e., evidence-based Y/N)
 - What are new or existing standards of care?
 - What is available in the literature?
 - What are the practice's priorities?

- Sources for new or existing standards of care
 - Practice organizations (e.g., American Association of Nurse Practitioners)
 - Government agencies (e.g., Agency for Healthcare Research and Quality)
 - Health care leaders (e.g., Institute for Healthcare Improvement; Quality and Safety Education for Nurses)

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Synthesis of Literature

- Process of synthesizing information from **external** and **internal** sources that address clinical question and making a decision on whether to translate evidence into practice (Dearholt & Dang, 2018)

- *Literature review & Evidence review – How do they differ?*

Literature review identifies what is known about a topic, formulate new questions that have not been answered, and make a case to address the gaps using research methods (Baker, 2016)

Evidence review includes critical appraisal, a process where students rate the strength (i.e., level and quality of evidence) and applicability of evidence using critical appraisal tools

(Buccheri and Sharifi, 2017; Melnyk et al., 2017)

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Literature Review: Tools for Critical Appraisal & Reporting Evidence

- Nurses analyzing literature should use these two types of tools:
 - **Critical appraisal tools (CATs)** - aid in assessing evidence for validity, reliability, and applicability to clinical practice
 - **Reporting guidelines (RPs)** - aid in structured, comprehensive, and transparent dissemination of outcomes and findings during publication process
- Assists to attain EBP competencies and improve general critical thinking skills
- Selection of appropriate tool can be very challenging

(Buccheri and Sharifi, 2017; Melnyk et al., 2017)

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Literature Review: Critical Appraisal Tools

- Objective, structured approach that assesses study's strengths & weaknesses
- Identifies evidence from rigorous, reliable, unbiased, methodologically appropriate research
- Evaluates evidence using structured questions and/or a checklist
- Critical Appraisal Tools - Sample
 - AGREE II
 - Cochrane List of Bias Tools
 - Joanna Briggs Institute Checklists
 - Johns Hopkins Research Evidence Appraisal Tool
 - Johns Hopkins Non-Research Evidence Appraisal Tool
 - Rapid Critical Appraisal Checklists

(Buccheri and Sharifi, 2017)

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Literature Review: Reporting Guidelines

- Checklist of items that researchers should include in publication
- Ensures project or guidelines are reported with clarity, completeness, and transparency
- Specifies minimum set of items for providing clear and transparent account of process and findings
- Reporting Guidelines - Sample
 - CONSORT Checklist & Flow Diagram
 - COREQ
 - EPQA Guidelines
 - PRISMA Guidelines
 - SQUIRE 2.0 Guidelines

(Buccheri and Sharifi, 2017)

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Problem Identification/Planning: Resources

- McMaster University EBP (<https://hslmcmaster.libguides.com/c.php?g=306765&p=2044668>)
 - Learn about core concepts of EBP & resources for EBP skill development
 - Broad concept referring to incorporation of valid & relevant external evidence during DM process
 - Guide with templates for building PICO questions
 - Writing SMART goals

PICO(T) Template for Therapy (<https://hslmcmaster.libguides.com/c.php?g=306765&p=2044787>)

In ___[P]___, do/does ___[I]___ result in ___[O]___ when compared with ___[C]___ over ___[T]___?

(e.g.) In *nursing home residents with osteoporosis*, do *hip protectors* result in *fewer injuries from slips, trips, and falls* when compared with *standard osteoporosis drug therapy* over *the course of their stay*?

- Major health care literature database tutorials
 - PubMed® (e.g., Pub Med for Nurses- brief tutorial)
 - EBSCO

(Ogbeiwi, 2017)

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Problem Identification: Resources

Tools that provide visualization when working to identify problem

- Categorizing potential causes of a problem
 - fishbone diagram-cause & effect diagram <https://asq.org/quality-resources/fishbone>
- Diagramming a clinical care process
 - process map, flow chart <https://www.lucidchart.com/pages/process-mapping>
- Identifying unit or organizational strengths & weaknesses
 - SWOT (Strengths, Weaknesses, Opportunities, Threats)

Problem Identification/Planning: Resources

- *Fuld Health Trust National Institute for Evidence-Based Practice in Nursing and Healthcare*
 - National hub for formation, teaching and dissemination of best practices to improve healthcare quality, safety, costs and patient outcomes
- Cores include transdisciplinary clinical practice, academics, and EBP implementation science
- **RESOURCES** (sample)
 - EBP TOOLKIT
 - EBP Immersion Experiences
 - EBP Consulting Experiences
 - EBP Online Modular Certificate
 - Multiple Additional Resource

Planning: Theories, Models, & Frameworks

- Models for EBP implementation
 - The Iowa EBP Model (Buckwalter et al., 2017)
 - The Johns Hopkins Nursing EBP Model (Dearholt & Dang, 2018)
- Models that merge EBP with QI
 - Evidence-Based Practice Improvement Model (Levin et al., 2010)
 - Institute for HealthCare Improvement Model for Improvement (<http://www.ihl.org/about/Pages/ScienceofImprovement.aspx>)
 - Plan, Do, Study, Act (PDSA)
 - QI Essentials Toolkit (<http://www.ihl.org/resources/Pages/Tools/Quality-Improvement-Essentials-Toolkit.aspx>)
- Change models
 - Lewin's Change Theory (Shirey, 2013)
 - Prochaska's Transtheoretical Model of Change

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Implementation: Strategies

- Most projects have educational implementation phase
- Incorporate scholarship of teaching
 - Models & theories for teaching/learning
 - Evidence-based teaching materials
- Utilize evidence-based teaching strategies
 - Modules
 - Pre-test/post-test
 - Return demonstration
 - Role play
 - Simulation
 - Team-based learning

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Evaluation: Data

- **Charts**
 - Gantt
 - Highly popular and useful way to visualize activities (tasks or events) displayed against time
 - *Left of chart:* activities; *Top:* suitable time scale
 - Each activity represented by bar; position and length of bar reflects start date, duration and end date of activity
 - Run charts and other statistical process control (SPC) charts
 - Enable improvement team to identify quickly type of variation
 - **Special variation**
 - Not expected by chance
 - **Common-cause variation**
 - Expected by chance
- **Synthesis Tables**
 - Clear, concise tool to display evidence strength (e.g., Level I, II, III) and direction (i.e., improving selected outcomes)
 - Data supports recommendations to make, or not to make a practice change

(Melnik & Fineout- Overholt, 2019)

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Evaluation: Cost/Benefit

- Calculate “Return on Investment” (ROI) to determine financial impact of practice change
- $$\text{ROI} = \frac{\text{Total Benefit (savings)} - \text{Total Cost (expenses)}}{\text{Total Cost (expenses)}}$$
- Three C's:
 - Cost
 - Change
 - Calculate

(Cullen, et al., 2016; Opperman et al., 2016)

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Evaluation: Effect on Clinical Practice

- Was practice/policy change effective?
- Did practice change resolve/improve problem?
- What is the significance of change to the stakeholders?

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Dissemination

- Electronic poster
 - Resources on creating poster and presentation (Siedlecki ,2017; Wood and Hollier 2017)
- Executive summary
- Manuscript - resources
 - journal selection (<http://jane.biosemantics.org>)
 - write an abstract (Pearce & Ferguson, 2017)
 - report guidelines for EBP and QI projects (Milner, 2016)

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