



5-9-2022

## The Development of Evidence-Based Practice Mentors through a Competency-Based Educational Program: A Leadership Perspective

Laura C. Moore  
*University of Tennessee, Knoxville, lhauk@vols.utk.edu*

Tracy L. Brewer  
*University of Tennessee, Knoxville, tbrewe12@utk.edu*

Pamela Hardesty  
*University of Tennessee, Knoxville, phardest@utk.edu*

Diana Burdick  
*DPBurdick@etch.com*

Follow this and additional works at: <https://trace.tennessee.edu/dnp>



Part of the [Interprofessional Education Commons](#), [Pediatric Nursing Commons](#), and the [Quality Improvement Commons](#)

---

### Recommended Citation

Moore, Laura C.; Brewer, Tracy L.; Hardesty, Pamela; and Burdick, Diana, "The Development of Evidence-Based Practice Mentors through a Competency-Based Educational Program: A Leadership Perspective" (2022). *Graduate Publications and Other Selected Works - Doctor of Nursing Practice (DNP)*.  
<https://trace.tennessee.edu/dnp/25>

This Article is brought to you for free and open access by the Nursing at TRACE: Tennessee Research and Creative Exchange. It has been accepted for inclusion in Graduate Publications and Other Selected Works - Doctor of Nursing Practice (DNP) by an authorized administrator of TRACE: Tennessee Research and Creative Exchange. For more information, please contact [trace@utk.edu](mailto:trace@utk.edu).

The Development of Evidence-Based Practice Mentors through a Competency-Based

Educational Program: A Leadership Perspective

Laura Moore, Tracy L. Brewer, Pamela Hardesty, and Diana Burdick

### Abstract

One of the most productive strategies to achieving the safest, high-quality patient care is promoting the widespread use of evidence-based practice (EBP) in clinical settings. Despite the considerable emphasis and support for EBP, many clinicians still fail to translate current research into clinical practice. To address the pervasive lack of EBP among clinicians, an EBP project was developed at an acute care pediatric facility to increase EBP utilization via the implementation of a virtual EBP educational program. The findings from this project describe the establishment of an EBP educational program with the intent to create a critical mass of EBP mentors and implications for nurse leaders to improve EBP implementation among clinicians.

### Key Points

- Implementing a virtual EBP educational program may act as a mechanism to promote a foundation of EBP in clinical settings.
- Examining EBP competency among clinicians provides a definitive baseline for EBP growth within a healthcare facility.
- Attaining administrative support and buy-in for EBP is integral advancing EBP among clinicians in practice settings.

*Keywords:* competency, evidence-based practice, leadership, mentors

## **The Development of Evidence-Based Practice Mentors through a Competency-Based Educational Program: A Leadership Perspective**

Evidence-based practice (EBP) is a comprehensive approach to care that integrates the best evidence from critically appraised research with the clinician's expertise and patient preferences and values (Melnyk & Fineout-Overholt, 2019, pg. 37). Employing EBP within acute care facilities is indispensable. It provides a direct mechanism for achieving all aspects of the quadruple aim and promotes the safest, highest quality care possible (Melnyk et al., 2018a). While most clinicians praise the efficacy of EBP, many health care professionals still fail to incorporate EBP into their clinical practice. The failure to do so may compromise patient care, negatively affect healthcare outcomes, and increase healthcare costs (Gorsuch et al., 2020). To combat the pervasive lack of EBP in clinical settings, many nursing leaders have shifted from simply voicing support of EBP to enacting innovative strategies designed to promote the implementation of EBP.

To develop an effective and sustainable EBP initiative, nursing leaders must first acknowledge the numerous barriers to EBP implementation rampant throughout practice settings. Historically clinicians have cited several significant practice barriers to EBP, including a lack of knowledge and skills in clinicians, a perception that the EBP process is timely and burdensome, and rigid organizational cultures (Melnyk et al., 2018b). A recent study examined six themes that contribute to poor EBP utilization: (a) insufficient time at work to implement new ideas, (b) insufficient time to read, (c) amount of research overwhelming, (d) unaware of research, (e) difficulty understanding statistical jargon, (f) and not capable evaluating the quality of research (Cline et al., 2019). One of the most surprising EBP barriers that permeate clinical settings involves nursing administrators' limited support for EBP. It is widely accepted that those

initiatives that attain more substantial administrative support will likely achieve higher levels of implementation and success than those with limited administrative buy-in. While there is significant evidence that many nursing administrators strongly believe in the efficacy of EBP, research has produced findings that most nursing administrators have poor EBP utilization; therefore, the staff at their organizations typically do as well (Melnyk et al., 2016). One estimate reported that more than 50% of administrators believed that EBP was occurring “not at all” to only “somewhat” in their organizations (Melnyk et al., 2016). To meet the benchmark, set forth by the IOM that 90% of clinical decisions would be evidenced-based, nursing administrators must be aware of the potentially limited use of EBP among leadership so that they actively promote EBP amongst themselves and those they lead.

While augmenting the use of EBP remains a priority for numerous healthcare institutions, one stand-alone pediatric institution recently championed a new EBP initiative to improve EBP within its healthcare system. This pediatric institution has a long-standing history of excellence and provides regional coverage for three states in the Southeastern U.S. The administration and clinical staff at this facility have voiced strong support of EBP; thus, they have welcomed the implementation of a new EBP project designed to bolster the use of EBP among a small group of clinicians. This article features the installation of an EBP project in an acute care pediatric facility that focused on improving EBP via the development and implementation of a virtual EBP educational program designed to establish a critical mass of EBP mentors.

### **Creating a Critical Mass of Evidence-Based Practice Mentors**

The creation of EBP champions within an organization is perhaps one of the most productive strategies to overcome the numerous barriers of EBP implementation and maintain sustainability. EBP mentors or champions act as expert educators within their organizations with

multiple roles that include addressing the limitations of EBP within their facility and developing strategies to facilitate clinicians in implementing and sustaining EBP (Melnik et al., 2010). They are equipped with the knowledge and skillset needed to maintain proficiency in EBP and can create meaningful practice change projects that target practice gaps within their organization. As change agents, EBP mentors can bridge the gap between translating research into clinical practice; therefore, their presence is essential to all healthcare organizations.

For this EBP project, the establishment of EBP mentors was largely driven by the Advancing Research and Clinical Practice Through Close Collaboration (ARCC) model. Numerous practice change projects have featured this guiding framework as a mechanism to achieve multiple intentional, strategic initiatives to improve EBP utilization. The ARCC model is unique due to its core focus of establishing a critical mass of EBP mentors who can enact targeted initiatives within an organization to augment EBP. The ARCC model proposes that EBP mentors increase EBP knowledge and beliefs about the value of EBP and the ability to implement EBP. Moreover, mentors implement many ARCC strategies, including interactive EBP education and skills-building workshops, EBP rounds, and journal clubs (Melnik et al., 2017). Those organizations who have previously employed EBP mentors via the ARCC model noted sizable improvements in EBP utilization, group cohesion, job satisfaction, and practice autonomy (Melnik et al., 2010). At this acute care pediatric institution, a small group of clinical educators was selected to champion EBP and act as EBP mentors for clinical staff. Due to their well-established roles as expert educators, their participation in this project was paramount to its success as they already play integral roles within the institution. While the educational program to create mentors was not specifically catered to each participant's skill level, the overarching

goal is to complete the educational program to attain an invaluable foundation in EBP that they might share with other clinical staff.

### **Implementing a Virtual Evidence-based Practice Program with a Focus on EBP**

#### **Competencies**

The primary intervention for this EBP project involved implementing a virtual EBP educational program for future EBP mentors. This educational program consisted of a massive open online course (MOOC) organized by the Ohio State Helene Fuld Institute for Evidence-based Practice in Nursing and Healthcare, including three virtual debriefing sessions for participants. The MOOC entitled “Foundations of Evidence-based Practice in Healthcare” featured six modules, lasting approximately one to two hours each (Helene Fuld Health Trust National Institute for Evidence-Based Practice in Nursing and Healthcare, 2020). Course objectives for the MOOC included (a) the importance of EBP in improving healthcare quality and patient outcomes, (b) the seven steps of EBP and implementation in real-world settings, (c) the barriers to EBP and strategies to overcome them, (d) the current trends and challenges to EBP approach to care and decision making (Helene Fuld Health Trust National Institute for Evidence-Based Practice in Nursing and Healthcare, 2020). In addition to completing the online course, participants were encouraged to participate in three virtual debriefing sessions. These sessions were designed to reinforce the content from the online modules and promote open discussion of EBP within the institution. Due to the SARS-CoV-2 limitations during the implementation of this project, each aspect of this educational program was designed to be exclusively virtual using online platforms such as Canvas and Zoom.

Competence in clinical practice results in high-quality, safe care; therefore, evaluating nursing competencies related to patient care should be a standard ongoing process associated

with EBP utilization. Evidence-based practice competency was evaluated during this educational program to determine the future EBP mentors' predictive success and the project's overall efficacy. Those clinical educators selected to be EBP mentors completed The Evidence-based Practice Competencies Scale, consisting of 24 specialized competencies associated with EBP (Melnik et al., 2014). The first 13 competencies on this scale were designed to evaluate the EBP competency of registered nurses while competency items 14-24 were developed explicitly for advanced practice nurses with graduate education (Melnik et al., 2014). Participants completed this scale before the implementation of the educational program and two weeks after its completion. The results of the pre-implementation evaluation were used to establish a baseline competency level for EBP. In contrast, the results of the post-implementation evaluation were used to objectively assess the overall efficacy of the program and develop methods for sustainability.

In June of 2021, a group of twelve clinical educators were invited via email to begin the virtual EBP educational program. These educators were instructed to complete the pre-implementation EBP competency evaluation and then immediately begin the virtual modular educational course. Participants had twelve weeks to complete all six modules in the MOOC and were encouraged to attend the monthly debriefing sessions. The EBP educational program then closed in September 2021, and participants completed the post-implementation EBP evaluation at that time. All data collected from the pre-implementation and post-implementation evaluations were reviewed and used to assess EBP competency among participants. Despite the EBP program attaining variable participation, likely due to several nonmodifiable factors including, a regional Delta COVID-19 surge, findings from this project may be used to assess and augment EBP among clinicians in acute care facilities.

### **A Comprehensive View of Competency**

The principal interventional outcome for this project was the level of competency among participants as evidenced by The Evidence-based Practice Competency Scale. Of the twelve eligible participants for this program, eight clinical nurse educators completed the initial pre-implementation evaluation, and one participant completed the post-implementation evaluation. The statistician used data from the pre-implementation and post-implementation evaluations to determine descriptive statistics, including mean, standard deviation, and percentage competency values. The statistician then compared these competency values to the Evidence-based Practice Competency Scale to determine the overall competency level for participants in this program. Table 1 depicts mean competency values for competency items 1-13 designed for registered nurses; likewise, Table 2 shows mean competency values for items 14-24 designed for advanced practice nurses.

The Evidence-based Practice Competency Scale is scored based upon the following Likert values: (a) 1= not competent, (b) 2= needs improvement, (c) 3= competent, (d) 4= highly competent. Mean competency values above 3.0 demonstrate a competent level of proficiency. Only five competency items of the 24 items evaluated scored at or above a 3.0 mean. All competency items designated for advanced practice nurses scored below a 3.0 mean, indicating that items need improvement to meet proficient competency standards.

In order to compare the level of competency for participants in this program to other national averages, a total mean competency value was calculated by summing the mean competency value for items 1-24 on the Evidence-based Practice Competency Scale. Gorsuch et al. (2020) and Gallagher-Ford et al. (2020) used this scale to assess the efficacy of EBP educational programs for larger groups of practicing clinical nurses by determining the total

mean competency value at both pre-implementation and post-implementation time points. Due to the limitation of data collected at the post-implementation time point in this program, only the pre-implementation total mean competency value was used in comparison to other studies. Findings from Gorsuch et al. (2020) and Gallagher-Ford et al. (2020) note a pre-implementation total mean competency score of 81.4 and 53.1, respectively. In contrast, the total mean competency score for this EBP project was 65.0 out of a total 96.0 value. While this value demonstrates an adequate level of proficiency, it is evident that additional EBP training is necessary for participants to competently perform the steps of the EBP process as well as successfully perform in an EBP mentoring role.

Table 3 and Table 4 outline the percent competency values for each item on the Evidence-based Practice Competency Scale which portrays a more generalized picture of the level of competency among participants. Percent competencies for each of the 24 competency items have been summed together and categorized into two groups: (a) the not competent/needs improvement group, (b) the competent/highly competent group. As reflected in the mean competency values, the majority of percent competency items scored within the not competent/needs improvement range. Findings also demonstrate that competency items 1-13 scored higher than those items 14-24 which indicates that participants are less competent in those competencies designed for advanced practice clinical nurses. All the values outlined by the descriptive statistics in this EBP project provide a comprehensive view of the level of competency for this group of clinical educators. Unfortunately, due to a high attrition rate a further data analysis was not possible. These values, however, shed light upon establishing a baseline competency for clinical educators and provide a mechanism for future evaluation of competency.

### **Evidence-based Practice and Future Implications for Nurse Leaders**

Establishing a robust system of evidence-based practice serves as an integral mechanism to achieving the highest quality, safest care within a healthcare system. The administration at a stand-alone pediatric acute care facility recently embarked on several initiatives to improve current EBP among skilled clinicians. The information gathered from this EBP project may serve as a reference for future virtual EBP programs and provide a baseline for EBP competency among a small group of practicing nurses. Since the onset of the COVID-19 pandemic, the evolution of virtual programs has substantially grown. The components of this EBP program, including the foundational EBP curriculum and the interactive debriefing sessions, provided participants with an in-depth overview of EBP and could be expanded to larger virtual audiences with ease. Moreover, the virtual program allowed participants to complete the work at their own pace which was highly advantageous during COVID-19 surges compared to a live session that would have restricted participation due to limited availability.

Evidence-based practice competency was rigorously evaluated during this project. The pre-implementation evaluation of competency via The Evidence-based Practice Competency Scale demonstrates that while highly trained clinical nurse educators do have some foundational knowledge of EBP, there remains a substantial amount of growth required for clinical staff to attain competency. This deficiency in EBP competency exists throughout numerous healthcare systems, as other studies indicate that EBP competency is still lacking across multiple specific competencies and settings. As noted by the ARCC model, several interventional strategies may prove fruitful including online and live curriculums, EBP workshops, and EBP discussion groups such as journal clubs. EBP mentors may use these methods to augment EBP among clinicians and establish EBP mentors who can propagate best practices to all clinical staff.

As evidenced by this project and others, nursing leaders must be willing to champion evidence-based practice among practicing clinicians. Highly prioritizing EBP initiatives, among other programs, should be standard practice as EBP produces favorable outcomes for both clinicians and patients. Moreover, multiple EBP metrics, including EBP competence, still demonstrate a substantial gap in practice; thus, there is a continual need for a marked improvement. During this project, there were several significant barriers to implementation, including a sharp rise in patient demand due to a Delta COVID-19 surge and short staffing issues that pulled many project participants to bedside nursing positions. While these barriers certainly posed a threat to participation and significantly affected the attrition rate, it is reasonable to suggest that achieving substantial administrative buy-in for this and other projects might bolster participation and the overall EBP outcome. Future endeavors targeted at improving EBP should strive to attain a high level of administrative support. Likewise, nursing leaders should prioritize all EBP initiatives to achieve the most optimal level of expertise and care possible.

Table 1: Mean Competencies for Registered Professional Nurses

Competency Item	Mean Competency	Standard Deviation
Competency 1: Questions practices for improving quality of care	3.38	0.48
Competency 2: Describes clinical problems	3	0.87
Competency 3: Participates in formulating questions using PICO(T)	2.25	0.97
Competency 4: Searches external evidence	2.75	0.83
Competency 5: Participates in appraisal of pre-appraised evidence	2.88	0.6
Competency 6: Participates in appraisal of published research	2.63	0.7
Competency 7: Participates in evaluation and synthesis	2.43	0.9
Competency 8: Collects practice data	2.75	0.83
Competency 9: Integrates evidence to plan EBP changes	3.13	0.6
Competency 10: Implements practice changes	3.13	0.6
Competency 11: Evaluates outcomes	2.63	0.86
Competency 12: Disseminates best practices	3	0.71
Competency 13: Participates in sustaining EBP culture	2.75	0.66

Table 2: Mean Competencies for Advanced Practice Nurses

Competency Item	Mean Competency	Standard Deviation
Competency 14: Systematically searches for external evidence	2.38	1.11
Competency 15: Critically appraises pre-appraised evidence	2.13	0.78
Competency 16: Integrates a body of external evidence	2.38	0.99
Competency 17: Leads trans-disciplinary teams	2.5	0.87
Competency 18: Generates internal evidence	2.63	0.86
Competency 19: Measures processes and outcomes	2.5	0.87
Competency 20: Formulates evidence-based policies and procedures	2.63	0.86
Competency 21: Participates in the generation of external evidence	2.63	0.86
Competency 22: Mentors others in EBP	2.88	0.78
Competency 23: Implements strategies to sustain an EBP culture	2.75	0.83
Competency 24: Communicates best evidence	2.88	0.78

Table 3: Percent Competencies for Registered Professional Nurses

Competency Item	Not Competent/ Needs Improvement	Competent/ Highly Competent
Competency 1: Questions practices for improving quality of care	0.00%	100.00%
Competency 2: Describes clinical problems	12.50%	87.50%
Competency 3: Participates in formulating questions using PICO(T)	62.50%	37.50%
Competency 4: Searches external evidence	50.00%	50.00%
Competency 5: Participates in appraisal of pre-appraised evidence	25.00%	75.00%
Competency 6: Participates in appraisal of published research	50.00%	50.00%
Competency 7: Participates in evaluation and synthesis	57.15%	42.86%
Competency 8: Collects practice data	25.00%	75.00%
Competency 9: Integrates evidence to plan EBP changes	12.50%	87.50%
Competency 10: Implements practice changes	12.50%	87.50%
Competency 11: Evaluates outcomes	62.50%	37.50%
Competency 12: Disseminates best practices	25.00%	75.00%
Competency 13: Participates in sustaining EBP culture	37.50%	62.50%

Table 4: Percent Competencies for Advanced Practice Nurses

Competency Item	Not Competent/ Needs Improvement	Competent/ Highly Competent
Competency 14: Systematically searches for external evidence	62.50%	37.50%
Competency 15: Critically appraises pre-appraised evidence	62.50%	37.50%
Competency 16: Integrates a body of external evidence	50.00%	50.00%
Competency 17: Leads trans- disciplinary teams	50.00%	50.00%
Competency 18: Generates internal evidence	37.50%	62.50%
Competency 19: Measures processes and outcomes	50.00%	50.00%
Competency 20: Formulates evidence-based policies and procedures	37.50%	62.50%
Competency 21: Participates in the generation of external evidence	62.50%	37.50%
Competency 22: Mentors others in EBP	37.50%	62.50%
Competency 23: Implements strategies to sustain an EBP culture	50.00%	50.00%
Competency 24: Communicates best evidence	37.50%	62.50%

## References

- Cline, G., Burger, K., Amankwah, E., Goldenberg, N., & Ghazarian, S. (2019). Targeted education and trends in pediatric nurses perceptions of barriers, facilitators, confidence, and attitudes toward research and evidence-based practice over time. *Journal for Nurses in Professional Development, 35*(2), 76-84. 10.1097/NND.0000000000000529
- Gallagher-Ford, L., Thomas, B., Connor, L., Sinnott, L., & Melnyk, B. (2020). The effects of an intensive evidence-based practice educational and skills building program on EBP competency and attributes. *Worldviews on Evidence-Based Nursing, 17*(1), 71-81. 0.1111/wvn.12397
- Gorsuch, P., Gallagher-Ford, L., Thomas, B., Melnyk, B., & Connor, L. (2020). Impact of a formal educational skill-building program based on the ARCC model to enhance evidence-based practice competency in nurse teams. *Worldviews on Evidence-Based Nursing, 17*(4), 258-268. 10.1111/wvn.12463
- Melnyk, B., & Fineout-Overholt, E. (2019). *Evidence-based practice in nursing and healthcare: A guide to best practice*. (4<sup>th</sup> edition). Wolters Kluwer.
- Melnyk, B., Fineout-Overholt, E., Giggelman, M., & Choy, K. (2017). A test of the ARCC© model improves implementation of evidence-based practice, healthcare culture, and patient outcomes. *Worldviews on Evidence-Based Nursing, 14*(1), 5–9. 10.1111/wvn.12188
- Melnyk, B., Fineout-Overholt, E., Giggelman, M., & Cruz, R. (2010). Correlates among cognitive beliefs, EBP implementation, organizational culture, cohesion and job satisfaction in evidence-based practice mentors from a community hospital system. *Nursing Outlook, 58*(6), 301-308. 10.1016/j.outlook.2010.06.002

- Melnyk, B., Gallagher-Ford, L., Long, L., & Fineout-Overholt, E. (2014). The establishment of evidence-based practice competencies for practicing registered nurses and advanced practice nurses in real-world clinical settings: Proficiencies to improve healthcare quality, reliability, patient outcomes, and costs. *Worldviews on Evidence-Based Nursing, 11*(1), 5-15. 10.1111/wvn.12021
- Melnyk, B., Gallagher-Ford, L., Thomas, B., Troseth, M., Wyngarden, K., & Szalacha, L. (2016). A study of chief nurse executives indicates low prioritization of evidence-based practice and shortcomings in hospital performance metrics across the United States. *Worldviews of Evidence-Based Nursing, 13*(1), 1-9. 10.1111/wvn.12133.
- Melnyk, B., Gallagher-Ford, L., Zellefrow, C., Tucker, S., Dromme, L., & Thomas, B. (2018a). Outcomes from the first Helene Fuld Health Trust National Institute for evidence-based practice in nursing and healthcare invitational expert forum. *Worldviews on Evidence-Based Nursing, 15*(1), 5-15. 10.1111/wvn.12272
- Melnyk, B., Gallagher-Ford, L., Zellefrow, C., Tucker, S., Thomas, B., Sinnott, L., & Tan, A. (2018b). The first U.S. study on nurses' evidence-based practice competencies indicates major deficits that threaten healthcare quality, safety, and patient outcomes. *Worldviews on Evidence-Based Nursing, 15*(1), 16-25. 10.1111/wvn.12269