Disseminating Evidence-Based Practice Projects: Poster Design and Evaluation

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The international emphasis on evidence-based practice (EBP) as a basis for quality care has elevated the importance of EBP dissemination. The doctor of nursing practice (DNP) degree has created opportunities for nurses to implement EBP projects in collaboration with academic and clinical teams. Findings from such innovative efforts ought to be widely distributed, yet such projects have unique dissemination needs that are not readily met by traditional research-based presentation venues. Current literature focuses on presentation approaches for research-based poster content and evaluation rather than EBP posters. To facilitate timely and quality dissemination of EBP projects, there is a need for clear criteria identifying the essential information to be shared, how to share it effectively, and how to evaluate the end product. Thus far, the challenge to better accommodate EBP poster presentations has been unmet. The purposes of this article are to provide suggestions for EBP poster creation and to describe the process of developing a Poster Evaluation Rubric for Evidence-Based Practice (PER-EBP). The PER-EBP tool, developed by the authors, provides a guide for EBP poster creation and criteria for EBP poster evaluation by self and others. Examples of an EBP literature review and a DNP student poster are provided.

Keywords: evidence-based poster; poster evaluation; evaluation rubric; EBP dissemination

It is vital to disseminate evidence-based practice (EBP) findings to stakeholders and other health care professionals so that innovations for practice can be replicated or applied in other settings. According to Matchar et al. (2005), "the real benefits of an evidence report are achieved through dissemination ... aimed at some specific objective, such as practice improvement" (p. 1120). Despite a breadth of information regarding how to create posters for research dissemination (Burns & Grove, 2009; Bushy, 1991; Garrison & Bushy, 2004; Johnson & Green, 2007; Maltby & Serrell, 1998; McDaniel, Bach, & Poole, 1993; Sexton, 1984) there is a lack of thorough direction in the literature regarding dissemination of EBP efforts via poster format. For instance, Miracle (2008) provided guidelines for research poster presentations at professional meetings or in clinical settings. Miracle noted that new policy information might be provided to staff in a poster format. However, Miracle did not mention approaches for presenting the synthesis of the literature and other documents from which the new policy is based. Synthesis of existing evidence is imperative.
for EBP dissemination. Betz, Smith, Melnyk, and Rickey (2004) provided an array of options to disseminate evidence, including posters. While Betz et al. outlined pragmatics of general poster content and construction, mechanisms for EBP poster evaluation were absent.

As previously stated, a gap in the EBP literature exists regarding how to evaluate EBP posters. A few tools are available for evaluating research posters (Bushy, 1991; Garrison & Bushy, 2004; Hess, n.d.; Russell, Gregory, & Gates, 1996). However, upon a review of the literature, no tools were found for evaluation of EBP posters. The authors of this article, who are faculty teaching in a doctoral of nursing practice (DNP) consortium program, had the immediate need to provide guidance to DNP students regarding dissemination of EBP projects via a poster and to determine a mechanism for evaluating EBP posters as a part of the doctoral students' final capstone projects. Since resources were void in the literature, the faculty developed guidelines to assist the students in preparing their EBP poster content. An evaluation tool for EBP posters was also created by the authors. The purposes of this article are to provide some suggestions for EBP poster creation and to describe the process used to develop the Poster Evaluation Rubric for Evidence-Based Practice (PER-EBP).

Evidence-Based Practice Dissemination

Importance of Dissemination of Evidence

As with the research process, the final phase for EBP is the dissemination of findings. Knowledge synthesis, translation, and exchange are vital to strengthen health care, inform policy, and improve practice decisions based on current clinical evidence (Waters & Armstrong, 2007). Stevens (2005) differentiated how clinical changes are transformed into practice using a two-stage process. The first stage includes translation of evidence into practice where summarized evidence is readily provided to clinicians via clinical guidelines, pathways, or protocols. The second stage involves integration of these recommendations into actual practice and addresses the efficiency of change adoption into the practice of individual care providers and organizations. Posters are a means of addressing both the translation and integration of EBP.

Posters as an Evidence-Based Practice Dissemination Method

Numerous methods are appropriate for EBP dissemination to stakeholders, consumers, or other health care professionals and are thoroughly presented by Betz et al. (2004). A poster serves as a storyboard to share information in a concise way (Jackson & Sheldon, 2000). Posters are relatively easy to construct and provide a helpful means for nurse clinicians to present their EBP projects in a forum.

Posters broadly disseminate findings to a variety of people. Posters are used at professional conferences to share up-to-the-minute information and are displayed at health care facilities to inform health care professionals about practice changes, findings, outcomes, or polices. This form of dissemination is a rapid method to educate others. Posters are also helpful in educating the public and informing stakeholders about the processes and products from EBP efforts. Information provided in a poster format enhances the credibility of the project for consumers who are a part of the project. Additionally, posters are a method of keeping communication flowing to interested parties when a project is ongoing. Finally, poster formats are also distributed electronically to list servers, posted to websites that target key audiences, and displayed in specific units or public places in health care settings.

Advantages of posters presented at a conference or in an open forum include the ability of the poster presenters to efficiently and succinctly disseminate knowledge (Sexton, 1984) as well as share in-depth, individualized information about the EBP project (Betz et al., 2004). For example, the ability to ask questions of the poster presenter about literature reviews or outcomes from EBP projects may allow a viewer to take information back to the work area for further dissemination. Unlike podium or oral presentations, the poster setting is less formal and not bound by time restrictions. Usually, those viewers who stop to dialogue with the poster presenter are those most interested in the poster, most likely to engage in a rich discussion, and most apt to provide feedback to the presenters. Miracle (2008) noted that posters are effectively shared with small groups of staff to circulate current research or evidence, thus creating a nonthreatening atmosphere for dissemination, active participation, and learning.

Halligan (2008) found only a few empirical studies (Horn, Koper, & Carpenter, 1993; Moore, Augsburger, King, & Proffitt, 2001; Smith, Fuller, & Dunstan, 2004) related to poster presentations. The foci of these studies were diverse. One study (Horn et al., 1993) found that posters attracted more staff participation than short oral presentations and there was a significant increase in learning (t = 10.20, p < .001) from pre- to post-tests of knowledge regarding content. The second study (Moore et al., 2001) surveyed poster presenters at a conference to determine what they had learned from the processes of creating and presenting a poster. The participants indicated that limiting information
on the poster was the most challenging, as well as the importance of relating to others during the presentation. A third study (Smith et al., 2004) explored the ratings of posters at a scientific conference. These authors reported that a detailed assessment guideline is necessary in the scoring of posters. Additionally, Halligan noted that posters can assist the world of nursing to narrow the research-practice gap and promote continuous learning in a creative and effective manner. Johnson and Green (2007) explored the response of undergraduate students who completed poster presentations in class (n = 19). They found that students preferred poster presentations to individual oral presentations and that the poster format decreased their nervousness. Provision of a less stressful and inviting environment to disseminate EBP project information is essential to ensure active involvement of clinically-based health care professionals.

Creating a Poster for EBP Dissemination

Basic Elements of Research and EBP Posters

There are many sources outlining the esthetics of poster creation (Bauldoff & George, 1999; Betz et al., 2004; Duchin & Sherwood, 1990; Jackson & Sheldon, 2000; Maltby & Serrell, 1998; Miracle, 2008; Russell et al., 1996; Sexton, 1984; Thompsons, 1995). Basic principles noted by these authors are important to follow in any type of poster (research or EBP). Elements essential for poster development include: (a) early planning with a clear focus; (b) following conference guidelines, such as poster size and type (hanging or freestanding); (c) using bullet points or abbreviated wording; (d) incorporating pictures or graphics; (e) balancing content with white space; and (f) using a large font size for viewing at a distance. It is also important to consider who the target audience is for the poster presentation. For instance, if public or lay stakeholders will view the poster, health care jargon and complex data analysis should be avoided. The space limitations of a poster may require that handouts be used to assist in providing information to the viewers. Additional materials, such as clinical pathways or project outcomes, may be appropriate especially for clinically-based viewers. A three-or-four column display is recommended. The rule of thirds (Duchin & Sherwood, 1990) is common, where the poster space is divided into three columns. The poster is organized to reflect a newspaper-like reading sequence with the title at the top and the content presented in the columns that are read in a downward sequence from left to right. The poster title, along with the project author(s), is vital (Russell et al., 1996) and should be at the top center of the poster. The background, significance, and purpose are normally at the top left with the conclusions (findings/product/outcomes) presented at the bottom right. At professional conferences, an abstract is already provided in the program; therefore, it does not need to be provided on the poster itself. Handouts, in addition to the poster, are also an option. Handouts are especially helpful to educate others about the project minutiae that are too detailed for the actual poster display. Additional fine points, such as the process of literature review, information about the theoretical framework, instruments, references, and/or contact information (Betz et al., 2004) provide reminders to assist the audience and make the poster memorable.

EBP Specific Poster Formatting

Table 1 shows examples of common content for an EBP poster as derived from 2009 Midwest Nursing Research Society’s guidelines for EBP posters (MNRS, 2009) and Betz et al. (2004). The 2009 MNRS criteria for EBP posters (for students) provided specific guidelines to follow.

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose is clearly stated</td>
<td>Statement of the problem—background, rationale, data to note importance of the problem</td>
</tr>
<tr>
<td>Synthesis of evidence guiding practice change is reflected in</td>
<td>Clinical question stated</td>
</tr>
<tr>
<td>abstract, strength of evidence addressed, link between nursing</td>
<td>Search for evidence/accepted practice—methods, sources used to collect evidence</td>
</tr>
<tr>
<td>implications and best practices</td>
<td>Presentation and critical appraisal of the evidence—summary of conclusions drawn from evaluation of evidence</td>
</tr>
<tr>
<td>Proposed change in practice discussed</td>
<td>Describe clinical practice implications</td>
</tr>
<tr>
<td>Strategies to be used for implementation outlined</td>
<td></td>
</tr>
<tr>
<td>Stakeholders identified</td>
<td></td>
</tr>
<tr>
<td>Method for evaluation of change discussed</td>
<td></td>
</tr>
<tr>
<td>Significance of the work to this conference</td>
<td></td>
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</tbody>
</table>
for posters accepted at their annual conference. As noted previously, it is important to follow the specific criteria provided by conference organizers. The content suggested by Betz et al. is general and may be used for various EBP posters, including education for staff or stakeholders.

Statements regarding the significance of the clinical problem and the clinical question are included in a prominent place, such as the top left side, as these should drive the entire EBP project and are of interest to viewers. This information assists the reader in determining whether examination of the poster in more detail is warranted. The format of the clinical question may depend on the method used for the EBP project. For instance, the PICO format, which addresses "population, intervention or interest area, comparison intervention or group, and outcome of interest" (Melnyk & Fineout-Overholt, 2005, p. 50), is common for EBP work. The theoretical basis of the project should also be included.

Synthesis of the literature is a vital component of any EBP project and reflects the critical thinking of the presenter(s). EBP literature synthesis requires detailed organization, thorough understanding of the research process, and excellent writing skills. However, this synthesis of the literature is complex and difficult to capture concisely in a poster, which is mainly visual and allows minimal content. As Miracle (2008) stated, "Remember, posters do not tell; they show" (p. 123). There are many ways to show the literature in a concise manner. A decision is needed regarding the approach for organizing the multifaceted EBP literature synthesis. Table 2 is an example of a DNP student's literature review for poster presentation wherein themes are grouped by level of evidence and key references noted (Thackeray, 2009). Another approach for succinct display of evidence is to briefly outline the process and types of evidence searched. Depending on the clinical issue, it may be important to depict ranked levels of evidence. When showing the development of the evidence foundation, another organizing approach is to list publications chronologically. A further tactic is to use existing tools to summarize the evidence, such as the AGREE instrument, (Appraisal of Guidelines for Research and Evaluation) which assesses the quality of clinical guidelines (AGREE Collaboration, 2003).

Other content within an EBP poster may be similar to a research poster, such as the method(s) used to gather data, findings or outcomes of the project, and major conclusions (Betz et al., 2004; Sexton, 1984). Implications for nursing practice should be included at a level of detail appropriate for the intended audience.

Customization of the Poster for the Target Audience

Since the poster is a storyboard, one should consider how the project's story should unfold (Jackson & Sheldon, 2000). What makes the most sense to a prospective audience? Do they want more about research evidence or do they want to know about the process? Are the outcomes of the project the most important element? Whatever elements are deemed a priority to the audience, components of the entire project should still be noted. For example, if the audience consists of clinicians who will be implementing the suggested changes from the project (e.g., a clinical guideline), some content about the literature review and the process of obtaining the outcome is needed to lend credence to the suggested practice change. However, the main focus of the poster can be on the implementation process. If administrators are the primary audience, elements such as cost analyses, regulations guiding the project, and/or utility information should be highlighted.

Usually, the purpose of a poster in a clinical arena is to provide a summary for care providers to translate a practice change. Those reviewing the poster want the key information about the process. The target audience of the poster will change the focus and details of the process presented. Those reviewing the poster for possible implementation of the practice change in their organization would be interested in factors that facilitated and hindered the process. If the purpose is to promote the adoption of the project within the organization, the details are specific to the adoption process and the benefits of adoption. The poster is merely one step toward promoting individuals and the organization to widely and sustainably integrate the EBP into practice. The content of the poster will depend on the audience and purpose. If the purpose is to provide other professionals the opportunity for critical review of the project, the rigor needs to be conveyed. If the purpose is to convey rationale for the implementation of a change in policy to unit nursing staff, the evidence and change in quality of care is essential content. According to Betz et al. (2004), "substance and design, when combined well in a poster, can serve as an effective vehicle for conveying information to colleagues" (p. 368).

Evidence-Based Practice Poster Evaluation

Process of Evaluation Tool Development

The PER-EBP tool was developed by the authors of this manuscript for the purpose of evaluating DNP student posters. The development was necessary since, after a lit-
### TABLE 2. Example of Synthesis of Evidence for Poster Display

<table>
<thead>
<tr>
<th>Activity of Interest</th>
<th>Level of Effectiveness</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Create a Succession Planning Framework</td>
<td>Effective</td>
<td>Bolton and Roy (2004); Bower (2000); Byham, Smith, and Pese (2002); Corso (2002); Day (2000); Gandozsy and Verna (2006); Goudreau and Hardy (2006); Groves (2006); LeBoeuf (2007); McConnell (2006); National Center for Healthcare Leadership (2005); Nursing Executive Center (2006); Redman (2006); Rollins (2003); Soares (2002)</td>
</tr>
<tr>
<td>• Align program with strategic direction</td>
<td>SOE VII (n = 10)</td>
<td></td>
</tr>
<tr>
<td>• Assess critical positions</td>
<td>SOE VI (n = 4): RQR (1)</td>
<td></td>
</tr>
<tr>
<td>• Identify and develop talent</td>
<td>.75 x 2, .5</td>
<td></td>
</tr>
<tr>
<td>• Target the development of bench strength and advancement</td>
<td>SOE V (n = 1): RQR (.5)</td>
<td></td>
</tr>
<tr>
<td>• Firm commitment to execution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Measure program and placement of protégés</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Develop a Senior Nurse Leader Fellowship Program</td>
<td>Effective</td>
<td>Bellack and Mojzijian (2005); Bower (2000); Byham et al. (2002); Cadmus (2006); Conner and Pulmer (2003); Day (2000); Gandozsy and Verna (2006); Garman and Tyler (2004); Groves (2006); Mahaffey, Kaplan, and Triolo (1998); Magnnium (2006); National Center for Healthcare Leadership (2005); Noyes, McNally, Tourville, and Robinson (2002); Ponte, Galante, Gross, and Glazer (2006); Redman (2006)</td>
</tr>
<tr>
<td>• 360-degree feedback multisource rating of performance</td>
<td>SOE VII (n = 7)</td>
<td></td>
</tr>
<tr>
<td>• Mentoring of protégés</td>
<td>SOE VI (n = 7): RQR (1); .75 x 4, .5 x 2</td>
<td></td>
</tr>
<tr>
<td>• Executive coaching</td>
<td>SOE V (n = 1): RQR (.5)</td>
<td></td>
</tr>
<tr>
<td>• Action learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Job assignments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Determine a Succession Planning Process</td>
<td>Effective</td>
<td>Bolton and Roy (2004); Byham et al. (2002); Collins and Collis (2007); Collins and Holton (2004); Corso (2002); Gandozsy and Verna (2006); McConnell (2006); LeBoeuf (2007); National Center for Healthcare Leadership (2005); Nursing Executive Center (2006); Redman (2006); Rollins (2003); Soares (2002)</td>
</tr>
<tr>
<td>• Identify high-potential candidates through a rigorous selection process</td>
<td>SOE VII (n = 10)</td>
<td></td>
</tr>
<tr>
<td>• Diagnose developmental opportunities and recommend solutions</td>
<td>SOE VI (n = 2): RQR (.5 x 2)</td>
<td></td>
</tr>
<tr>
<td>• Ensure development takes place</td>
<td>SOE I (n = 1): RQR (1)</td>
<td></td>
</tr>
<tr>
<td>4. Identify Senior Leader Competencies to Develop Through a Fellowship Program</td>
<td>Effective</td>
<td>Bellack and Mojzijian (2005); Bolton and Roy (2004); Byham et al. (2002); Cadmus (2006); Fralic and Mojzijian (2006); Goudreau and Hardy (2006); National Center for Healthcare Leadership (2005); Thomas and Herrin (2008)</td>
</tr>
<tr>
<td>• Align competencies with strategic direction</td>
<td>SOE VII (n = 5)</td>
<td></td>
</tr>
<tr>
<td>• Congruent with performance management</td>
<td>SOE VI (n = 2): RQR (1; .75)</td>
<td></td>
</tr>
</tbody>
</table>

Level V: Evidence from systematic reviews of descriptive or qualitative studies.
Level VI: Evidence from a single descriptive or qualitative study.
Level VII: Evidence from the opinion of author and/or reports of expert committee.
Modified from Guyatt and Rennie (2002); Harris et al. (2001); Melnyk and Fineout-Overholt (2005, p. 10).
Note: SOE = Strength of Evidence; RQR = Research Quality Review Score.

After the authors refined the tool, other graduate nursing faculty members teaching in the DNP Consortium Program were asked to provide feedback. This feedback was used in revision of the criteria. Next, graduate nursing faculty consented to participate in the evaluation of student posters using the draft PER-EBP tool. Formal university IRB was secured. During the student capstone poster event presentation, DNP faculty evaluated the student EBP posters. The use of the PER-EBP tool and scoring by multiple faculty provided feedback about content validity, feasibility, and usability of the tool. Comments from faculty regarding PER-EBP tool utility and suggested changes were solicited. An advantage of the consortium program was having access to faculty members who may not have been involved in the course and therefore could lend insight and new perspectives to the PER-EBP tool and process. Preliminary validity and reliability mea-
**Poster Evaluation Rubric for Evidence-Based Practice (PER-EBP)**

**Directions:** Rate each of the scale items using the rating descriptors provided below.

<table>
<thead>
<tr>
<th>Category A: Essentials</th>
<th>Present</th>
<th>Weak/Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author's name, affiliation, and funding sources (if applicable).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct spelling, grammar, and APA.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information regarding protection of human subjects.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate focus on intended audience.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUBSCORE A:**
- **Category B: Overall Appearance**
  - Rate the level at which this is achieved.
  - **Display** holds the viewer's attention and provides overall attractiveness.
  - Text, graphics, pictures, and charts are relevant/contribute to the topic and the audience.
  - Text is legibly readable from 3 feet.
  - Overall content is logically arranged/organized to depict the process.

**SUBSCORE B:**
- **Category C: Content**
  - Rate the level at which this is achieved.
  - Title reflects the essence of the project.
  - Purpose/aim/goal is clearly stated.
  - Clinical question is clearly stated.
  - Current evidence (including the rating of the evidence) related to the clinical problem is succinctly presented.
  - Theoretical and/or EBP framework are identified.
  - Cost analysis is provided and adequate.
  - Methods/procedures for project implementation are clearly stated.
  - Relevant processes of project implementation are noted (e.g., key stakeholders, barriers, facilitators of change).
  - Concise analysis of data collection and relevant project information are provided with results in a sequential/logical manner.
  - Project recommendations/outcomes/findings are highlighted in manner appropriate for the audience.
  - Clinical practice implications are described.
  - Future plans for project are detailed.
  - Handouts enhance/adjust the poster content.
  - Information appears applicable to the clinical problem, setting, and identified population.

**SUBSCORE C:**
- **Category D: Presentation/Professionalism**
  - Rate the level at which this is achieved.
  - Author was available to respond to viewer's questions.
  - Author was knowledgeable about the subject matter and able to answer questions.
  - Author professionally presented him/herself.

**SUBSCORE D:**
- **TOTAL POINTS:**
- **PERCENTAGE:** __________ (% of Total Points x 2)

*If the not applicable selection was used, divide total points earned by the total points possible to determine the percentage. (e.g., if three items were marked not applicable, the total points would be divided by 22 to determine the percentage)*

**Figure 1.** Draft of Poster Evaluation Rubric for Evidence-Based Practice (PER-EBP).
sures and item analysis were run on the tool based on this scholarly event rating for the purpose of tool refinement. Major changes have since been made to PER-EBP based on the feedback from others and statistical review.

Numerous content changes in the categories and question stems as well as shifting of points have evolved through many drafts of the tool. The current draft of the PER-EBP tool (see Figure 1) includes the revisions made based on the determined level of agreement between the manuscript authors and comments from other faculty who used the tool. The tool has four categories of evaluation criteria: essentials, overall appearance, content, and presentation/professionalism. These are similar to the three categories in Bushy’s (1991) rating scale. A total of 25 draft items are currently included within these four categories.

Conclusion

The PER-EBP evaluation tool can also be used in multiple settings, such as clinics, conferences, or professional meetings where EBP posters are used. It can also serve as a guide for students as they develop posters, servings as a means to self-evaluate the appearance and content for the poster.

In summary, there is a need to further define the unique nature of EBP dissemination via use of posters. The authors have offered recommendations for EBP poster creation and provided a draft tool for evaluating EBP poster quality. Ongoing refinement of the PER-EBP is in process. It is hoped that this information will assist health care facilities, faculty, and students in disseminating the many unique EBP efforts underway that have the potential to broadly change practice and positively impact patient care.

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