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# Using a Research Log and Reflective Writing to Improve EBP and Information Literacy Skills of BSN Students

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## Background

- BSN prepared nurses must be able to effectively identify, analyze, and synthesize evidence (AACN, 2008; ACRL, 2005, Cronenwett, et al., 2007).
- Evaluation of EBP projects revealed that students were not effectively performing systematic literature searches and thus not identifying the 'best available' evidence.
- Integration of information literacy skills sessions throughout a course positively impacts skill development (Carlock & Anderson, 2007; Dorner, Taylor & Hodson-Carlton, 2001; Mounce, 2010; Shorten, Wallace & Crookes, 2001).
- Reflective journaling promotes deeper learning of actions and concepts (Craft, 2005; Lockyer, Gondocz & Thivierge, 2004; Mann, Gordon & MacLeod, 2009; Mansourian, 2008; McKinney & Sen, 2012).
- Active learning activities including group work and worksheets are favored by millennial learners (Mangold, 2007; McCurry & Martins, 2010).

## Project Question

In BSN students, how does use of EBP worksheets and research logs to document literature searches impact students' information literacy and EBP process skills?

## Implementation

- EBP project setting was a College of Nursing within a mid-sized, faith based university located in the Midwest.
- Participants were 264 BSN senior-level nursing students enrolled in a nursing research/EBP course. Thirty-nine student group projects from four semesters were evaluated.
- Teaching/learning activities aimed at increasing information literacy skills were implemented over four semesters.
- The purpose of the EBP group project was to explore evidence available regarding a clinical problem. After evaluating the evidence, groups created a policy based on the evidence or designed a study aimed at discovering evidence. Project findings were presented in a poster.

## Student Learning Outcomes

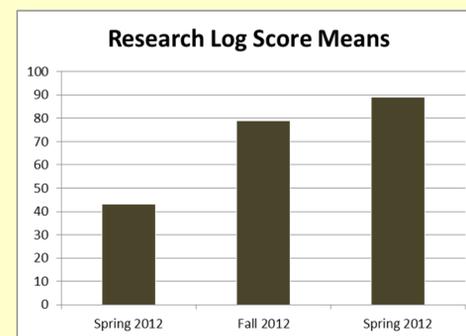
- Formulate strategic search using appropriate databases.
- Document systematic search (keywords, subject headings, limiters, and results).
- Evaluate and select 'best available' evidence.
- Describe why evidence was selected.
- Reflect on search process, difficulties, and potential revisions for next search.

Undergraduate Introductory Nursing Research/EBP Course EBP Group Project Teaching/Learning Activities			
Fall 2011	Spring 2012	Fall 2012	Spring 2013
Evidence summary Poster presentation	Group research log Evidence summary Poster presentation	EBP worksheet Group research log with reflection Evidence summary Poster presentation	EBP worksheet Group research log with reflection Evidence summary Poster presentation

## Evaluation

### EBP Worksheet Impact on Research Log Scores

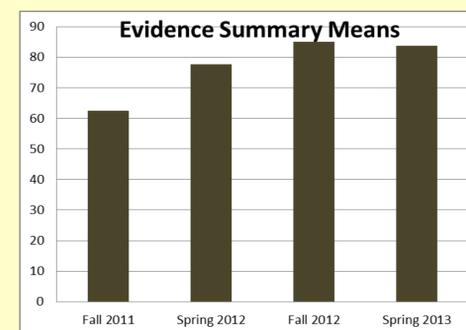
- One-way MANOVA revealed use of EBP worksheets had a significant effect on research log scores (specific log components and total scores) among 3 groups ( $\Lambda(16,34) = .060, p = .000$ ).
- Follow up univariate ANOVAs indicated that total log scores were significantly improved by the use of EBP worksheets ( $F(2,24) = 31.578, p = .000$ ). Additionally, scores from specific components of the log (search results, keywords, limiters, reflection on evidence selection) reflected a significant difference.



- Tukey's *HSD* was used to determine the nature of differences among groups. Students in Spring 2012 who did not use the EBP worksheet scored significantly lower on research logs than students in Fall 2012 and Spring 2013 who used the worksheet. Student scores from Fall 2012 to Spring 2013 were not significantly different.

### Research Log Impact on Evidence Summary Scores

- One-way MANOVA revealed use of research logs had a significant effect on overall evidence summary scores (specific summary components and total) among 4 groups ( $\Lambda(30,76.991) = .007, p = .000$ ).
- Follow up univariate ANOVAs indicated that total evidence summary scores were significantly improved by the use of research logs ( $F(3,35) = 14.116, p = .000$ ). Additionally, scores from specific components of the evidence summary (PICOT, results, and levels of evidence) reflected a significant difference.

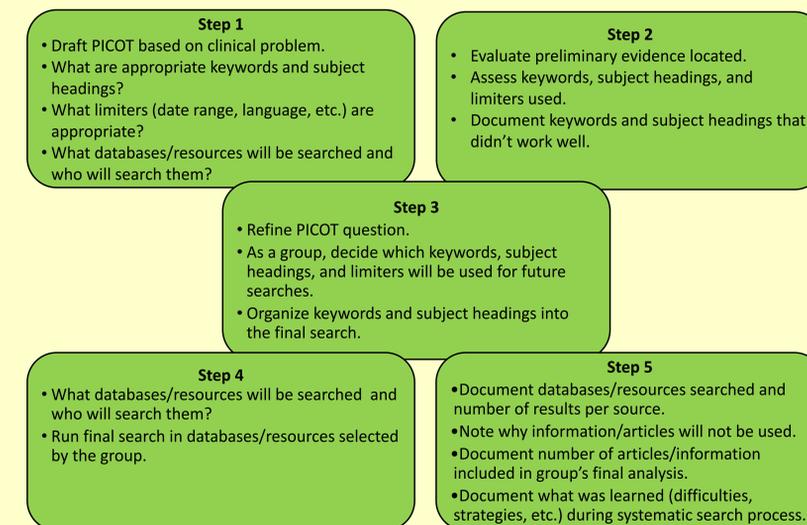


- Tukey's *HSD* was used to determine the nature of differences among groups. Students in Fall 2011 who did not use a research log scored significantly lower on evidence summaries than students in Spring 2012, Fall 2012, and Spring 2013 who used a research log.

## Conclusions

- Use of EBP worksheets significantly improved students' abilities to perform systematic searches of the literature as evidenced by improved research log scores.
- Use of research logs significantly improved the students' abilities to carry out the EBP process as evidenced by improved evidence summaries and overall EBP group project scores.
- Use of EBP worksheets and research logs provided students with an effective method to perform systematic searches of the literature and improved EBP process skills.
- Enhancing information literacy skills improves EBP process skills.

### EBP Worksheet: Steps of Systematic Literature Search



## Recommendations

- Collaboration between nursing faculty and librarians is recommended to promote development of students' information literacy skills which results in stronger EPB skills.
- Worksheets, which provide the framework of the systematic search process, should be incorporated within undergraduate nursing research/EBP courses and other courses which require a search for evidence.
- Narrative research logs, which include a reflective element, should be incorporated in courses across the curriculum which require a search for evidence.