

**Enhancing Student Research Skills Information Literacy Stipend Report
Nursing 730 Translating Evidence into Practice**

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This is a report of strategies used to enhance student research literacy skills for Nursing 730, Translating Evidence into Practice. Nursing 730 was taught for the first time during the spring 2016 semester. This course was suitable for the information literacy stipend because of its focus on the use of evidence for the improvement of nursing practice. The DNP program outcome relevant to the development of information literacy is as follows: *Demonstrate leadership in the application and critical evaluation of evidence-based practice to improve patient and health care outcomes.*

Students attended a library information literacy class as part of the regular class time that was conducted by Prof. Bonnie Oldham. Following the class, students practiced learning the skills that they had learned in class. Students were also provided with information on using Zotero for citation management.

The following grid aligns the relevant course objectives, student learning outcomes, information competency standard, performance indicator, outcome and evaluation method for the outcome. It should be noted that the application for the information literacy stipend was submitted before the complete course outline was developed. Thus, some adjustments were made in the assignments in accordance with the plan for the implementation of the DNP curriculum and revision was made to the student learning outcomes submitted in my original application to be consistent with the department's curriculum plan. Specifically, the students did not develop a complete project proposal, but instead they developed an outline for the development of their project proposal. Note that there is some overlap in that both the PICOT question and the Evidence-Based Practice Assignment in that both require that the student demonstrate some of the same aspects of information literacy.

Relevant N730 Course Objective and DNP Program Outcome	Student Learning Outcome (SLO)	Information Competency Standard	Performance Indicator	Outcome	Course Specific Evaluation
<p>1. Use analytical methods to critically appraise existing literature and other evidence to determine and implement the best evidence for practice (DNP Program Outcome # 3)</p>	<p>1. Evaluate new science for clinical practice. 2. Translate research into practice.</p>	<p>2. The information literate student accesses needed information effectively and efficiently.</p>	<p>2. The information literate student constructs and implements effectively-designed search strategies.</p>	<p>d. Constructs a search strategy using appropriate commands for the information retrieval system, selected (e.g. Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books.</p> <p>f. Implements the search using investigative protocols appropriate to the discipline.</p>	<p>1. PICOT Question Assignment (SLO # 1)</p> <p>All students could correctly write the 5 PICOT questions. However, some of them had difficulty in consistently selecting an article from the search that was directly related to the specific PICOT question. This indicates that additional practice is needed related to evaluating the applicability of evidence, or taking more care in adhering to the assignment instructions.</p> <p>2. Evidence-Based Practice Assignment (SLO # 2)</p> <p>Students could develop a PICOT question for their evidence-based practice assignment. However, as would be expected, this is only a starting point for searching the literature and the students had difficulty in recognizing that they would need to modify their searches as they continued. Students reported the results of their search in their papers, (e.g. number of articles retrieved, etc.). However, they generally could have provided more details on how they selected the actual articles reviewed for the</p>

					assignment. For the next time the course is offered, it is planned to develop a worksheet to help students keep track of their searches as well as provide more focus on using the features within PubMed to track and save this more effectively. By the end of the term, it seems that the students could use different search engines more effectively and understand how to get articles on interlibrary loan. It should be noted that students were at ease in reaching out to the librarians for assistance.
2. Critique published studies related to a defined practice problem (DNP Program Outcome # 3)	2. Translate research into practice.	3. The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.	4. The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.	c. Draws conclusions based upon information gathered. f. Integrates new information with previous information or knowledge.	2. Evidence-Based Practice Assignment (SLO # 2 & 3) The major component of this assignment was identifying relevant articles and analyzing them for the quality of the evidence. This was a major change from previous types of assignments, where the goal is to critique the research design. Students could conclude about the quality of the research. The challenge for the students was determining what research is directly relevant to the topic, determining what information about a study should be included in the paper and conducting a synthesis of the evidence instead of a "run-on" critique. For the most part students were able to achieve this objective but, this was a new way of analyzing evidence for them. Since this paper will serve as the foundation for their DNP projects, extensive feedback was provided.

<p>3. Apply relevant findings to develop practice guidelines and improve the quality and safety of clinical practice. (DNP Program Outcome # 2).</p>	<p>3. Discuss the application of knowledge to solve practice problems and improve health outcomes for individuals and communities.</p>	<p>3. The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.</p>	<p>5. The information literate student determines whether the new knowledge has an impact on the individual's value system and takes steps to reconcile differences.</p>	<p>a. Investigates differing viewpoints encountered in the literature.</p> <p>b. Determines whether to incorporate or reject viewpoints encountered.</p>	<p>3. Clinical Practice Guideline Project (SLO # 3)</p> <p>Students were able to evaluate the strength of the evidence providing support for a specific clinical guideline for use in practice. However, they had more difficulty in selecting a recent study and evaluating the study outcome for consistency with the guideline recommendations. It is planned to provide greater clarity of the assignment expectations in the next syllabus.</p>
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The following provides a brief description of the assignments related to the information literacy standards.

PICOT Question (5 questions). The PICOT question was a short assignment that required students to develop search questions for each of five types of evidence that a health care professional might search for using PubMed and/or CINAHL. Basically, this consists of putting one's ideas about a search into a specific format (PICOT) to yield research evidence on a particular topic. The PICOT question format, which is widely used in medicine, nursing and other health professions is as follow: Patient population/disease, Intervention or issue of interest; Comparison intervention of issue of interest, Outcome and Time (time it takes for the intervention to achieve the outcome. Students were given a worksheet and expected to complete a PICOT question for (1), an intervention, (2) diagnosis or diagnostic test, (3) prognosis or prediction, (4) etiology, or (5) meaning. Being able to construct a PICOT question is an essential preliminary step in locating evidence to examine best practice. Students had to identify one article retrieved that was related to each PICOT question.

Evidence-Based Practice Assignment. This assignment was designed to help students learn how to use evidence in the solution of a clinical practice problem. This required that the students go through the steps of evidence-based research to find the most up-to-date information in a specific aspect of patient care. The components of this assignment included the identification of a clinical practice problem, finding the most relevant evidence, appraising the evidence, synthesizing the evidence, applying the evidence (or suggesting an alternative strategy for generating valid evidence and identifying measureable outcomes. This assignment required the development of a specific PICOT question, as well as reporting on the details of the search strategies used. Students were expected to summarize how they would or would not alter care based upon their synthesis of the evidence.

Clinical Guideline Evaluation Assignment. This assignment was designed to help students locate and evaluate "preprocessed" evidence in the form of a clinical guideline for a practice problem. Students needed to access either the PubMed database or the National Clinical Guidelines Clearinghouse and identify a guideline related to an area of practice. Students were then to evaluate the process for the development of the guideline, evaluate whether the guideline was applicable to practice and determine whether a recently published study on the topic supported or contradicted the findings.

In addition to evaluating the specific outcomes above, students were asked (anonymously at the end of the course) to rate their achievement of the course objectives and the student learning outcomes. Students indicated that the objectives and student learning outcomes were fully met. In addition, the students rated their achievement of the following information literacy objectives:

1. To what extent were you able to construct and implement effectively designed search strategies:
 - a. To what extent were you able to construct a search strategy using appropriate commands for the information retrieval system (or database) selected?
 - b. To what extent were you able to implement searches using investigative protocols specific to health care?
2. To what extent were you able to compare new knowledge with prior knowledge to determine the value-added, contradictions, or information into your knowledge base and value system?
 - a. To what extent were you able to draw conclusions based upon the information gathered?
 - b. To what extent were you able to integrate new information with previous information or knowledge?
3. To what extent did the new knowledge have an impact on your value system?
 - a. Were you able to investigate different viewpoints encountered in the literature?
 - b. Were you able to determine whether you should incorporate or reject viewpoints encountered?

The students indicated that they were able to meet all the above specific outcomes related to information literacy.

Overall, the students made tremendous progress in being able to search the literature and evaluate evidence for practice. As noted above, there are several areas for improvement, which can be addressed with additional class time and explanation as well as providing more detail in the grading rubric. Efforts were made to use Zotero as a citation manager. However, the students found the learning curve too difficult and opted not to use it. A narrated PowerPoint presentation with screen shots for step-by-step instructions could be developed for the next time the course is offered.