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Facilitating Undergraduate Nursing Students’ Appraisal of Evidence

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Evidence-based practice (EBP) has been defined as a framework for clinical practice that integrates best available scientific evidence with clinical expertise, and patient preferences and values to make decisions about health care (Melnyk, Fineout-Overholt, Stillwell, & Williamson, 2009). Although there are various definitions of EBP, the common elements include integrating the best available evidence, clinician expertise, and patient preferences and values in making decisions about health care with the goal of achieving high-quality, cost-effective care (Institute of Medicine [IOM], 2012; Schmidt & Brown, 2012).

EVIDENCE-BASED PRACTICE IN UNDERGRADUATE NURSING CURRICULA

Forces within and outside the discipline of nursing provide an impetus for teaching EBP in undergraduate nursing curricula. The Essentials for Baccalaureate Education (American Association of Colleges of Nursing, 2008) states that graduates of baccalaureate programs are expected to be able to appraise and integrate evidence in practice. The IOM recommended evidence-based decision-making as one of the five core competencies for healthcare professionals (IOM, 2001) and later recommended that education programs teach healthcare professionals ways of accessing, managing, and applying evidence in providing patient care (IOM, 2012). Consequently, nurse educators are faced with the challenge of teaching undergraduate students to appraise evidence and consider how the evidence might be applied in clinical practice.

The Challenge of Identifying Article Type

Typically, the undergraduate research course in a curriculum is charged with teaching students to appraise evidence. Although undergraduate research courses place emphasis on appraisal of research studies, the evidence pyramid includes other types
of articles, such as expert opinion, practice guidelines, and editorials. Thus, students need to be able to recognize the type of article being appraised. Undergraduate students often find identifying the type of article a difficult task even after receiving an orientation to database searching by a librarian and participating in class discussion about the types of articles (Meeker, Jones, & Flanagan, 2008). Furthermore, faculty teaching clinical courses comment that students who have completed an undergraduate research course have difficulty identifying the type of article selected for clinical conference discussion.

The "What Type of Article Is It?" Grid

This chapter describes the use of a grid titled "What Type of Article Is It?" to help junior-level nursing students recognize the type of article being appraised. The grid (Table 10.1) was provided to 59 students enrolled in an undergraduate research course during the first class session. Students were told that the grid would be used in class for journal club discussions, and they were encouraged to use the grid in appraising articles for their evidence-based project. The common cues for each type of article were listed in the columns below the article type. For instance, the cues in Table 10.1 for a qualitative study include the use of research headings (aims, methods, sample, findings), the collection of words/narrative data, a sample from one study, the use of observation or semistructured interviews to collect data, and direct quotes from study participants. A copy of the grid was available to students throughout the course on the online course management system.

As the course progressed, the types of articles discussed in the journal clubs during class moved up the evidence pyramid from expert opinion and single qualitative studies to correlational studies, experimental, and randomized controlled trials. The question ("What type of article is it?") was posed for each journal club discussion, and cues to article type were identified. For the final class project, groups of five to seven students worked together to appraise evidence about strategies to reduce medication errors in patients who were hospitalized. Each group completed a table that included the citation for each student's article, purpose of the study, type of article, level of evidence, method, results, and recommendations. In addition, each group gave an oral presentation summarizing the article types, levels of evidence, similarities and differences in findings, and their evaluation of the relevance of the findings for clinical practice. The majority of students (95 percent) in the research course accurately identified the type of article for their projects. In contrast, only 70 percent of students in the previous semester accurately identified the type of article without using the "What Type of Article Is It?" grid. Moreover, 52 of the 59 students enrolled in the research course were simultaneously enrolled in a course on the essentials of gerontological nursing, which required students to select and appraise a research report on delirium, dementia, or depression. This was an end-of-course assignment with an expectation that students would apply what they had learned in the research course about appraising studies in completing this assignment. The majority of students (97 percent) accurately identified the type of article. Two students, who were not successful in accurately identifying the article type, did not use the grid in appraising their article because they thought that the grid should only apply to the research course.
<table>
<thead>
<tr>
<th>Expert Opinion</th>
<th>Integrative</th>
<th>Literature Reviews</th>
<th>Quantitative Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of research headings</td>
<td>Absence of research headings</td>
<td>Research headings (i.e., aim, methods, sample, findings, discussion)</td>
<td>Research headings (i.e., aim, methods, sample, findings, discussion)</td>
</tr>
<tr>
<td>Often written in first person (e.g., &quot;I&quot; or &quot;we&quot;)</td>
<td>Often written in third person</td>
<td>Word data</td>
<td>Numeric data</td>
</tr>
<tr>
<td>Absence of sample</td>
<td>Focused topic Reviews theories and/or research papers</td>
<td>Sample consists of number of qualitative studies with similar focus</td>
<td>Sample for one study</td>
</tr>
</tbody>
</table>

**TABLE 10.1**

What Type of Article Is It?

**Literature Reviews**

- **Meta-synthesis**
  - Research headings (i.e., aim, methods, sample, findings, discussion)
- **Meta-analysis**
  - Research headings (i.e., aim, methods, sample, findings, discussion)

**Quantitative Studies**

- **Descriptive**
  - Research headings (i.e., aim, methods, sample, findings, discussion)
- **Correlational or Comparative**
  - Research headings (i.e., aim, methods, sample, findings, discussion)
- **Experiment**
  - Research headings (i.e., aim, methods, sample, findings, discussion)
- **Qualitative Studies**
  - Words or narrative data

(continued)
What Type of Article Is It? (Continued)

<table>
<thead>
<tr>
<th>Expert Opinion</th>
<th>Literature Reviews</th>
<th>Quantitative Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of data collection</td>
<td>Published works</td>
<td>Data collection instruments (e.g., scales, numbers)</td>
</tr>
<tr>
<td>Summary of ideas or topic</td>
<td>Summary of knowledge on topic</td>
<td>Inferential statistics comparing groups (e.g., t-test)</td>
</tr>
<tr>
<td>Absence of tables with data</td>
<td>Absence of table listing articles</td>
<td>Verbatim exemplars</td>
</tr>
</tbody>
</table>

**Literature Reviews**
- **Integrative**
  - Number of articles retrieved
  - Published and unpublished
- **Meta-synthesis**
  - Synthesize findings in words
  - Statistics
  - Estimate effect
- **Meta-analysis**
  - Data collection instruments (e.g., scales, numbers)
  - Inferential statistics such as frequencies, correlations, regression

**Quantitative Studies**
- **Descriptive**
  - Descriptive statistics
  - Inferential statistics
- **Correlational or Comparative**
  - Inferential statistics
  - Verbatim exemplars
- **Experiment**
  - Inferential statistics
  - Verbatim exemplars
- **Qualitative Studies**
  - Verbatim exemplars
CONCLUSION

In summary, undergraduate students need guidance in learning to identify the type of article they are appraising and in applying knowledge acquired in a research course to clinically focused courses. The use of the "What Type of Article Is It?" grid contributed to students' ability to accurately identify the types of articles used in the final class project for the research course and for an assignment in a gerontological nursing course.

References


