

## Database trial impact on graduate nursing comprehensive exams

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While the authors were doing a test period of databases, the question of whether or not databases affect outcomes of graduate nursing comprehensive examinations came up. This study explored that question through using citation analysis of exams that were taken during a database trial and exams that were not. The findings showed no difference in examination pass/fail rates. While the pass/fail rates did not change, a great deal was learned in terms of citation accuracy and types of materials that students used, leading to discussions about changing how citation and plagiarism awareness were taught.

**Keywords:** Education, Plagiarism, Libraries, Bibliography

Any clinical medical education program is an intense experience made more stressful by difficulty in finding needed resources for papers, projects, and exams. Information seeking can be complicated by either lacking resources or not having the proper resources available. Libraries often embark on database trials (tests of the usefulness of a database, often one that might be purchased). Considering a database trial because of vendor suggestion or faculty request and then actually running the trial can be part of an academic librarian's job [1]. A major issue of concern is getting patron feedback for a database trial. A variety of methods can be employed, including marketing through social media and using surveys to gather feedback [2]. As a whole, libraries and librarians try to measure impact of the things they do on the people they serve in order to improve services. The objective of this study was to measure the impact of database trials on bibliographies for graduate nursing comprehensive exam.

### METHODS

One way to measure impact, especially for student use of resources, is to do a citation analysis of a written assignment, traditionally a term paper, to see how many citations came from a specific database. During month-long test periods of several databases being considered for purchase, the authors did citation analyses on graduate nursing students' comprehensive exam bibliographies from the spring 2013 and spring 2014 semesters. The analysis measured the quantity and quality of the resources used. We also measured pass/fail rates, another measure of impact.

Thirty-eight exams were given in each semester, for a total of seventy-six bibliographies examined. The bibliographies were anonymized by the graduate nursing administrative assistant before being sent to the health librarian for analysis. Because the exam is required for graduation, it is something that students would normally do over the course of applying for graduation, and the papers themselves were not analyzed, only the bibliographies, the institutional review board approved the study as exempt research. The primary analysis focused on pass/fail rates, which were obtained from the graduate nursing administrative assistant. The additional analysis focused on two modes of interpretation: quantitative descriptive statistical analysis of how much material was cited, most popular items cited, and so on, and qualitative analysis in terms of the accuracy of American Psychological Association (APA)-style citations of materials, both in text and works cited.

### RESULTS

The database trials had no impact on the pass/fail rate of the graduate nursing comprehensive exam. In both semesters, 38 people took the exam, 35 passed, and 3 failed. The citation analysis examined unique items per category of information type, which included journals, government documents, websites, and books. Journal usage had the largest increase from 188 in 2013 to 309 in 2014. Other categories of unique usage were unsurprising, for instance, the National Institutes of Health and the Centers for Disease Control and Prevention websites were in the top 5 for both years. The World Health Organization

and NursingWorld sites were also in the top 5 websites for both years.

A total of 885 citations were in APA format in 2013, with 186 containing errors, for an error rate of 21%. In 2014, there were 848 citations with 197 errors, for an error rate of 23%. Errors were counted if they were significant (missing words, titles of books and journals not italicized, etc.). If the error was minor, such as a letter not being capitalized or a comma or period missing, it was not counted as an error as this was the grading methodology employed when the exams were scored by the graduate nursing faculty.

As a result of the review, one student paper was flagged for potential plagiarism. The nursing graduate program director was notified.

## DISCUSSION

The nursing graduate program director shared the purpose of the study and its preliminary results with the graduate nursing faculty in a group setting. Because the comprehensive exams had already occurred and the students had already graduated, the discussion focused on the aggregate strengths and weaknesses of citations of the 2013 and 2014 student cohorts. The health librarian was invited to share results and provide recommendations for identifying future citations that may signal potential plagiarism. Further learning modules were implemented through the library to help students and faculty recognize plagiarism and to better use resources.

The citation analysis is believed to have brought valuable information to the nursing graduate faculty. Faculty members teach general library use to students in evidence-based nursing practice courses but frequently rely on the health librarian to help students to access resources for research papers. The analysis helped faculty members to reinforce resources in courses throughout the curriculum and ways to include a health librarian. The literature is beginning to document how a librarian can improve nursing scholarly writing [3] and facilitate evidence-based nursing practice [4]. We believe this citation analysis increased the awareness of graduate nursing faculty members of the usefulness of a librarian.

For the health librarian, a particular interest was how both years consistently have some of the same books in the top five unique usage category, which indicated that broad, discipline-specific nursing texts

were still very much in use. Use of website and government information sites was also fairly consistent, and the selection of particular journals in 2013 focused on gerontology-related topics. The top five journals from 2014 indicated that there was a wider diversity of potential topics. It was surprising to see that UpToDate was in the top five resources in both years, considering students had to pay for a personal subscription in 2013 if they used that resource. The health librarian used the information from this analysis to update book holdings as well as weed outdated editions from the collection. The data were also used to purchase additional resources and to formulate a more robust outreach program about plagiarism, ethical behavior, and citation.

This analysis proved useful in terms of what we thought students were doing, what they were actually doing, and where they clearly needed more assistance and guidance.

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