Nursing Faculty Publications   School of Nursing and Allied Health

2018

I Can Do This - Collaboration on a Global Nursing Assignment to Increase the Self-Efficacy of Pre-Nursing Students for Research Skills

Carol L. Watwood

Mary P. Bennett

Lorraine B. Bormann

Western Kentucky University

From the SelectedWorks of Mary P Bennett DNS, ARNP

2018

I Can Do This – Collaboration on a Global Nursing Assignment to Increase the Self-Efficacy of Pre-Nursing Students for Research Skills

Carol Watwood, *Western Kentucky University*
Mary P Bennett, *Western Kentucky University*
Lorraine Bormann

I Can Do This – Collaboration on a Global Nursing Assignment to Increase the Self-Efficacy of

Pre-Nursing Students for Research Skills

Abstract

Objective –This study asked whether pre-nursing students who took the Nursing 102

(Introduction to Professional Nursing) class, which included information literacy instruction by

the Health Sciences Librarian and writing assistance using peer tutors, felt better prepared in

basic research skills and a more global understanding of nursing than they did before they took

the class.

Methods – In Nursing 102, instruction in the skills needed to prepare an APA paper and group

presentations on an assigned country were used to increase pre-nursing students' self-efficacy in

basic computer and library skills and global health awareness. In cooperation with the

instructors, the Health Sciences Librarian presented a one-hour session to each class on using the

library website and searching on CINAHL, and met by appointment with small groups. Peer

tutors at the campus writing center helped students refine and edit their writing. A Computer

Self-Efficacy Scale and comments from students, faculty, and the librarian assessed results.

Results –– 209 out of 301 possible participants enrolled in Nursing 102 between fall 2011 and

spring 2013 completed a pre- and post-test. Results of a paired t-test indicated that the average

score on the computer self-efficacy test increased from 34.80 to 40.30, and the change was statistically significant at the $p \leq .05$ level. The instructors and librarian noted subjective improvements in the retrieval and use of scholarly resources by students.

Conclusion – The introduction to research skills and the global nursing assignment in Nursing 102, with participation of classroom faculty, the Health Sciences Librarian, and the campus writing center peer tutors, appeared to help increase pre-nursing students' self-efficacy for basic computer and library skills, their retrieval of scholarly sources, and their understanding of global health systems.

I Can Do This – Collaboration on a Global Nursing Assignment to Increase the Self-Efficacy of

Pre-Nursing Students for Research Skills

Introduction

The Baccalaureate of Science in Nursing (BSN) program faculty at Western Kentucky

University (WKU) identified that students admitted to the nursing program lacked both skills and

confidence in basic computer functions and the ability to locate scholarly resources. Institutional

and professional mandates called for WKU to graduate students with greater self-efficacy for

basic research skills and greater understanding of global health systems. The Nursing 102

Introduction to Professional Nursing class was developed to address these and other needs in pre-

nursing students.

The development of the Nursing 102 class in 2007 coincided with a period of rapid growth in the

School of Nursing. Student interest in the BSN program had far outstripped the number of

students who could be accommodated. One course objective was to introduce students to the

nursing experience and to help them decide if nursing was the right career fit. As part of the

preparation for evidence-based practice, students were asked to complete two critical thinking

assignments on the health care delivery system and nursing education in an assigned

industrialized country. One was a group PowerPoint presentation and the other a 5 page paper in

APA format.

We studied pre-nursing students who took the Introduction to Professional Nursing class. We

focused on skills related to writing a group APA paper and a group presentation on health care

and nursing education in an assigned country. The acquisition of these skills was assisted by

faculty lectures, presentations and group help sessions by the Health Sciences Librarian, and peer tutors in the Campus Writing Center.

Computer literacy is "a part and prerequisite" of information literacy. [1] It is defined as "the knowledge and skills required to use basic computer applications and computer technology." [2] Both computer and information literacy are considered essential skills for graduates of U.S. baccalaureate nursing programs. [3] This study deals with foundational computer and library skills to enable students to experience early success and adopt a "can do" mindset.

Information literacy has both cognitive and affective components, including feelings, moods, attitudes, and self-efficacy. To develop information-literate nurses, both skills and attitudes need to be addressed. [4] For example, a student who believes he or she can succeed in seeking information possesses confidence or self-efficacy. Self-efficacy, as defined by Albert Bandura, is the belief that one can successfully execute the behavior required to achieve a desired outcome. [5] According to Bandura, efficacy expectations are influenced by performing the desired behavior, by seeing it modeled by others, by verbal persuasion, or by one's own emotional arousal. One's own successful performance of a desired skill is believed to be the most dependable way of raising efficacy expectations. Bandura views the related colloquial term "confidence," used in similar contexts in the literature, as a more general catchword referring simply to a strength of belief. [6]

In Bandura's theory, people are active agents in self-motivation. Efficacy beliefs operate at three levels in the academic setting: the student's beliefs, the teacher's beliefs, and the faculty's collective sense of efficacy in their school's ability to help students progress. [7] Although evidence of the exact relationship between self-efficacy and information literacy skills remains inconclusive, we believe self-efficacy to be a relatively robust indicator of skill levels, and thus

we used self-efficacy, along with other indicators, as evidence of increased student computer research skills. We investigated whether students who took the course felt better prepared in computer and information literacy skills needed to succeed in nursing school.

Methods

Students were instructed in basic computer and library research skills in several ways. The classroom instructor presented material on global nursing, health care delivery, and APA formatting. The Health Sciences Librarian gave a one-hour presentation, including hands-on practice on accessing the library website, identifying reputable resources, finding books, and in doing a simple CINAHL search. Students had to find peer-reviewed articles, discuss them in a brief paper and group presentation, and cite them in APA format. As part of the library orientation, students found a peer-reviewed article and emailed it to the instructor. Students were encouraged but not required to meet with the librarian. In 2013, the library's Information Commons opened for use by students as a one-stop shop for reference assistance, the writing center, and the IT help desk.

The assignment has been used, with some modifications, as Nursing 102 has continued to be taught every semester. When first developed, Nursing 102 was an elective course. After two years, based on student feedback, Nursing 102 became a required course for admission to WKU's BSN program. Course Instructors provided data from the Computer Self-Efficacy Scale (Appendix 1) developed for the course.

Students in the Nursing 102 class, according to a subset of 209 students who volunteered personal data, were mostly traditional age students (mean age 20.49 years) and not currently employed (51.40%), and from rural areas or small towns (63.2 percent from towns with

populations of less than 30,000). The data reported here are part of a larger study looking at pre-nursing admission predictors of student success in a baccalaureate nursing program. As part of this study, several cohorts of students enrolled in Nursing 102, a pre-nursing course which had become required of all nursing students at WKU, were invited to participate. Following Institutional Review Board approval, a total 209 out of 301 possible participants enrolled in Nursing 102 between fall 2011 and spring 2013 completed both the pre- and post-tests. The course instructor explained the purpose of the overall study and invited students to complete the pre-test at the beginning of the semester and the post-test at the end of the semester survey. The pre and post-test surveys included demographics, a newly developed instrument measuring pre-nursing student computer self-efficacy, and previously developed measures of Social Readjustment, [8] and Depression.[9] The data reported here are from the computer self-efficacy scale only.   The computer self-efficacy scale (Appendix 1) contained 21 items consisting of statements such as "I know how to send an email attachment" to more nursing library specific items such as "I know how to use CINAHL or other similar databases" and was reviewed by three faculty for face validity prior to pilot testing. The students were able to answer Yes, Sort of, and Not really in response to these questions, as it was felt that asking students to say No, they did not know how to do something might be intimidating. See appendix 1 for the instrument. The Chronbach's alpha for the Computer Self-Efficacy scale was .811, indicating adequate internal reliability. Post-hoc exploratory factor analysis demonstrated that this instrument had 3 factors, determined using the scree test to examine the graph of the eigenvalues and taking the number of components which were above the natural bend in the curve. Item loadings above .30 were used to determine best fit. [10] The first factor was library competency and 6 items loaded on this factor. The second factor was word processing competency and 5

items loaded on this factor. The last factor was related to the course delivery system (Blackboard) and 4 items loaded on this factor. The survey data was collected during a course period by one of the course faculty, placed in an envelope, and given to the School of Nursing Director for data analysis and security of the data. Raw data from the surveys was coded with a student ID number for follow up and placed in SPSS for analysis.

Results

To determine if there was a significant change in computer self-efficacy over the course of the semester, paired t-test was used. The results indicated that students displayed significantly higher scores on the Computer Self-Efficacy Scale at the end of the semester (M = 40.85, SD =5.98) than at the start of the semester (M=34.88, SD=6.48); t(208) = -12.12, p = .001.

Discussion

Many pre-nursing students arrive at college with little background in scholarly research. Locally, 34.8% are first-generation college students. [11] A key point to reinforce is "everyone can accomplish this task." [12] All students, if they work hard and practice the foundational skills, can learn the basics. 77.4 % of first-year students come from Kentucky, [13] but must prepare to practice in a global environment. Web-based global health information can be "a starting point toward equipping students with resources for participation in the global health arena." [14] We believe that the practice of foundational research skills using a global health case study is a useful and engaging way to introduce students to both research and globalization.

The results of the Computer Self-Efficacy Scale, student comments to the Nursing 102 classroom instructors and the Health Sciences Librarian, and end-of-semester course evaluations indicate that the Nursing 102 class has succeeded in increasing the self-efficacy of pre-nursing students in performing basic library and computer skills and increased their global awareness. Student

success was aided by practice in composing a brief APA paper and group presentation. Basic computer skills were taught and reinforced by the classroom instructor. The librarian showed students how to access the library website and to access CINAHL, and students practiced these skills by emailing a peer-reviewed article to the classroom instructor.

The global health assignment proved useful in teaching health information literacy in several respects. Searching for encyclopedias and other monographs on global health care introduces students to the library's OPAC. Searching for peer-reviewed articles on nursing education and health care in another country introduces students to CINAHL. Informational websites such as the World Health Organization offer practice in searching and evaluating information found on the open Web. Students think critically about the ways in which health care systems differ. End-of-semester course evaluations conducted by Nursing 102 faculty show a more positive attitude toward the research process. The number of students enrolled in Nursing 102 has become quite large; as of summer 2014, more than 1000 students had taken the class. The number of sections has been expanded from one in fall 2009 with 80 students to four sections offered in spring 2018 with 196 students.

Future evaluations might include structured interviews with third-year students to study their information-seeking processes for evidence-based practice projects. Also, the self-efficacy sub-scale used was not specifically designed to measure all the facets of confidence in all the skills involved in information literacy. In the future, the SE instrument can be better tailored to measure students' self-efficacy for all aspects of information literacy.

The final piece of the puzzle is life-long learning after the students graduate. From "I think I can" to "I thought I could," we can imagine "where in the world shall I go next?"

<div align="center">References</div>

1. S. Serap Kurbanoglu, "Self-efficacy: a concept closely linked to information literacy and lifelong learning," *Journal of Documentation* 59, no. 6 (2003): 635-646.

2. Anita Finkelman and Carole Kenner, *Professional nursing concepts: competencies for quality leadership.* 3rd ed. (Burlington, MA: Jones & Bartlett; 2016), 430.

3. American Association of Colleges of Nursing, "The Essentials of Baccalaureate Education for Professional Nursing Practice,"
http://www.aacnnursing.org/Portals/42/Publications/BaccEssentials08.pdf (accessed April 23, 2018).

4. A. Shorten, M. Wallace, P. Crookes, "Developing information literacy: a key to evidence-based nursing," *International Nursing Review* 48*,* no. 2 (2001): 86-92.

5. Albert Bandura, *Social learning theory* (Englewood Cliffs, NJ: Prentice-Hall; 1977), 79.

6. Albert Bandura, *Self-efficacy: the exercise of control* (New York: W.H. Freeman; 1997), 382.

7. Ibid., p. 214.

8. T.H. Holmes and R.H. Rahe, "The Social Readjustment Rating Scale," *Journal of Psychosomatic Research* 1, no. 2 (1967):213-218. DOI:10.1016/0022-3999(67)90010-414.

9. Anna B. Costello and Jason W. Osborne, "Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis," *Practical Assessment, Research & Evaluation* 10, no. 2 (2005), http://pareonline.net/getvn.asp?v=10&n=7 (accessed April 23, 2018).

10. R.P. Snaith, S.N. Ahmed, S. Mehta, Max Hamilton, "Assessment of the severity of primary depressive illness. Wakefield self-assessment depression inventory," *Psychological Medicine* 1, no. 2 (1971):143-149. DOI:10.1017/S0033291700000064

11. Western Kentucky University, "Fact Book 2017," https://www.wku.edu/instres/fact_book.php (Accessed April 23, 2018).

12. Phyllis D. Morgan, Joshua Fogel, Pauline Hicks, Laura Wright, Indira Tyler, "Strategic enhancement of nursing students information literacy skills: interdisciplinary perspectives," *ABNF Journal* 18, no. 2 (2007):40-45.

13. Western Kentucky University, "Fact Book 2017," https://www.wku.edu/instres/fact_book.php (Accessed April 23, 2018).

14. Jerry L. White, "Introducing undergraduate students to global health challenges through web-based learning," *Nursing Education Perspectives* 26, no. 3 (2005): 157-163.

Appendix 1
N102 Computer Self-Efficacy Scale

Factors which items loaded on at .30 or above	1 Library	2 Word Process	3 Blackboard
1. I read my WKU email several times a week			
2. I know how to clear out my email so my mailbox is not full			
3. I know how to send an email attachment			.672
4. I know how to forward my WKU email to my non-WKU email account			
5. I know how to look up a faculty member or classmates email address		.560	
6. I know how to use MS Word to set margins, font, alignment and line spacing		.697	
7. I know how to set up headers and page numbers		.695	
8. I know how to format hanging indents		.594	
9. I know how to save my paper in another format, such as rtf or pdf		.570	
10. I know how to search the internet using a search engine			
11. I know how to review a website or journal article to determine if it is a lay article, professional opinion, research, technical or governmental report or review of literature.	.607		
12. I know how to locate and record the DOI of an internet article	.701		

13. I know how to locate and record the web address of an online article			
14. I know how to use locate the library datasets on the WKU website	.635		
15. I know how to use CINAHL or other similar databases	.841		
16. I know how to use TDNET to locate WKU owned electronic articles	.848		
17. I know how to save online articles in PDF format and mail them to the instructor	.535		
18. I know how to access the class Blackboard site			.889
19. I can locate and view the class materials on Blackboard, such as the syllabus, handouts and study guides			.840
20. I know how to review my grades on Blackboard			.705
21. I know how to use PowerPoint to make a presentation to the class			