Strategies for teaching nursing research online

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Abstract

Background: Nursing, like many disciplines in university settings, is experiencing increasing demand for online courses. Development and implementation of online courses with the quality of education nursing students experience in traditional classroom settings, is essential to maintaining integrity of the educational process. Nursing research has been offered in the online format in the RN-BSN programme for 2 years. This course has an average enrolment of 80 to 90 students each semester.

Purpose: This article presents strategies used in teaching an RN-BSN nursing research course online.

Conclusions: Feedback from faculty and students indicates that these strategies have been successful in facilitating this writing intensive course through distance learning.

Introduction

There are factors that make it difficult for Registered Nurses (RNs) to return to school for a Bachelor of Science Degree in Nursing (BSN). Attending traditional classes can be difficult for nurses who frequently hold positions requiring them to work rotating shifts on different days of the week. Also, nurses who work in rural areas may have to travel significant distances to attend a BSN programme. Time spent travelling to class can take too much time from an adult learner’s already busy schedule. Online RN-BSN nursing programmes can meet the needs of individual nurses by eliminating some of the obstacles they face in continuing their education. Online classes also allow nurses in rural areas to remain in their current positions while attending classes. This is an important consideration in many health care settings in the USA because of an acute nursing shortage throughout the nation.

To increase the availability of our RN-BSN programme, we placed the curriculum online. The programme can be completed online without any classroom attendance. Growth of the programme has been tremendous and we now have students from all over the USA. Through this growth, faculty have learned many lessons about the differences between traditional classroom teaching and teaching in the online format.

Course design

Swan (2001) found three important elements necessary for success of online asynchronous courses:
1. clarity of course design;
2. interaction among participants; and
3. interaction with instructors.

These elements were used as a template for the development and implementation of our online research course.
The course is supported by a course website. The platform on which this course website is built is a proprietary learning management system. Technical features of this system include: an online syllabus, streaming video, chat room, message board, weekly news board, e-mail, online testing and access to electronic databases. Each module is supported by a videotaped lecture with a corresponding workbook section designed by the course faculty. The videotaped lecture is available as a streaming video through the course website. A Compact Disc with Read Only Memory (CD-ROM) of these same lectures is provided to accommodate students using low bandwidths. Except for the streaming video, the Blackboard Learning System™ (Release 6) has similar technical features and could be used for delivery of this content (http://www.access.blackboard.com).

Synchronous chat room times with faculty and peers are used for faculty office hours and classroom discussions. The course content is presented in 20 modules that students complete in an 8-week time frame. Although there are two multiple-choice tests, the course is designed to be writing intensive to facilitate development of the students’ writing skills.

The written assignments are designed to build successively with frequent feedback and interaction among students, faculty and peers. As previously stated, the written assignments, illustrated in Table 1, culminate in an integrated literature review containing a research hypothesis, or research question generated through students’ literature reviews. Detailed guidelines are provided in the workbook for all written assignments, including specific due dates for each of the four assignments. Specific spacing of assignment due dates, enables students to receive feedback from faculty in time to make changes in their written work that will be incorporated in the next assignment. As the assignments build successively, students are also able to develop a timeline for completing the final paper.

During the first week of the course, students take the initial step in writing the paper by e-mailing faculty an identified topic of clinical interest. Students thereby begin learning the research process and faculty have the opportunity for dialogue with students. Students are encouraged to post their research topic on the message board for discussion and feedback from their classmates, and, they are also required to attend one of several online chat sessions where their discussions concerning topics and literature searches can begin. Chat sessions are available on rotating days of the week, making it easier for the students to attend at different times. The sessions are rotated among weeknights, and, mornings and evenings on weekends.

The initial written assignment, completed early in the course, consists of two annotated bibliographies using nursing research articles related to students’ topics. These articles become part of a later assignment, the research-focused integrated literature review. The purpose of writing an annotated bibliography is to help students evaluate applicability of a study to their topic of interest. This assignment enables faculty to evaluate a student’s writing ability and their ability to identify primary research in the nursing literature.

The next assignment is a draft of the research-focused integrated literature review, which includes at least eight research articles on students’ chosen topics. Students are encouraged to select articles from a list of refereed nursing research journals included in the course syllabus. This ensures the quality of research studies chosen for review. Students send the draft to faculty for feedback. Through this process, faculty are able to evaluate students’ understanding of course content, clarify issues, and guide students through the process of professional writing. After the draft is returned to the student, they are required to once again attend one of the chat room sessions where they can discuss development of their paper with their peers and the

<table>
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<th>Written assignments</th>
<th>Week due</th>
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<tr>
<td>Identify topic</td>
<td>Week 1</td>
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<tr>
<td>Complete two annotated bibliographies of research articles related to selected topic</td>
<td>Week 2</td>
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<tr>
<td>Submit draft of the integrated literature review</td>
<td>Week 4</td>
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<td>Submit final integrated literature review</td>
<td>Week 6</td>
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<td>Submit research critiques</td>
<td>Week 8</td>
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faculty. This dialogue and integration of faculty and peer comments permit faculty to witness the development of a student's concepts and ideas for the paper.

The final research-focused integrated literature review is completed subsequent to the draft paper. An exhaustive literature review is not expected, because the goal is to help students learn the process of reviewing and critiquing nursing research findings. Therefore, quality rather than quantity of each student’s critiques is paramount within the 8-week course timeframe. Emphasis is on students’ evaluations of overall findings rather than in-depth evaluations of statistical methods used in data analysis. Also, at this point, the faculty has witnessed the development of students’ papers, adding to their assurance that the papers are students' original work. Students’ topics, annotated bibliographies and original drafts are retained by the faculty for comparison with each student’s final paper.

The final written assignment is the research article critique. Students, at this point, would have completed all course content, including basic statistical methods used in data analysis. The same two articles, one qualitative and one quantitative, are assigned to all students. The articles for review are posted during week 6 and are changed every time the course is offered. Worksheets containing detailed questions for each step in the research process are given to students as guidelines for doing these critiques. This allows for consistency in grading, and ensures that all elements required for the critiques are identified by faculty before grading. Table 2 illustrates a section of the critique worksheet.

### Paper mills

Internet paper mills sell pre-written or customized research papers. This presents a critical issue to faculty who are designing an online research course. This course, taught in the traditional ground based format, includes face-to-face dialogue and feedback between faculty and students. Without face-to-face dialogue and feedback, faculty could not witness the students’ progression of ideas as they developed their research papers. Faculty questioned whether students would be tempted to use these paper mill sites to successfully complete the course.

Numerous paper mill sites are on the internet. One such site, Nursingpapers.com, is designed specifically for nursing students. The site contains a hyperlink to a custom paper ordering page that guarantees meeting research instructions and promised assignment due dates. The site contains a disclaimer stating that the papers sold or produced are intended to be used by students for references or examples. One method of addressing this issue is through the use of available internet sites and software that are designed to identify plagiarized papers. For example, Plagiarism.org is an internet site devoted to the problem of plagiarism. This site contains information about: plagiarism for both students and faculty, paper mill site tracking, and references to a commercial internet site that scans papers for plagiarism called turnitin.com (http://www.plagiarism.org). The number of sec-

<table>
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<th>Table 2 Worksheet for critiquing quantitative research reports (part 1)</th>
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<td><strong>Problem</strong></td>
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<tr>
<td>(a) Is the problem significant to nursing?</td>
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<td>(b) Is the problem clearly identified?</td>
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<td>(c) Is the problem researchable (can data be collected and analysed)?</td>
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<td>(d) Is it feasible to conduct research on the problem?</td>
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<td>(e) Is the background information on the problem presented?</td>
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<tr>
<td><strong>Purpose</strong></td>
</tr>
<tr>
<td>(a) Does the purpose narrow and clarify the aim of the study?</td>
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<td><strong>Review of the literature</strong></td>
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<tr>
<td>(a) Are relevant previous studies described?</td>
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<td>(b) Are the references current?</td>
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<tr>
<td>(c) Is the literature review organized to demonstrate the progressive development of ideas through previous research?</td>
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<td>(d) Is a theoretical knowledge base developed for the problem and purpose?</td>
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<tr>
<td>(e) Does the literature review provide rationale and direction for the study?</td>
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<tr>
<td>(f) Is a clear, concise summary presented of the current empirical knowledge in the area of the study?</td>
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<tr>
<td>(g) Is a clear concise summary presented of the current theoretical knowledge in the area of study?</td>
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ondary schools and institutions of higher education subscribing to this type of service is increasing at a dramatic rate (http://www.plagiarism.org).

Although this scanning technology presents one strategy to discourage student use of paper mills, Jeffes & Janoski (2002) suggest that the academic community should address internet plagiarism problem from other angles as well. These authors question the student’s motivation for using paper mills and explore how this trend affects higher education. The internet has increased the availability of papers students can borrow and made obtaining them very easy. However, there are other factors that may contribute to an increase in plagiarism that faculty should consider. Faculty should assess whether students feel overwhelmed with the writing assignment or are compelled to plagiarize because of a lack of time management skills, organization or ethics (Jeffes & Janoski 2002). Faculty who teach the online research course decided to provide students with support in these areas as an alternative to policing students’ papers.

Faculty who teach the online research class give the students support in all three of these areas. Time management is addressed by requiring students to build the paper in steps through meeting required strategic due dates for topic identification, annotated bibliographies, and for the draft of the paper. This approach, coupled with constructive faculty feedback, increases students’ confidence in their writing skills. The faculty actually coach the students through the writing process.

During chat room sessions, the faculty help students develop a sense of ethical issues related to plagiarism by facilitating discussions on the rationale for proper citations. The online research faculty reported that many students acknowledged lacking basic information on the format for proper citations and, that students are unaware that what they consider as paraphrasing is sometimes actually plagiarism. The internet site http://www.plagiarism.com contains tips and information to help students with appropriate paraphrasing and citation. Also, reviewing student chat room discussions concerning students’ papers and monitoring development of the papers reassures faculty that a student’s paper is not plagiarized.

Student interaction

Udod & Care (2002) found that a large part of online student interaction focused on assignment details and not topic content. In our online research course, students used the message board to discuss technical matters such as finding research articles, however, there was minimal discussion on course content. To stimulate students’ discussion of course content, discussion questions were posted on the message board. One topic that facilitated students’ interaction, and also held their interest, was the ethical violations in the Tuskegee Syphilis Study. Students looked for internet sites that discussed this study and were eager to comment on the atrocities occurring in the study. Discussion of the Tuskegee Syphilis Study also helped students understand the purpose and importance of Internal Review Boards (http://www.cdc.gov/nchstp/od/tuskegee/time.htm).

To encourage further interaction among students, their e-mail questions to faculty were answered by emphasizing rationale for answers, including explanations of the relevance for each assignment to learning. When appropriate, faculty asked students’ permission to post their questions, with faculty answers, on the message board. This process helped students who had similar questions and facilitated discussion among students about rationale for course assignments. Students stated that they felt they were part of a class and not ‘out there alone’, because they could see the questions and responses of other students.

Lessons learned

When designing online courses, available technology should be used judiciously in an effort to prevent technology from overwhelming students and distracting from course content (Udod & Care 2002). Online databases make a vast body of literature available to students, especially for those in remote locations. These databases also make literature searches less time-consuming and stressful, giving students more time to concentrate on the written integration of research findings. The Nursing Research course is strategically placed as
the third online course in the RN-BSN programme. Students take a professional nursing course and an assessment course before nursing research. Taking these two introductory courses first allows students to become comfortable with the technology and it gives them an opportunity to use the online databases before taking the nursing research course.

Most of the faculty decided to receive and return written assignments as e-mail attachments, eliminating returning paper copies through mail systems and shortening turn-around time on feedback. Establishing one word processing programme for the preparation of all papers makes this method of commenting on students’ papers and online grading easier. The comment function of word processing programmes enables faculty to insert clear and easily readable comments directly into students’ papers. The course site saves all student correspondence so faculty can retrieve students’ papers and other electronic communication, enabling them to follow students’ progress in developing the papers. Because of the large volume of written material course enrolment is limited.

Resources for an online nursing research course need to be consistent with resources for the traditional nursing research course. A key resource is the availability of an extensive online library. Databases such as Proquest and Ebsco host contain many peer reviewed research journals available in full text. Many of our online students stated they had never used CINAHL or other online indexes to obtain information. Consequently, step-by-step instructions for using the online library were posted and students were given a complete list of appropriate journals available in online databases. Although valuable information is available in journals from other disciplines, different styles of reporting research findings can lead to student confusion in a beginning nursing research course.

Writing labs are a resource available to traditional students that may not be available to online students. There are over 50 writing labs from colleges and universities available over the internet for students to use (Owl 2003) Faculty in our online course also recommend that students purchase A Writer’s Reference, 4th edn, to help them with the writing process (Hacker 1999). Faculty found it helpful for students to have one book as a writing resource, enabling faculty to refer students to specific pages in the book for explanations of their editorial comments on students’ papers.

Students may interpret the written editorial comments on their papers in an entirely different manner than faculty intended (Bean 2001). Feedback on student evaluations indicated that, at times, even though the written comments by faculty were intended as helpful, students perceived these comments as discouraging. Bean (2001) states that the goal should be to ‘provide useful instruction, good advice, and warm encouragement’ (p. 241). Our online faculty learned to reread comments on students’ papers before sending them back, ensuring that the tone of their comments was consistent with their intended meaning. This strategy is especially important in the online situation where face-to-face contact is not possible.

When students received their syllabus, they were provided with in-depth instructions for the written course assignments. Although instructions were clear and detailed, many students either had not prepared written formal papers in their basic nursing programme, or had not written formal papers for many years. Three areas of greatest anxiety for students were: the misconception that they would be required to conduct research; concern about having insufficient writing skills; and anxiety related to using online databases. To alleviate anxiety and provide direction, on the first night of class faculty posted a message for students on the message board discussing weekly tasks related to course assignments. Faculty also posted their office telephone number and office hours so the students could call and talk directly to the faculty, if needed. This helped clarify expectations related to students’ development of research questions and review of relevant research literature. Students were also assured that development of their writing skills would be facilitated through writing annotated bibliographies and a draft of the final paper. Weekly information was distributed online to prompt for that week’s goals and assignments. Koeckeritz et al. (2002) support the use of strategies that encourage student and faculty contact as a way to maximize student learning. Student feedback indicated that
this weekly reminder helped them learn by preventing feelings of being overwhelmed, and, by helping them with time management for a writing intensive course delivered in such a short time frame.

When planning to place the RN-BSN curriculum online, faculty considered whether not having to plan and deliver class periods or write the syllabus would make the online course less time-consuming for them. The faculty for this online course found that an online course can actually consume more faculty time than the same course, with the same number of students, taught in a traditional classroom setting. They believe that additional time is needed in an online course to respond to students who are sending numerous e-mail messages for clarification of course content, and other issues. In a traditional classroom setting, faculty can clarify content and other issues, for an entire class at one time. Even though our faculty attempted to address the time issue by posting on the message board frequently asked or similar questions, the online course still consumed more faculty time. Time-saving strategies used by the faculty included notifying students when their graded papers would be returned to them and notifying students if their papers were not received.

Course evaluation

Distance and online courses for nurses have had successful outcomes (Armstrong et al. 2000; Cannon & Boswell 2001; Leasure et al. 2000). Initially, our course faculty had reservations about the feasibility of teaching a nursing research course online; however, the design and implementation of our course have been successful. Successive building of assignments allowed faculty to monitor students’ progress from the initial review of research reports to the effective synthesis and integration of several studies.

Student satisfaction with the course was also very high. Typical comments by students about the course include: ‘Great course, I didn’t think it would be’; ‘I thought it would be boring, I was wrong’; ‘The written assignments, reading assignments, and lectures reinforced the learning objectives’; and ‘I have really loved this course. I have not been exposed to research before, so doing research on my topic was fun! I can use it my in my life, both personal and professional.’ This student feedback is very encouraging and indicates to us that our online research course was successfully designed and implemented.

References