

Teaching Information Literacy and Library Skills to Online Nursing Students: A Selected Annotated Bibliography

Emily Deal, University of Louisiana at Lafayette

Abstract

Enrollment in online nursing programs has increased significantly in the last several years, due in part to the Institute of Medicine's 2010 *Future of Nursing* report, which called for higher levels of training and education for nurses. Returning nursing students often face multiple challenges, including lack of confidence in the research and technology skills necessary to succeed in evidence-based practice fields such as nursing. Because libraries are a primary resource for research and evidence-based practice, librarian liaisons have an important role to play in ensuring nursing students can skillfully access and evaluate the information they need to succeed in both their education and profession. Emergent themes in this bibliography include embedded librarianship, nurse educator/librarian collaboration, adaptability and flexibility with new and emerging technologies, and collaboration with instructional designers. The primary audience for the bibliography is nursing and health science liaison librarians, but distance learning, outreach, reference, and instruction librarians may also find it useful and applicable to their specializations.

Keywords: Academic Libraries; Distance Learning; Embedded Librarianship; Information Literacy; Learning Management System; Library Instruction; Nursing Education; Nursing Students; Reference Services

Introduction

In 2010, the Institute of Medicine released its *Future of Nursing* report, which called for higher levels of training and education for nurses, and recommended an increase in the proportion of working nurses with at least a baccalaureate degree from 50 to 80 percent by 2020 (p.3). Since then, enrollment in academic nursing programs has increased significantly, especially in Registered Nurse to Bachelor of Science in Nursing (RN-to-BSN) degree-completion programs and practice-focused doctorates (American Association of Colleges of Nursing, 2015). Many of these programs are conducted online, which enables students with work and family responsibilities who may not live near an academic campus the option of completing their coursework with more flexibility (McCulley & Jones, 2015). The *Future of Nursing* report also emphasized evidence-based practice in nursing, an approach in which clinicians base point-of-care decisions on the current best evidence available (Evidence-based nursing, 2013, p.653). Because libraries are a primary resource for evidence-based practice (Marshall, Morgan, Klem, Thompson, & Wells, 2014), librarians serving online nursing programs play an important role in ensuring students can skillfully access and evaluate the information they need for both their education and profession.

The absence of face-to-face contact and lack of in person communication are challenges in distance learning education generally, but many returning nursing students face additional challenges, such as lack of confidence in their research and technology skills (especially if they have been away from an academic environment for several years) and the need to balance educational demands with work and family obligations (Schroeder, 2010). The articles in this bibliography describe various ways librarians have

responded to those challenges in order to provide online nursing students with the support they need to successfully complete their coursework.

Several themes emerge from the bibliography, including embedded librarianship, which in the context of online classes typically means including a librarian as a teaching assistant in the learning management system (LMS) to provide instruction, facilitate access to library services and resources, and provide student support during the research process (Kumar, Wu, & Reynolds, 2014). Collaboration between teaching faculty and librarians is also emphasized (Guillot, Stahr, & Meeker, 2010; Hallyburton & St. John, 2010), as is flexibility and openness to experimenting with new technologies that facilitate student learning (Carlson, 2011; Whitehair 2010). As the embedded librarianship model has evolved, librarians also increasingly collaborate with instructional designers, and integrate instructional design principles into learning objects like asynchronous video tutorials in order to eliminate technological and instructional barriers common in an online environment (Shell, Crawford, & Harris, 2013).

The primary audience for this bibliography is academic librarians who liaise with nursing and health science departments online, but it should also be of interest to distance learning librarians for most disciplines since it includes many examples of successful faculty/librarian collaboration in an online environment. Additionally, because many university faculty use learning management systems to enhance their face-to-face classes, librarians involved in reference, outreach, and information literacy instruction may also find the various models of embedded librarianship instructive and relevant to their practice.

Keywords and subject headings were searched in multiple combinations to locate

the articles in this bibliography. Keywords searched include academic libraries, nursing education, nursing students, learning management system, course management system, embedded librarian, embedded librarianship, distance education, distance learning, distance education students, information literacy, online learning, online education, online instruction, librarians, libraries, and library instruction. Subjects headings searched include Library Services; Distance Education Students; Education; Distance; Education, Non-Traditional; Education, Nursing; Embedded Librarianship; Health Sciences Librarians; Information Literacy; Information Literacy Education; Librarians; Libraries, Academic; Libraries, Nursing; Nursing Students; Online Courses; Library Instruction; Library Resources; Web-based Instruction; and Learning Management System (Computer software). Databases searched include *Comprehensive Index of Nursing and Allied Health Literature Complete (CINAHL)* (EBSCO); *Discovery* (EBSCO); *Education Resources Information Center (ERIC)* (EBSCO); *Education Source* (EBSCO); *Google Scholar*; *Library, Information Science & Technology Abstracts with Full Text (LISTA)* (EBSCO); *MEDLINE Complete* (EBSCO); *ScienceDirect Freedom Collection* (Elsevier); and *Web of Science* (Thomson Reuters). Results were limited to peer reviewed journal articles published within the last seven years.

References

- American Association of Colleges of Nursing. (2015). New AACN data confirm enrollment surge in schools of nursing [Press release]. Retrieved from <http://www.aacn.nche.edu/news/articles/2015/enrollment>
- Cacchione, P. Z., & Zurkowski, P. G. (2014). Nurse scientists' information literacy is supported by librarians. *Clinical Nursing Research*, 23(1), 3-6.
doi:10.1177/1054773813520267
- Carlson, K. (2011). Using Adobe Connect to deliver online library instruction to the RN to BSN program. *Journal of Library & Information Services in Distance Learning*, 5(4), 172-180. doi:10.1080/1533290X.2011.634979
- Evidence-based nursing. (2013). In *Mosby's Dictionary of Medicine, Nursing & Health Professions* (9th ed.). St. Louis, MO: Elsevier.
- Guillot, L., Stahr, B., & Meeker, B. J. (2010). Nursing faculty collaborate with embedded librarians to serve online graduate students in a consortium setting. *Journal of Library & Information Services in Distance Learning*, 4(1-2), 53-62.
doi:10.1080/15332901003666951
- Hallyburton, A., & St John, B. (2010). Partnering with your library to strengthen nursing research. *Journal of Nursing Education*, 49(3), 164-167. doi:10.3928/01484834-20091118-04
- Institute of Medicine. (2010). *The Future of Medicine: Leading Change, Advancing Health*. Retrieved from <http://iom.nationalacademies.org/Reports/2010/The-Future-of-Nursing-Leading-Change-Advancing-Health.aspx>

- Kumar, S., Wu, L., & Reynolds, R. (2014). Embedded librarian within an online health informatics graduate research course: A case study. *Medical Reference Services Quarterly*, 33(1), 51-59. doi:10.1080/02763869.2014.866485
- Marshall, J. G., Morgan, J. C., Klem, M. L., Thompson, C. A., & Wells, A. L. (2014). The value of library and information services in nursing and patient care. *Online Journal of Issues in Nursing*, 19(3), 1. doi:10.3912/OJIN.Vol198No03PPT02
- McCulley, C., & Jones, M. (2014). Fostering RN-to-BSN students' confidence in searching online for scholarly information on evidence-based practice. *Journal of Continuing Education in Nursing*, 45(1), 22-27. doi:10.3928/00220124-20131223-01
- Schroeder, H. (2010). Creating library tutorials for nursing students. *Medical Reference Services Quarterly*, 29(2), 109-120. doi:10.1080/02763861003723135
- Shell, L., Crawford, S., & Harris, P. (2013). Aided and embedded: The team approach to instructional design. *Journal of Library & Information Services in Distance Learning*, 7(1-2), 143-155. doi:10.1080/1533290X.2012.705627
- Whitehair, K. J. (2010). Reaching part-time distance students in diverse environments. *Journal of Library & Information Services in Distance Learning*, 4(3), 96-105. doi:10.1080/1533290X.2010.503166

Annotated Bibliography

Baker, A. (2014). Students' preferences regarding four characteristics of information

literacy screencasts. *Journal of Library & Information Services in Distance*

Learning, 8(1-2), 67-80. doi:10.1080/1533290X.2014.916247

The author discusses a study designed to ascertain online RN-to-BSN student preferences regarding four characteristics of video library tutorials (length, screen visibility, pace of narration, and amount of callouts) to determine perceived "viewability" and value. Based on student survey results, the author derived the following guidelines for screencasts: limit length to three minutes and divide longer videos into multiple smaller parts; keep speaking pace to approximately three seconds per word; use the zoom function only occasionally; and keep callouts to a minimum to prevent information overload. The author acknowledges that the small sample of nursing students surveyed may limit the generalizability of the results, but predicts the findings should still help librarians create more engaging screencasts for all distance learning students.

Brettle, A., & Raynor, M. (2013). Developing information literacy skills in pre-

registration nurses: An experimental study of teaching methods. *Nurse Education*

Today, 33, 103-109. doi:10.1016/j.nedt.2011.12.003

The authors discuss a randomized control trial designed to compare the effectiveness of an online information literacy tutorial with a face-to-face instruction session for teaching information literacy skills to nurses. The authors argue that information literacy, which they define as "the skill of knowing when and why you need information, where to find it and how to communicate it in an ethical manner" is a critical component of professional practice and continued employment for nurses, and they

suggest that online, asynchronous, remotely accessible information literacy tutorials are one potential solution for librarians facing increasingly large cohorts of students with limited resources and time for face-to-face instruction. In the trial, seventy-seven first year undergraduate nursing students were randomly assigned to receive information literacy instruction via either an online tutorial designed by the nursing subject librarian, or a one-hour face-to-face session taught by the nursing librarian. Analysis of search skills, including keyword selection, Boolean operators, truncation, and synonyms showed that both groups started with a comparable baseline skill level before instruction, and a statistically significant improvement in post-instruction scores for both groups regardless of whether they received instruction online or face-to-face. Scores from a one-month follow-up session showed no statistically significant change in either group, indicating that there was no skill degradation regardless of instruction delivery method.

Carlson, K. (2011). Using Adobe Connect to deliver online library instruction to the RN to BSN program. *Journal of Library & Information Services in Distance Learning*, 5(4), 172-180. doi:10.1080/1533290X.2011.634979

The author describes her experiences using Adobe Connect software to provide synchronous online library instruction to RN-to-BSN students at Arizona State University. She discusses both the benefits of webinar technologies, such as greater accessibility and the ability to record and archive a live session for later viewings, and the challenges, including the need for adequate technology support, and varying levels of student skill and satisfaction with the software interface and functionality. Overall, she found that Adobe Connect was a sustainable way to deliver library instruction to online learners, but noted that her institution changed webinar technologies shortly thereafter,

underscoring the need for librarians to remain adaptable, flexible, and open to changing online instruction delivery methods.

Guillot, L., Stahr, B., & Meeker, B. J. (2010). Nursing faculty collaborate with embedded librarians to serve online graduate students in a consortium setting. *Journal of Library & Information Services in Distance Learning*, 4(1-2), 53-62.
doi:10.1080/15332901003666951

The authors describe the use of a collaborative embedded librarian service model in the learning management system Blackboard to provide point-of-need library support and instruction to online graduate nursing students. Like many embedded librarian models, the model described in this article involves adding a librarian as a teaching assistant in the LMS to provide services such as reference and interlibrary loan assistance, citation method and literature review support, and access to electronic library resources like e-books and databases. The authors discuss advantages of the model, including opportunities for interdisciplinary faculty/librarian collaboration, new methods of outreach, ongoing student support, and the chance to build an extended rapport with students beyond the typical one-shot library session. They also describe some of the challenges of the model, including scalability, potential privacy concerns, and time demands on librarians who may already feel overextended with their workload. In order to ensure success, the authors recommend embedding librarians who have a thorough understanding of the LMS, course content, faculty objectives, and student needs, and who are capable of building strong collaborative relationships with course faculty and courseware administrators.

Hallyburton, A., & St John, B. (2010). Partnering with your library to strengthen nursing research. *Journal of Nursing Education*, 49(3), 164-167. doi:10.3928/01484834-20091118-04

The authors discuss an example of successful collaboration between nurse educators and librarians to teach online nursing students skills to effectively evaluate and use health information to inform evidence-based practice. They argue that while libraries provide extensive virtual services for their distance learning students, many learners still prefer some in person guidance, and few examples exist of librarians offering substantial face-to-face services to online students in addition to web-based tutorials and research guides. The service model they discuss involves providing on site library services, such as orientations and one- or two-shot instruction sessions, to nursing students at a satellite university campus via regular campus visits by the nursing liaison librarian. They discuss the benefits of regular face-to-face contact between the librarian and students and faculty, including improved communication, increased opportunities to provide assistance to students, and greater opportunities to foster close working relationships with both students and faculty.

Jacobsen, H. h., & Andenæs, R. r. (2011). Third year nursing students' understanding of how to find and evaluate information from bibliographic databases and internet sites. *Nurse Education Today*, 31(8), 898-903. doi:10.1016/j.nedt.2011.01.003

The authors discuss the results of a three-year quasi-experimental study whose goal was to improve undergraduate nursing students' understanding of information literacy. The authors divided a new cohort of undergraduate nursing students into two groups, one of which followed a revised curriculum that required them to complete a

greater number of research assignments in order to examine whether they developed a better understanding of how to locate and evaluate information than the control group. Pre- and post-test questionnaires were used to collect data at the beginning of the first year and at the end of the third year, respectively. Findings indicated that the majority of students in both groups overestimated their abilities to conduct efficient literature searches, as evidenced by their lack of understanding concepts such as Boolean operators, truncation, and subject headings, and by their inability to identify criteria for evaluating library resources and websites. Contrary to expectations, there was little difference between the knowledge displayed by the intervention group and the control group at the end of the third year, though the authors acknowledge that a low response rate may limit the generalizability of their findings. Although the study did not directly examine distance learners, its findings may still be noteworthy to librarians and nurse educators involved in developing curricula for teaching information literacy to nursing students.

Kumar, S., Wu, L., & Reynolds, R. (2014). Embedded librarian within an online health informatics graduate research course: A case study. *Medical Reference Services Quarterly*, 33(1), 51-59. doi:10.1080/02763869.2014.866485

The authors discuss a project at the University of Tennessee Health Science Center to evaluate embedded librarian services in the online graduate health informatics research course “Concepts in Research Methodology.” During the project, a health sciences librarian was added as a teaching assistant to the course management system Blackboard, which allowed her access to course content and all class materials. The librarian offered services such as linking to library resources, answering APA style-related questions, providing help with reference management tools such as EndNote, and

providing training on locating, accessing, and evaluating resources for course assignments and projects. The service was evaluated using pre- and post-class surveys designed to analyze whether assistance from the embedded librarian helped literature searching and literature review skills, and by a content analysis of email questions students sent the librarian throughout the class using NVivo 10 research software. Student comments from the survey indicated they found the embedded librarian project helpful and valuable. Responses also identified the most important aspects of the embedded librarian as offering searching tips and assistance, answering email questions, and helping with APA formatting. Themes that emerged from the content analysis of the email questions included literature review, help with APA formatting, citing sources, article critiquing, and reference questions.

Lyons, T. (2013). Omnipresent learning via interactive media. *Journal of Electronic*

Resources in Medical Libraries, 10(3), 119-131.

doi:10.1080/15424065.2013.819737

The author discusses a multiyear study on integrating digital storytelling into the learning management system during an accelerated seven-week undergraduate nursing research course in order to increase student engagement and foster reflective thinking about the research process. She stresses connectivity and interaction as keys to student engagement and learning, and argues that certain features common to learning management systems, such as discussion boards, chat, and interactive tutorials, can facilitate connection and enhance the learning experience. She posits that collaborative digital storytelling is one method of facilitating students' communication and reflective thinking, and can provide much-needed human contact in an online setting.

Researchers used a comparative study design using both quantitative research methodology with a one-shot class case study and qualitative anecdotal evidence. In the first study, facilitators initiated dialogs with students using the learning management system's discussion forums, designed to create a kind of collaborative web-based diary about the research process in which everyone (including the embedded librarian) could participate. The study was repeated the following summer using VoiceThread, a digital storytelling program that allows for audio, video, and text postings. Questionnaire responses and course evaluation feedback indicated that students had a generally positive experience with the discussion boards and digital storytelling, and that they appreciated the collaborative learning process. Researchers claim the data generated from the study was valuable despite lacking statistical significance due to small sample sizes, and that the digital discussions increased student engagement and reflective thinking. Though the study was conducted by using the learning management system to enhance face-to-face nursing classes, the innovative, creative use of the LMS may be instructive for distance learning faculty and librarians interested in fostering student learning, connectivity, and engagement in online courses.

McCulley, C., & Jones, M. (2014). Fostering RN-to-BSN students' confidence in searching online for scholarly information on evidence-based practice. *Journal of Continuing Education in Nursing*, 45(1), 22-27. doi:10.3928/00220124-20131223-01

The authors discuss an example of successful collaboration between a librarian and nursing faculty member to integrate information literacy instruction into an online RN-to-BSN program. The authors argue that information literacy is an increasingly

critical component of nursing education, since BSN graduates are expected to find and use evidence to inform their practice. They identify convenience as a significant factor in where people seek information, and confidence as a barrier to successful searching for scholarly information. The authors describe five strategies for teaching information literacy in the online environment: embedding a librarian in online courses through such means as library links, tutorials, and discussion boards; collaboration between librarians and nursing faculty on assessment and curriculum support; point-of-need subject guides that provide access to resources like databases and tutorials; a student-centered approach to learning that includes authentic, real-life assignments; and student reflection on the learning process, which helps librarians and faculty monitor development of students' information literacy skills.

Posey, L. p., & Pintz, C. c. (2014). Easing students' transition to online graduate education. *Distance Learning*, 11(1), 63-66.

The authors discuss the comprehensive orientation for online graduate student learners in the School of Nursing at George Washington University. The orientation, comprising multiple interactive, multimedia modules that introduce students to technology, learning resources, and success strategies, includes a library module that demonstrates how to conduct literature searches and use online library resources. The modules were created by an interdisciplinary team that applied Keller's ARCS model (gain attention, demonstrate relevance, build confidence, ensure satisfaction) to engage learners, and used real-world examples to reinforce the relevance of the learning content. Initial surveys indicated that the majority of students found the modules engaging and relevant, and agreed they would apply the information learned in their course. The

authors maintain that most institutions with high retention rates of online learners include similar comprehensive orientations, indicating a correlation between institutional support and distance learning student retention.

Schroeder, H. (2010). Creating library tutorials for nursing students. *Medical Reference Services Quarterly*, 29(2), 109-120. doi:10.1080/02763861003723135

The author discusses a project to create, promote, and assess online library tutorials for College of Nursing students at Michigan State University. The project was designed to address students' information needs and to provide on demand instruction to accommodate the busy schedules of nursing students, many of whom demonstrated a lack of confidence in using library resources in their coursework. The author states that it was necessary for tutorials to contain relevant content; be clearly branded and have a well-organized, uniform appearance; and be relatively concise, with a goal running time of two to four minutes. She developed topics based on student interviews, frequently asked questions, and requests from faculty, and used Camtasia software to create the tutorials, which allowed for both audio and video and had robust editing capabilities that gave the finished tutorials a polished, professional look. The author also heavily promoted the tutorials in numerous ways, both in person at meetings, orientations, and during one-on-one interactions with students and faculty, and online via a web page, listserv, blog, and in the learning management system. A short survey designed to gather feedback on the tutorials' perceived effectiveness indicated that most respondents thought the tutorials were helpful, and provided topic suggestions for future tutorials.

Schulte, S. J. (2008). Integrating information literacy into an online undergraduate nursing informatics course: The librarian's role in the design and teaching of the

course. *Medical Reference Services Quarterly*, 27(2), 158–172.

doi:10.1080/02763860802114272

The author discusses a librarian's role in creating and teaching the information literacy component of an online undergraduate nursing informatics course. For the information literacy unit, the librarian created seven brief video presentations that covered topics including the relationship between information literacy and evidence-based practice, online consumer health information sources, evaluating websites, choosing appropriate databases, keyword searching, subject searching, and database search techniques, all of which were designed to help students search for information related to their final project for the course. The author describes some of the challenges of the course, including the time commitment, the limits of technology in facilitating communication, and the need for evaluation of the efficacy of online delivery methods. She also identified key factors contributing to the success of the course, including teamwork between the librarian and course instructor, and adequate course time and final project points devoted to the information literacy component.

Shaw Morrison, R., & Krishnamurthy, M. (2008). Customized library tutorial for online BSN students: library and nursing partnership. *Nurse Educator*, 33(1), 18-21.

The authors discuss a collaborative effort between nursing faculty and librarians to create a customized library tutorial for online RN-to-BSN students at the University of Alabama. The authors outline some of the challenges faced by online students in successfully completing research assignments, especially those students who are returning to the educational environment after several years in the work force. They point out that online students do not have the same advantages as on campus students in

seeking face-to-face help in locating and retrieving information, and they argue that the proliferation of information online has vastly outpaced students' ability to remain adept at accessing and evaluating the resources they need to support an evidence-based decision-making process. The tutorial was composed of five discrete instructional units: Web Searching, Refining Searches, Library Resources, Databases, and Practicing Nurses. Responses and comments from a student evaluation survey on the tutorial indicated that students found the modules helpful, and also provided concrete suggestions for improvement, including audio voiceovers and visual demonstrations.

Shell, L., Crawford, S., & Harris, P. (2013). Aided and embedded: The team approach to instructional design. *Journal of Library & Information Services in Distance Learning*, 7(1-2), 143-155. doi:10.1080/1533290X.2012.705627

The authors describe the benefits of a team-based approach to creating scalable, reusable learning modules to embed in learning management systems for classes of online learners in the RN-to-BSN program at Arizona State University, an institution with a sizeable online learning population. The authors argue that adding an instructional designer to a collaborative team that also includes a faculty course designer and an embedded subject librarian can eliminate the technological, instructional, and assessment barriers to delivering information literacy instruction that librarians typically face in the online environment. After agreeing on course learning outcomes and method of delivery, the three-member teams created small, reusable learning modules to embed in course shells in the learning management system. The team also created both basic and advanced skills quizzes with the LMS quiz feature to assess student learning and to help determine

possible topics for future modules. Comments by students and faculty indicated the modules were effective.

Sullo, E., Harrod, T., Butera, G., & Gomes, A. (2012). Rethinking library service to distance education students: Analyzing the embedded librarian model. *Medical Reference Services Quarterly*, 31(1), 25-33. doi:10.1080/02763869.2012.641822

The authors describe a project in which they collected and qualitatively analyzed reference questions sent to librarians embedded through Blackboard in courses in the Schools of Nursing and Medicine and Health Sciences at George Washington University.

The goal of the project was to identify and understand where students experienced difficulty during the course and to devise a proactive model for delivering assistance to students, instead of waiting for students to initiate contact with the librarian when they needed help. Librarians assigned questions to one of seven categories: using library resources, off campus access, locating a book, locating a journal article, general research guidance, citation management, and other. Over a third of the questions fell under general research guidance, followed by citation management and using library resources. Based on these results, the authors decided to add a library instruction component to courses using the synchronous web conferencing tool Elluminate Live! The authors include a set of best practices for embedding a librarian, including advance planning with the course instructor to determine the extent of the embedded librarian's role; introducing the librarian at the start of the class and using a photograph and personalized email to ensure students have contact information and are aware of library services; leveraging technologies such as Elluminate Live! to provide assistance beyond the discussion board

and email; and incorporating web-based support within the learning management system, such as links to tutorials.

Turnbull, B., Royal, B., & Purnell, M. (2011). Using an interdisciplinary partnership to develop nursing students' information literacy skills: An evaluation.

Contemporary Nurse: A Journal for the Australian Nursing Profession, 38(1-2), 122-129. doi:10.5172/conu.2011.38.1-2.122

The authors discuss the model for teaching information literacy skills to first year distance learning nursing students at Charles Darwin University in Australia. They identify the role of the librarian as key in providing support to students who enter the program lacking the skills to access and use library resources, which are essential for both successful completion of the program and for their careers in evidence-based nursing practice. In response to student reluctance to use online library resources, a team of three librarians collaborated with teaching faculty and other university departments to create an asynchronous Health Online Tutorial. The interactive tutorial was designed to engage students in active learning activities to develop skills in locating, accessing, and evaluating resources needed for their research assignments. It included six modules: locating relevant resources, search strategies, evaluation, citing sources and avoiding plagiarism, best practice examples, and a “test your skills” module to enable practice.

Ware, F. (2011). The development of a blended learning approach to delivering information skills training to large health related student audiences with limited staff resources. *Health Information & Libraries Journal*, 28(3), 230-236.
doi:10.1111/j.1471-1842.2011.00942.x

The author presents a case study example of a blended learning model for teaching information literacy skills to first year nursing and midwifery students at the University of Hull. She discusses several challenges commonly faced by academic librarians in delivering library instruction, including increasing numbers of students, limited library faculty, and diminishing budgets. In response to these challenges, the author designed a fifty-minute face-to-face introductory presentation for students that covered topics such as database and catalog searching, and which integrated multimedia and interactivity to enhance retention and address different learning styles and preferences. She also created an asynchronous online tutorial to teach information literacy concepts, and she notes best practices in content and design of tutorials, including stating the educational objectives at the beginning of the presentation, incorporating active learning and collaboration, and using media for learning through both auditory and visual channels. The author also incorporated face-to-face workshop sessions into the blended learning model to enhance and reinforce learning and to address the needs of kinesthetic learners. Student scores on the information literacy assessment increased after implementation of the blended learning model, suggesting that the mixed-methods approach to teaching information literacy can contribute to successful learning outcomes.

Whitehair, K. J. (2010). Reaching part-time distance students in diverse environments.

Journal of Library & Information Services in Distance Learning, 4(3), 96-105.

doi:10.1080/1533290X.2010.503166

The author discusses the student-centered reference and library instruction model used at the University of Kansas Medical Center to reach distance learning graduate students in the School of Nursing. She describes the characteristics of returning graduate

students, who may face psychological challenges such as lack of confidence in an academic setting and anxiety using newer technologies, as well as schedule constraints due to work and family demands. The author stresses the importance of recognizing individual needs of students and encouraging one-on-one interaction with the librarian liaison. She also underscores the need for flexibility in delivering library resources to online students, such as adopting multiple methods of interaction like online conferencing and instant messaging in addition to phone and email. The author also provides examples of library outreach efforts, such as a pre-orientation welcome letter, online orientation modules for distance learning students, and collaboration with School of Nursing faculty to include the library in a course. The extent of collaboration varies depending on course content and the needs of students; examples range from simply adding an “Ask A Librarian” discussion board to online courses, to more extensive collaboration to create an information literacy project that combines synchronous, asynchronous, and individual instruction for a Doctorate of Nursing Practice capstone course.

Xiao, J. (2010). Integrating information literacy into Blackboard: Librarian-faculty collaboration for successful student learning. *Library Management*, 31(8), 654-668. doi:10.1108/01435121011093423

The author discusses a collaborative model for embedding a librarian and course-specific library resources into a first semester nursing course using the learning management system Blackboard, with the goal of helping students develop information literacy skills and complete a research paper assignment on culture, aging, and health. She argues that the widespread adoption of learning management systems by universities provides unique opportunities for academic librarians and instructors to collaborate on

the delivery of effective library instruction. Students' introduction to the library in the course began with a face-to-face orientation designed to familiarize students with important nursing resources and research skills. The author also developed a library course website using Blackboard, which included resources such as database links, tutorials, websites, and writing guides. Based on positive feedback, she eventually integrated the core components of the library course directly into the nursing course site on Blackboard to provide a user-friendly, seamless experience for the students. Course facilitators also added discussion boards where students could post questions about the library. The library component of the course continued to evolve based on student needs, including the addition of anti-plagiarism help and video tutorials. Student responses to annual surveys regarding the library orientation indicated that they found it helpful and effective in improving their research skills.