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Strategies for Staying Sane While Providing Research Support and Instruction in High Enrollment or Research-Intensive Programs

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Abstract

Managing the duties of an academic liaison librarian can be a challenge, especially when the liaison departments have high student enrollments. Two librarians from separate comprehensive Michigan universities assigned to the schools of Health Sciences and Nursing, representing ~4,000 students per semester and with 37 years combined experience, discuss a myriad of strategies used to provide instruction and research support both in-person and online for high enrollment programs and tips for keeping sane.

Introduction

Academic librarians are assigned liaison areas for which they provide numerous services to both students and faculty, including instruction, collection development, and research and instructional support. Managing all the liaison duties along with other assigned and desired professional work can be a challenge, especially when the liaison departments and schools have high student enrollments. Two health sciences and nursing liaison librarians from separate comprehensive Michigan universities have each been tasked with supporting about 4,000 students per semester. Meeting the learning styles and needs of these large numbers of students in multiple course sections requires a multifaceted approach. Strategies used to provide both in-person and online research instruction for undergraduate and graduate students will be discussed, including short videos for FAQs and class assignments; train-the-trainer instruction; course-targeted research tools; and self-enrollable short courses and learning modules integrated into the campus learning management system. Additionally, we will address methods for handling repetitive content and the challenges for providing instruction to large numbers of students with varying levels of research and computer skills in both face-to-face and online programs. Our aim is to share the knowledge gleaned from 37 years of combined experience and to present practical techniques and best practices that can be easily adapted and utilized at other institutions.

Background on High Enrollment Programs in the Health Sciences and Nursing

Over the last decade, the economic news reports have continuously touted the same message, that is, that health care employment is on the rise and will continue this projection for the foreseeable future. The *Employment Projections: 2016-26 Summary* asserts that the health care sector is projected to add about one-third of all the new jobs in the United States (U. S. Department of Labor, Bureau of Labor Statistics, 2017). In 2017, the health care sector became the United States' largest employer, surpassing retail and manufacturing, with much of this growth being attributed to the United States' aging population (Thompson, 2018). This message has been received by college students, and they have been enrolling and graduating in professional health care programs in record numbers at U.S. universities (U.S. Department of Education, 2017).

Increasing Professional Competencies

There is more to the story behind these increasing numbers than simply a healthy employment forecast due to an aging population. A number of factors emerged in the late 1990s that are driving an evolution in the health care professions. One of the biggest forces was the incorporation of evidence-based practice into patient care in the United States, a methodology that had been earlier adopted in countries such as Great Britain, Australia, and Canada (Hasson, 2003). Evidence-based practice (EBP) necessitates a medical literature research expectation, a component that was not previously part of the baccalaureate program of study and degree certification.

In the field of nursing, the Institute of Medicine Report in 2004 not only emphasized patient safety but also stressed evidence-based management. The IOM's 2010 report, *The Future of Nursing: Leading Change, Advancing Health*, put forward eight recommendations, five of which are transforming nursing education and the future of the profession. Recommendation 2 raises the profile of nurses, emphasizing the need for them "to lead and manage collaborative efforts with physicians and other members of the healthcare team to conduct research and to redesign and improve practice environments and health systems." The 4th Recommendation has had a direct impact on the large influx of students to schools of nursing at colleges and universities, "Increase the proportion of nurses with a baccalaureate degree to 80% by 2020", as does the 5th Recommendation, "Double the number of nurses with a doctorate by 2020." The 6th Recommendation, "Ensure that nurses engage in lifelong learning" and the 7th, "Prepare and enable nurses to lead change to advance health" work on the assumption that advanced education will craft nursing leaders who will assume administrative positions on government, public and private decision-making (Finkelman, Kenner, & American Nurses Association, 2012.)

To align with these recommendations, the Information Literacy Standards for Nursing Task Force of the Health Sciences Interest Group wrote the *Information Literacy (IL) Competency Standards for Nursing* in 2013, which were approved by The Association of College and Research Libraries (Phelps, Hyde, & Wolf, 2015). These standards were developed as a means to promote and incorporate IL in all basic to advanced nursing programs with the intention of providing all levels of nurses the skills necessary to find and apply evidence in their professional practice (Phelps, Hyde, & Wolf, 2015).

Degree Program Expansion

The concept of advanced professional competencies brought the increase of terminal degrees at the master's and doctorate levels. The clinical doctorate is a degree that carries the acknowledged professional title of "Doctor" but also focuses on advanced professional skills and "direct autonomous patient care" (Hasson, 2003). This change in the early 2000s brought allied health professionals onto the same playing field as other professionals at the top of their fields, e.g., dentists are Doctors of Dental Science, chiropractors are Doctors of Chiropractic (Hasson, 2003). Additionally, carrying the "doctoral" designation, similar to the "physician status" of medical doctors (M.D.s), allows, for example, physical therapists to potentially be directly reimbursed for their services by health insurers. (Zusman, 2017).

Furthermore, many professional organizations began crafting statements and deadlines, and accrediting bodies began requiring, that the transition to terminal clinical doctorates begin. Physical therapy's accrediting body, Commission on Accreditation in Physical Therapy Education (CAPTE), requires that all programs be post-baccalaureate by 2020 (Hasson, 2003). The American Occupational Therapy Association seeks a 2025 target date for all programs to transition to the clinical doctorate level (American Occupational Therapy Association Board of Directors, 2014).

These nursing and health sciences professional programs are offered at the undergraduate baccalaureate and graduate program levels and come in a variety of structures. Nurses, for example, can earn baccalaureate degrees via traditional four-year programs, in accelerated 1.5 year Bachelor of Science in Nursing (BSN) programs, and in Registered Nurse (RN) to BSN programs. Graduate nursing programs include the Master of Science in Nursing (MSN) which normally takes between 1.5-2 years to complete, whereas the Doctor of Nursing may take from 3-6 years to finish. The pedagogy used to instruct these courses within these degree programs can be traditional face-to-face classroom teaching, fully online instruction, or a hybrid mix of both face-to-face and online course interactions. ("Best Types of Nursing Degrees", n.d.).

Graduate programs expect a higher level of research intensity. They require more librarian time to address the development of multi-part research questions, assistance with locating, accessing, evaluating, and managing higher-level resources focused on evidence-based practice. Graduate students are exploring questions directly informed by their workplace experiences, bringing first-hand knowledge to their inquiry, but lack the skills to conduct research and incorporate these pieces into their final deliverable.

High enrollment programs of study will intrinsically include diverse groups of learners. Nursing and other health sciences programs, as such, will also include a high number of returning students, traditional and non-traditional students, those that are employed full or part-time, and large numbers of parents or caregivers and veterans. How to provide support and instruction that best meets the myriad of preferred learning styles and needs can be a challenge.

Graduate and accelerated programs are frequently partial or fully-online. While distant and online instruction may accommodate students' busy schedules they may not be the best fit for their learning needs (Atack & Rankin, 2002). Furthermore, assignments in these programs often include group projects, posters, slide presentations, literature reviews, and research papers. Many students have had limited or no exposure to research terminology or limited opportunities to build research skills, and their technical competence and ability vary greatly.

Context for Strategies

As Nursing and Health Science Librarians we must be creative in meeting the research needs of large numbers of diverse students semester after semester. By employing a myriad of solutions to extend research instruction and to provide individualized assistance, we can support students while also maintaining our own workload balance, allowing room for professional growth while also preserving some sanity.

Some strategies will require collaboration with teaching faculty and/or other librarians and staff, while others involve the deployment of technology to mediate support. The strategies presented were utilized or combined as needed. In each semester different factors influenced whether a particular strategy would be appropriate, such as our current course load, our available time and resources, student and program characteristics (undergraduate or graduate students; face-to-face or online courses), the project or assignment, expectations of faculty, and subject faculty confidence with technology.

This article is intended to be a resource to directly support practice. Our intention is to provide the methods and interventions we used and deemed successful through various reflective and formative assessments, a justification for why we used a particular method and, when relevant, an approximate time commitment needed to develop, execute or maintain each strategy. When possible, we have included links to sample resources that can be adapted as appropriate for other institutions. We will not be reporting on assessment data for each strategy, as we have made continual adaptations in the strategies as currently presented. However, when it is appropriate, an assessment method used for the strategy is reported.

For each strategy, we have included (when appropriate) the approximate development and execution or maintenance time. The assigned levels are based on a librarian with a moderate level of experience as an academic librarian.

Time Matrix Key

Low = under an hour

Medium = 1-3 hours

High = four or more hours

Strategies for Research Instruction

Flipped Classroom Model

The use of priming activities prior to a live class session is often referred to as “flipping the classroom” or flipped classroom pedagogy (Rivera, 2015). Students view lectures or complete online materials prior to coming to the class. This frees up the class time to be used for active learning activities (Bergmann & Sams, 2012). For library instruction with a large student population, the use of priming lessons can help to ensure all students have a basic level of knowledge before engaging in face-to-face activities. Videos introducing the library or subject research tools, or searching tutorials and activities can be loaded into the learning management system (LMS, e.g., Canvas, Blackboard) either by the subject faculty or librarian. In-class time can be spent reviewing what was learned and implementing skills. Conducting active learning activities in large face-to-face classrooms has its challenges, but it is still possible to have students work in groups and get hands-on time with the techniques and tools (Rodriguez, 2016). Providing students the opportunity to problem-solve together and learn from one another has the added benefit of normalizing their struggles with the research process. Nursing

students, in particular, those in primarily online courses, appreciate the hands-on learning experience and face-to-face interactions.

This strategy was originally developed for a large-multi section introductory health science course. The priming activities ensured all students were approaching the in-class group activities with the same background knowledge. This model has also been used in hybrid (partially online) research-intensive courses. Each semester students are asked to provide feedback on the online content at the end of the modules. A survey (Google form) is presented before the end of the lesson which students are required to click on to record their work. Students are also directed to a feedback form linked from the course page at the end of the face-to-face sessions. The feedback is used to revise content and review questions for clarity and revise how in-class activities are structured.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
High	Medium	Medium

RESOURCE: A massively flipped class: Designing and implementing active learning information literacy instruction for a large enrollment course. <http://hdl.handle.net/10323/4616>

Partnerships Between Librarian and Classroom Faculty

As new advanced professional practice degrees are added to program offerings at colleges and universities, instruction needs increase, especially in areas that require a capstone or culminating projects. To best facilitate the research instruction of the graduate-level research and writing-intensive programs, the librarian and the classroom faculty need to work as a team. In this way, they collaborate to structure the assignment and determine the date of the research sessions so that the students learn the information literacy (IL) skills at an optimal time for the given project due date. The 1-2 hour IL sessions, as well as the student research consultations, are integrated into the curriculum and the course syllabus.

In longer sessions, a multi-faceted approach is the most useful. A combination of teaching strategies including lecture, small group activities, individual active learning exercises, and optional or required small group librarian consultations meet the various learning styles of the students and reinforce the IL concepts. Utilizing a variety of learning methodologies also partitions the class into digestible segments, increases student engagement, combats librarian instructor fatigue, and bolsters student confidence in their research skills.

In these models, the IL skills are tiered into the writing and research-intensive courses over a period of 2-4 instruction sessions, depending on the program and the culminating project. The librarian attends one of the classes early in the semester and engages the students in the basics of research concepts and search strategies. At the second meeting, the librarian covers the concepts and language of evidence-based practice/medicine. The students build their confidence by using these new research skills and begin to consult with each other as colleagues and as team members, relying more on each other and less on the subject librarian, which enables them to experience the scholarly research conversation and the role they will eventually play in the healthcare team.

These strategies are best applied in graduate-level classes of no more than ~30 students that require a final group project(s) and where much of the work is completed independently post-IL instruction.

During the small group consultations, rather than providing direct instruction, the librarian steps the students through higher-order thinking. She coaches the students in how to conceptualize their subject matter and explore which professionals, professional organizations or think tanks would produce scholarly material, data or evidence that would support or undermine their research topics. An assessment takes place at the end of the semester via an emailed (Google form) survey. Subsequent changes to the course content or construction are made based on the feedback.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
High	Medium	Medium

RESOURCE: Library Research Instruction Evaluation Form <https://bit.ly/383K8ny>

Small-Group Consultations

There are two models for the small group consultations which take place after the initial IL sessions. In both models, the consultation class is not held in the library, but in the students' classroom building. There are four reasons for selecting this setting; 1) health sciences and nursing students spend much of their time in the health sciences building which becomes their home base. Experience has indicated that they work most productively in a familiar environment in their community groups; 2) the librarian is fully visible and available at the point-of-need to work with any student group. Past course designs have demonstrated that this technique reduces the number of future group appointments; 3) it safeguards the librarian's time commitment by providing a class meeting time-boundary; 4) the furniture in the classrooms is mobile which allows for ease of movement between small groups.

Model #1

In Model #1, consultations are scheduled about a month after the initial IL session for the entire class time. The faculty member and the librarian rotate among the small groups, and any group or member can meet with either of the instructors. Afterward, any group can elect to make an appointment using the librarian's public online appointment calendar. Typically, only a small portion of the groups sign up to meet a second time, and because the students have already explored their topics in-depth, any subsequent meetings are generally focused and short.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
Low	Medium	N/A

Model #2

In Model #2, the student groups are required by their faculty member to make a minimum of one appointment with the librarian to discuss their research paths, database selection rationale, and search strategies. For the same reasons stated previously, these meetings take place about a month after the initial session in the health sciences building, either in the classroom or in a common open space in that building. To minimize confusion in appointment scheduling, the librarian blocks out calendar time over four days to accommodate these group appointments, and only students from the designated class can sign up during those time slots. This course requires a rigorous assignment, and reserving time blocks for students from this course to schedule consultations allows the librarian to

have a singular subject focus without student appointments from other courses intervening. As in Consultation Model #1, because of the extensive up-front hours of instruction and interaction, any optional follow-up 30-minute appointments tend to be small in number, and short and focused.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
Low	Medium	N/A

Integrating Library Guides into a Learning Management System

Creating and making available course and subject guides has emerged as standard practice in academic libraries. The platform most frequently used to create guides is Springshare's LibGuide software. Research guides can provide both basic and advanced research support at the undergraduate or graduate level, even standing in for introductory librarian support, depending on the needs of the program or assignment. Research guides are especially useful in providing support in online or hybrid courses. Integrating library resources with the university's learning management system (LMS) to automatically link to a library guide in the menu options for each course created increases the reach of an individual guide. Students report that having the link embedded within the LMS course shell not only provides easy wayfinding but also reduces confusion when selecting the pertinent resources for a subject area. The link can point to a general health-based research guide or a course-specific research guide. Working in partnership with the university's IT or e-learning department facilitates this process and any subsequent trouble shooting.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
Medium	Low	Medium

RESOURCE: General Library Guide: <https://bit.ly/2lHs8wp>
Course Library Guide: <https://bit.ly/38Thwi7>

Reinventing Course Guides into Toolkits

While course guides pull together specific course-related resources and assignment needs, libraries purchase a wide variety of resources that go beyond what is typically listed on a course page and often there are useful tools buried inside databases and reference packages. Nurses, in particular, need more than just access to literature and books, they also have clinical coursework with information needs. To meet this demand, a *Nursing Toolkit* was developed modeled after a similar webpage from the University of Washington University Libraries. Using the library's course guide software (SubjectsPlus) a topical guide was built that co-locates disparate highly useful but rarely used tools found deep inside other databases, such as drug calculators, anatomy tools, practice guidelines, test preps, and handbooks. In an effort to act as a quick access point rather than an informational guide, the links include little to no added explanations.

The structure of the library's website readily highlights course and subject guides but not topical content; therefore, the *Nursing Toolkit* isn't easily discovered online. To mitigate this problem Nursing faculty were asked to share information about the new resource with their students, which they did through email and embedding the link in the LMS course pages. The guide was also featured on the

Library's homepage under news items for the first year after development. Each year, the toolkit is routinely among the top 20 most visited guides on the library's website and is the top-visited nursing-specific guide.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
Medium	Low	Low

RESOURCE: Nursing Toolkit <https://bit.ly/2wSIUul>

Short Videos for FAQs and Class Assignments

Many of the questions received at both the undergraduate or graduate level are repetitive in nature, e.g., database recommendations for health sciences or nursing research, how to compose a keyword search, what is a truncation mark, how to locate a subject heading, how to limit to research-based articles, etc. Rather than answer each question individually, short, 1-3 minute videos using Nimbus (a Chrome plug-in), Camtasia or PowerPoint, were developed to demonstrate standard searches in the CINAHL (Cumulative Index of Nursing and Allied Health Literature) and PubMed-Medline databases. The links are easily embedded in any email or virtual chat response, reducing the time spent explaining the same information. Students report that they appreciate the short time frame of the videos, which motivates them to watch the videos more than once. In addition, the technology allows the learner to save or download the resource for future reference, as well as play and replay the video until they grasp the concept.

Two drawbacks to adopting video-based research instruction support are the changing nature of database interfaces and staying compliant with the [Web Content Accessibility Guidelines 2.0 \(WCAG 2.0\)](#) requirements. Research databases are notorious for updating and changing their search page interfaces. When this occurs, the video captures are dated and not congruent with the database interfaces with which the students are working. In some instances, this has caused student confusion, which may require an email explanation. A way to circumvent this issue is to use screen captures overlaid with text box explanations or audio that is saved as a slide deck or as PowerPoint slides. These can be linked appropriately in research guides, online course management systems, and web pages. An added benefit of using screen capture to create FAQ videos is their higher level of compliance with the U.S. federal government's requirements to make web content accessible to people with disabilities. If you don't have time to commit to developing specialized videos, you can link to vendor created help videos for database searching.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
High	Low	High

RESOURCE: Researching with CINAHL – Formatting records in APA <https://bit.ly/2Q5zaXe>

RESOURCE: Limiting to Research Articles <https://bit.ly/2PUS3vS>

Lecture Capture Model

Another model adopted to support research for specific class assignments is to record a live library research instruction session using lecture capture software (e.g., Panopto). This technique can be applied at the undergraduate or graduate level and is most effective when the assignment has a strict rubric and the course professor is interested in students having the ability to experience and re-experience an entire IL session for a particular class. This type of recording, while much longer in length, allows the librarian to provide context for the assignment, as well as discuss and demonstrate research concepts and searches that speak directly to the assignment requirements. Since the software captures all of the audio, visual and slide deck, all the course materials are available for future review at the point-of-need. To make the videos more user-friendly, the recording can be subdivided into parts so that the student can view only those portions that are relevant to their current question. These lectures can also be used in subsequent semesters to replace the librarian's face-to-face lecture, freeing up time to spend meeting with other classes or students. A voluntary assessment of student learning for the live recordings is embedded as a (Google doc or PollAnywhere) poll in the course research guide.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
High	Low	Medium

RESOURCE: Resource Authority & EBP Pyramids of Publication <https://bit.ly/2Q18Ttd>

RESOURCE: Lecture capture linked on course page <https://bit.ly/2mdnGWz>

RESOURCE: Embedded in-class quiz <https://bit.ly/3aePaQf>

Interactive Tutorials and Self-Enrollable Short Courses

Tutorials are resources that libraries have created in some form for years, whether they were paper pathfinders or online how-to-guides (Schroeder, 2010; Mestre, 2012). As technology progressed, the opportunity to create more engaging and in-depth tools emerged. Tutorials that provide help for common questions about the library, services or basic research help, e.g., keyword searching tips, can be utilized to quickly answer questions posed through email or in an online course. A longer, more technology-enhanced tutorial allows for a topic to be covered in more depth and can also provide active engagement and feedback on student learning (Rodriguez, et al., 2014; Greer et al., 2012). This can be achieved through using either stand-alone technology like Camtasia or with content built into the campus LMS.

Creating interactive tutorials, or short courses on universal topics provides an opportunity to offer multi-part lessons with review questions and final quiz options that enable students to gain new knowledge or brush up on skills in a safe environment not connected to their course grades. Several LMSs now have the capacity to issue a badge of completion that acknowledges the student's work and allows them to share this badge with a professor. These courses are very effective in establishing base-level competencies when assigned at a program-level.

In-depth tutorials and short-courses on academic integrity and plagiarism, copyright information for rights holders and users, data literacy, reading scholarly articles, and an introduction to the library were developed by groups of librarians collaborating as a temporary task force to outline and create the content. The courses are checked yearly for broken links and revised when needed to comply with accessibility standards. Quiz data is reviewed to evaluate the effectiveness and wording of questions. At both universities, these in-depth instructional tools are widely used on campus to ensure basic

knowledge for all students in a particular program or are assigned as a library skills course to all incoming graduate and transfer students.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
High	Low	Medium

RESOURCE: Understanding Plagiarism <https://bit.ly/2IP3AS2>

RESOURCE: Copyright and you: Copyright instruction for college students in the digital age <http://hdl.handle.net/10323/3161>

Course Integrated Learning Modules

Taking the stand-alone tutorial model to the next level is the development of task or course-specific learning modules built in the LMS and embedded into relevant subject courses. These lessons (e.g. Searching for Nursing Literature with CINAHL, Introduction to Evidence-based Research) can utilize the full power of the LMS by incorporating text, video, audio and review, and assessment tools. Lessons, activities, and quizzes can also be directly linked to the course grade book. The librarian creates the lesson content and either emails the downloaded module file to the course instructor or requests editing privileges to upload the content into the courses.

The drawback of this method is that going forward, the lesson now lives in the program instructor's class and as the course gets re-built for subsequent semesters or handed over to new instructors the content is copied over without the knowledge of the librarian. The lessons can become out of date, or no longer relevant to current assignments. The other concern is that students may get repeatedly exposed to the same material. Faculty, especially those teaching online courses, have been excited to include as many helpful resources as possible but they may not be aware of whether students are being asked to complete the same or similar lessons in another course. The two possible solutions are to create content that is unique to a specific course in a degree sequence with the goal of meeting a specific information literacy objective or use a badging system that would allow students to demonstrate their credentials when they have already been met.

At the end of the modules, students are asked to provide feedback (using a Google form) on the usefulness of the lessons. This feedback is used to revise content and review questions for clarity and to develop new content as indicated by the students' comments. For instance, students wanted a way to review videos again without having to navigate through the entire lesson. In response to this feedback, links to the videos were placed on the first page of the lesson under a resources header and were made available as a collection on the library's tutorials webpage.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
High	Low	Medium

Strategies for Individualized Research Support

Perhaps the most time-intensive aspect of providing research support for large enrollment programs is the sheer volume of students needing and requesting one-on-one support. We found it necessary to employ a variety of strategies to mitigate the high volume of requests for individual and group research help. The strategies we choose are influenced by student characteristics, i.e., undergraduate or graduate, traditional enrollees or returning students (those that have been out of school for a number of years), the project or assignment needs, and program-specific demands. Other factors considered that influence which method we choose for delivering support are: whether the student lives at a distance from the main campus, the student's work schedule constraints and family commitments, the student's facility and comfort-level with using technology, whether the student is part of a group, the type of course, (online, hybrid, face-to-face), and the required criteria and outputs for the assignment.

Technology-Mediated Consultations

Many nursing and health science programs, especially graduate programs, are partially or fully online, so students may be at too great a distance from campus to utilize the face-to-face services. Adding more types of appointment options to the research consultation scheduling system (LibCal) that allows students to choose how they would like to meet i.e., face to face in the library, online or over the phone can extend individualized support to distance students and those with professional or personal time constraints.

Virtual meeting systems such as WebEx which is integrated with the LMS or other web-based meeting platforms (GoToMeeting, Google Meet/Hangout) typically include a shared desktop feature that permits the librarian to demonstrate how to perform searches while simultaneously discussing search strategies. Students can take advantage of these meetings from home or on their lunch breaks or wherever it is convenient for them. While phone consultation may be less interactive, it still provides a means for personalized attention. When all coursework and discussions happen online, students may have not spoken to a 'live' person connected to their course, and the act of talking about their assignment out loud with another person can be very helpful. Often with a brief discussion and a follow-up email pointing to additional tutorials for support, the student can feel supported and be successful. At present, research consultations are not accessed but the online booking system (LibCal) does allow for the option to send a follow-up message or survey after the meeting.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
Low	Low	N/A

RESOURCE: Online Appointment scheduling <https://bit.ly/34r1vfV>

Template Emails for FAQs

Responding to student emails is a constant and ongoing element of providing support. One very simple strategy is to create several templates located in your draft folder for the most commonly asked questions. In some instances, entire email templates can be sent in reply, while in other circumstances portions or sections of these templates can be cut and pasted into email responses. These templates should include quick step-by-step explanations and links to existing tutorials that allow the student to answer their own questions for the immediate task and for future information needs.

The time spent creating a template response with a guide for appointment scheduling, or steps for limiting to research-based articles from nursing journals, quickly pays off in the number of times you will answer the most common questions. Students frequently save these email responses and refer back to them in future research projects.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
Low	Low	Low

RESOURCE: Email template <https://bit.ly/2m1H20I>

Encouraging Student Group Appointments

To reduce the number of individual appointments and save librarian time, students can be encouraged during the IL instruction session to form small subject groups rather than seek single one-on-one appointments. As simple as this sounds, many students think they are the only ones confused by their research projects, and recommending group appointments allows them to see that their classmates share similar struggles, and encourages them to form connections with their classmates.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
N/A	Low	N/A

Reoccurring Workshop Model #1

Offering workshops occurring several times throughout the semester connected to the timing of important assignments can cut down on the number of one-on-one consultations. A CINAHL Database searching workshop was developed to reach both undergraduate and graduate nursing students who, despite the availability of online modules and tools, continue to struggle to learn how to effectively search without face-to-face instruction.

The hour-long workshop is spent giving a quick, deep dive into searching techniques, demonstrating how to use CINAHL headings and filters. Techniques to assist with meeting course requirements are emphasized. Students get hands-on time with the database and an opportunity to ask questions pertaining to their current assignments. After the initial development of the workshop activity, these workshops require almost no preparation from the librarian. Each semester the workshop dates are advertised on the library website and announced to the health sciences and nursing faculty who share the information with their students. Students attending the workshops frequently comment that the instruction was extremely useful and that it should be required for all nursing students. Many students attend multiple times as they progress through their degree programs. Participants are asked to register online and then sign in at each workshop. This permits the librarian to mark attendees present in the registration system, after which they will receive a feedback survey for the workshop. The information gathered from this feedback is used when scheduling future workshops and for developing additional necessary resources.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
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Medium	Low	Low
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Asking for Help

This strategy may take the most courage. As professionals, it may be hard to recognize that asking for help with meeting the research demands of high enrollment programs is actually providing student support while still doing our jobs as experts. When a single librarian is tasked with supporting 3,000-4,000 students while also meeting the other service and research demands of the job the best path forward may be to utilize expertise where it is most needed.

One solution is for specialized training and resources to be given to part-time librarian faculty, staff or reference desk workers to help assist with the more straightforward questions, thereby reserving the subject librarians time for higher-level, more in-depth research support. This could be a quick demonstration at a faculty/staff meeting to boost their confidence and skills in helping these students and knowing when to encourage referrals to other campus units, or it could be a more extensive training. This could also take the form of redistributing introductory undergraduate course instruction to other librarians. Staff or part-time librarians may also be able to assist in periodically updating research guides, checking for broken links, creating reports and making technology-dependent resources more ADA (Americans with Disabilities Act) compliant.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
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Medium	Low	N/A
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Workload Flexibility

For librarian liaisons assigned to research-intensive and high enrollment programs, the distribution of daily workload is frequently unbalanced. For example, Health Sciences and Nursing librarians may be required to work as many reference slots as their colleagues, while also teaching high numbers of information literacy sessions and tackling huge numbers of individualized consultations. The uneven distribution of this workload can easily lead to professional resentment and burnout. To alleviate this problem, these librarians must communicate with their team and library administrators to request a more flexible schedule. This could be realized by working less or even no reference hours, perhaps working reference only during the slower months of the semester, or being assigned less demanding service commitments. This also might take the form of working shifted hours to compensate for evening or weekend classes.

DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
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N/A	Low	N/A
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Quick Reference Time Matrix for Research Instruction Strategies

STRATEGY NAME	DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
Small-Group Consultations, Models #1 & #2	Low	Medium	N/A
Short Videos for FAQs and Class Assignments	High	Low	High
Reinventing Course Guides into Tools Kits	Medium	Low	Low
Partnerships Between Librarian and Classroom Faculty	High	Medium	Medium
Lecture Capture Model	High	Low	Medium
Interactive Tutorials and Self-Enrollable Short Courses	High	Low	Medium
Integrating Library Guides into a Learning Management System	Medium	Low	Medium
Flipped Classroom Model	High	Medium	Medium
Course Integrated Learning Modules	High	Low	Medium

Quick Reference Time Matrix for Individualized Research Support Strategies

STRATEGY NAME	DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
Technology-Mediated Consultations	Low	Low	N/A
Template Emails for FAQs	Low	Low	Low
Encouraging Student Group Appointments	N/A	Low	N/A

STRATEGY NAME	DEVELOPMENT TIME	EXECUTION TIME	MAINTENANCE TIME
Reoccurring Workshops, Models #1 & #2	Medium	Low	Low
Train-the-Trainer Instruction for FAQs	Low	Low	Low
Asking for Help	Medium	Low	N/A
Workload Flexibility	N/A	Low	N/A

Conclusion

The demands that come from serving high enrollment programs require subject librarians to utilize many skills, build new capacities, learn how to reach beyond their offices to find support within their libraries, across campus and ultimately be comfortable with letting go. When one librarian is tasked with meeting the needs of 3,000+ students per semester, it is simply not possible to touch each student, but these strategies will help to broaden the reach. The approaches shared are intended to reduce repetition, extend access, mitigate burn-out and provide greater workload balance. These methods may be used in conjunction with one another and will be applied differently on each campus, as each institution is unique.

Librarians working in high-enrollment programs should not shy away from self-advocating to protect themselves from burn-out and to ensure support for students' research needs as best as possible. A conversation that needs to take place amongst subject librarians and library administration is the reality that the schools of Health Sciences and Nursing require multiple librarian subject specialists to meet the unique research demands of their expanding programs and growing enrollment numbers.

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