

# NAVIGATING THE INFORMATION NEEDS OF ONLINE & REMOTE STUDENTS: CHARTING A NEW COURSE

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## ABSTRACT

National is a non-traditional university that provides higher education to working adults in an accelerated (one-month) format. It is projected that by the end of 2007 over half of the 22,000 full-time equivalent (FTE) students will be taking classes online. To meet this change in student demographics, the Library changed its service model and now provides all library instruction online via voice and video over the Internet or as web-based interactive tutorials. The move to synchronous training over the Internet has called on us to develop new pedagogical approaches to our instruction to encourage active learning and HOTS (higher order thinking skills). Through the process, faculty have been surveyed for their perceptions of student competencies for skills they see as critical to success in their programs. The content from the library instruction list of over 25 classes serves as the baseline for developing parallel multimedia tutorials and just-in-time (JIT) training aids.

This presentation focuses on three aspects of this new service model: collaborating with faculty to better integrate information literacy into the curriculum; exploring online pedagogies and assessment; and redesigning library presence to better meet student needs. Participants will be able to view a demonstration of the online class sessions.

## INTRODUCTION

Providing higher education opportunities for working adult learners has often been relegated to extension programs. That or the adult student has had to adjust their work and family

life to fit traditional programs designed to meet the needs of 18-25 year olds. In 1971, National University was established to provide quality higher education for the working adult. Our program is unique in that intensive one-month classes are offered primarily in the evening. The model "campus" is classroom space in academic learning centers distributed near major traffic arteries. Today, the University has 27 Academic Learning Centers and an active online program that serve 22,000 FTE students. The last ten years has shown a marked increase in the number of students taking online classes. It has grown from 3,000 students in 1999 to nearly half of the FTE in 2007. In addition, many students taking classes at regional centers are linked with classmates in other centers by voice and video over the Internet (VOIP) distance learning system.

## LIBRARY OF THE FUTURE

In 2006, the library management began looking for a way to improve our services and better reflect the changing demographics of our users. We wanted to develop the library of the future. Previously, the National University Library's service model, "21st Century Cybrary," was based on providing regional librarians in a virtual setting. The larger academic centers were staffed with a professional librarian who collaborated with faculty and provided reference and library instruction without a physical collection. The main library collection is located in San Diego. Document delivery to regional students has been fast (2 day for books and 24 hours for articles) and free. The Cybrary model also emphasized rapid development of electronic resources. In seven years, the library's collection of e-books expanded from 3,000 titles to over 90,000. Under this model, development of electronic resources expanded along with their use. However, even with half of our public service librarian positions in the regions, we still were not meeting the needs of all regional centers and very little of the online population.

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To assist in the strategic plan process (National University Library System, 2007), library administration brought in a panel of librarian experts to help us envision the library of the future: Alane Wilson of OCLC, Mary Jane Petrowski, Associate Director of ACRL, Elizabeth Dupuis from University of California at Berkeley, and Randy Hensley from University of Hawaii at Manoa. They met with the library management team and held all staff workshops. In addition to the expert panel that shared their perspectives and dialogued with staff, the library management team analyzed the University student satisfaction surveys, which contain three library questions, and used the LibQual+ survey. The analysis of these surveys showed that the library and library staff scored well in their competence and service, but the library scored poorly in the access to and usability of library electronic resources. Overall, students were confused in how to find and use library electronic resources. Yes, we succeeded in developing a good collection, but it does not meet our students' expectations. The library's challenge is to "Googlize" library services for better access in a Web 2.0 online environment that students want.

The new Library 2U model was born with a focus on four areas:

- Virtual Reference (expand the email reference service that already exists to include IM-instant messaging and VOIP-voice over the Internet)
- Multimedia (develop more asynchronous library training that is JIT and on-demand, eventually replacing face-to-face library instruction)
- Outreach (develop ways to expand library liaison role to promote services)
- Assessment (measure our success in these endeavors)

The library restructuring began with the closing of the regional Library Information Centers (LICs) and the centralization of all reference services in September 2007. Library instruction was subsumed by the multimedia department. The library liaison duties have taken on a stronger role in outreach beyond the traditional collection development activities. In addition, the liaisons continue to provide face-to-face library instruction as requested by faculty until the tutorials can begin to play a stronger role. Table 1 shows the staffing changes. In essence, the main library gained two positions with the closing of the LICs and Instructional Services Department.

## TRANSFORMATION OF INSTRUCTION

Aside from losing the regional positions, the migration of library instruction into the multimedia department has been the most dramatic change. The vision is that library training (note that it is not referred to as library instruction or information literacy as a bow to adult learning workplace trends) will be asynchronous, phase out face-to-face, and be available online at the point-of-need for students. The first JIT materials to be

produced are taken from most frequently asked reference questions: access/password issues, how to find full text, and how to find peer-reviewed materials. These JIT materials will also be able to be plugged into tutorials that are discipline-focused.

The Library's Information Literacy Plan still exists as a silent partner. The plan calls for library training at three levels: library orientation, introduction to discipline; and advanced research. National University Library does not have a "for credit" course, required or otherwise. The library online orientation tutorial has been available for seven years. It began as a tutorial set-up in a Blackboard course template that was later updated as a Flash tutorial. The tutorial and library quiz are a required component of the undergraduate general education information literacy class which is part of the College of Letters and Sciences (COLS), not part of the library. Target classes have been identified in each of the academic programs for an introduction to research for the discipline. Without library instruction embedded in these classes, library instruction has been hit or miss in most programs. Library instruction tended to focus on course-related activities or requests by individual instructors rather than a consistent overview of research skills and information competencies. Since the reorganization, learning outcomes for the library training have been aligned with course learning outcomes and curriculum has been developed for many programs. In the first eight months of the new plan, thirty-four introductory and advanced classes have been developed, twenty-seven of which now have recorded sessions for students to view on their own time. The challenge is to take this content and make it interactive, student-directed, and modular. The new multimedia department has their work cut out for them.

## INSTRUCTIONAL DESIGN AND ASSESSMENT

The Multimedia Department follows ADDIE instructional design theory (Dick & Carey, 1996): Analyze, Design, Develop, Implement, and Evaluate. Once projects are identified, faculty and other subject matter experts (SMEs) are consulted for their input on content ideas. The instructional design coordinator writes learning objectives and outcomes, based on Bloom's instructional taxonomy and higher order thinking skills (HOTS) (Reigeluth, 1999, pp. 54-57), and prepares a training plan, tutorial flowchart, storyboard and script. The production team members develop the tutorial framework, design, and interactions. The quality assurance librarian is the check and balance system to ensure the product is true to its purpose and follows both instructional design and library web development guidelines. At each stage of the process, the instructional design coordinator elicits feedback and tests the product on various stakeholder groups.

Formative assessment is built into the various stages of the planning and development. Faculty focus groups are used to ensure that the learning outcomes support program course outcomes. Product models are tested on students for usability and needs satisfaction. The JIT pieces are independent modules and, in themselves, they do not provide assessment of learning skills or the student's ability to use those skills in another situation, however usability and satisfaction are measured along with use

reports. Summative assessment, the true measure of success for any program, includes stakeholder satisfaction with the end product and the ability of students to meet the learning objectives. Since the JIT pieces are incorporated into other tutorials, the student's ability to effectively use the skills can be measured at this level. The Library Orientation quiz now has a database that allows us to analyze how students answer individual questions and adjust the questions (and content) to better measure student outcomes. Similar quiz databases are targeted to be developed as the introductory and advanced program-based tutorials are deployed.

The team is ambitious and probably more perfectionist than our timelines like, but progress is steady. The team strives to incorporate subject matter expert (SME) input from the library liaisons and other departments to add value to the presentations and encourage collaboration. Newly formed departments face challenges to define roles and workflow. In the case of an instructional design team, this is particularly true. Our original two-man crew was suddenly overrun by three additional staff which had undergone major job description re-writes and suffered mildly from identity crisis precipitated by the changes. However, the department quickly meshed into one of the library's best working units.

## **PEDAGOGICAL CONSIDERATIONS**

Adult learning theory plays a critical role in the development of all of our academic programs including library training. Malcolm Knowles, father of American adult learning theory, furthered the studies of Alexander Kapps, a German educator, who in 1933 coined "Androgogy" (Grassian, 2001, pp. 77-78). There are six core principles in this theory (Knowles, 2005, p. 4):

1. Learner's need to know: why, what, how
2. Learner's self concept is one of autonomy and self-direction
3. Learner's prior experience shapes how they perceive new learning
4. Learner's readiness to learn is based in life-related activities
5. Learner's orientation to learning is problem-centered and contextual
6. Learner's motivation to learn is intrinsic and meets personal needs

There is freedom in this pedagogy. Adult learners like to take control of their learning environment and choose what they want to learn based on their current need. Because of their life and work experiences, they are much more pragmatic and focused. At National University, they are also focused because of our one-month accelerated program. There is little time to daydream, explore, play or procrastinate.

Androgogy shares some developmental concepts with Constructivism which grew out of Piagetian themes and Humanist approaches in the 1960s (Grassian, 2001, pp. 43-44). Constructivism believes that knowledge is "constructed" as one interacts with the environment. Therefore, learning is most effective when the learner is active in making a product or

solving a real-life problem. This process allows them to reflect on what they have learned and in turn allows them to share their knowledge with others. As these two pedagogies are blended in library training, tutorials quickly become opportunities for scenario-based learning where ideas can be constructed and re-constructed to fit the learners need. Rather than the librarian telling them what databases or search terms are best, they explore the variations and create their own solutions. One of the Web2.0 technologies we are exploring is how to use blogs within tutorials so that students may share their experience and new strategies with others. This process encourages students to interact with knowledge using HOTS.

To better meet the learning needs of our adult students, we are focusing on providing JIT resources- 3-5 minute tutorial modules that help answer common questions such as access/password, finding full text, and peer-review. These mini-tutorials, called "Short Cuts," provide a series of learning objects that serve multiple purposes. They are linked to library help and other point-of-use sites on the library Web pages; embedded in the various library tutorials; and the reference staff is able to incorporate them in their information query responses.

The Library continues to provide face-to-face library instruction on-demand. Regional and online faculty may join in this training via the University's Web conferencing software. There are several similar products on the market, but when National University selected iLinc, it offered the most flexibility and incorporated a full suite of classroom management resources in a synchronous learning environment: voice/video, text chat, breakout groups, shared documents, whiteboard, PowerPoint with annotation capabilities, and Web co-browsing. It also had built-in feedback response, quizzes and testing features. All sessions can be recorded and viewed later for review. iLinc gives us the ability to plan and manage our course curriculum as well as conduct live, interactive training sessions.

## **TRANSITIONAL ISSUES**

Scheduling of these sessions has been a challenge since the new library model does not have any instruction librarians. The reference department staff celebrates their freedom from instruction and resists scheduling even though they are all instructional program liaisons. During the development of the introductory and advanced training target classes, the liaison librarians were encouraged to provide SME and stakeholder input and participate in the scheduled sessions as part of their staff development. Because of desk scheduling conflicts and new staff training, very little of this occurred and most instruction was provided by the librarians in the multimedia department. Six months later, the curriculum is developed and most of the iLinc sessions have been recorded, but scheduling the on-demand sessions is still an issue that we struggle to master. Viewing a recorded session is not as engaging as a live session or as student-centered as a tutorial.

## **FACULTY COLLABORATION**

Without a required library course, the library liaisons are the key to communication of the library's information literacy

goals and training objectives between the library and the faculty. The multimedia department works with faculty focus groups in the development of training courses and tutorials, however the use of the tutorials rests with the liaisons and their ability to collaborate with faculty and embed the training materials in the target classes. Several of the schools have library committees that are strong library supporters. Participation in library workshops, such as Writing Across the Curriculum, provides opportunities for further collaboration. Recently several faculty have asked for assistance in developing better library activities in their courses based on what they have heard about the tutorials. Use of the recorded training sessions is just beginning to be viewed as an option by faculty as they wait for more tutorials to be developed.

## CONCLUSION

The idea of the JIT and program-based interactive tutorials that can be accessed by students at the critical juncture of their need fits the adult learning paradigm. The practicality of providing systematic information literacy to students and measuring their learning outcomes is still a vision, but we are making steady progress towards making it a reality. Faculty are excited about a series of tutorials focused on student learning needs that will prepare them for effectively using the literature of their disciplines. At the same time, library using faculty are loath to give up the dynamic of having students meet face-to-face with librarians. Those of us who love to teach and thrive on student-teacher interactions are also watching to see how the new model will handle student learning needs for the population that does best with live interaction. Considering that we are just entering the ninth month of our new model, there has been much progress, collaboration, and adjustment. Change is a dynamic, invigorating synergy.

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## APPENDIX

**Table 1 : Staff Changes**

Department	Cybrary Model	Library 2U Model
Regional LIC	8 librarians	None
Instruction	4 librarians (Instructional Services Coordinator & three instruction librarians— participate in full reference service)	None
Reference	3 librarians (Reference Coordinator & two reference librarians)	7 librarians + 2 (Reference Coordinator and six reference librarians—with assistance from two multimedia librarians)
Multimedia	2 staff (Assistant Director and 1 Multimedia Developer)	5 staff (Assistant Director, Instructional Design Coordinator, Quality Assurance Librarian, Multimedia Specialist, and Multimedia Developer)
Library Liaisons	8 librarians (mostly reference & instruction librarians with collection development responsibilities)	10 librarians (mostly reference and multimedia librarians with the addition of outreach and instruction)