

Summer 7-16-2013

Incorporating Online Instruction in Academic Libraries: Getting Ahead of the Curve

Pauline Dewan

Wilfrid Laurier University, pdewan@wlu.ca

Michael Steeleworthy

Wilfrid Laurier University, msteeleworthy@wlu.ca

Follow this and additional works at: http://scholars.wlu.ca/lib_pub

 Part of the [Library and Information Science Commons](#)

Recommended Citation

Dewan, P., & Steeleworthy, M. (2013). Incorporating online instruction in academic libraries: getting ahead of the curve. *Journal of Library & Information Services in Distance Learning*, 7(3), 278–296. doi:10.1080/1533290X.2013.804020

This Article is brought to you for free and open access by Scholars Commons @ Laurier. It has been accepted for inclusion in Library by an authorized administrator of Scholars Commons @ Laurier. For more information, please contact scholarscommons@wlu.ca.

Incorporating Online Instruction in Academic Libraries: Getting Ahead of the Curve

Pauline Dewan and Michael Steeleworthy

Wilfrid Laurier University Library, Wilfrid Laurier University
Waterloo and Brantford, Ontario, Canada
pdewan@wlu.ca | msteeleworthy@wlu.ca

This is an electronic version of an article published in *Journal of Library & Information Services in Distance Learning*, 7(3),278-296, 2013. *Journal of Library & Information Services in Distance Learning* is available at <http://www.tandfonline.com/doi/full/10.1080/1533290X.2013.804020>

Abstract

A sea change in higher education is shaping the way many libraries deliver instruction to their students and faculty. Years of technological innovation and changes in the way that people discover and use information has made online instruction an essential part of a library's teaching and learning program. In order to evaluate our library's online instruction program and to determine its future goals, we analyzed the technology, pedagogical models, organizational structures, administrative supports, and partnerships we would need in order to succeed. Our findings may be useful for libraries reassessing their own online instruction programs.

Keywords

distance education, information literacy, library governance, libraries – reorganization, libraries – self-evaluation, online instruction, organizational structure, teaching and learning, virtual classrooms, Web-based instruction

Introduction

A sea change in higher education is shaping the way many libraries deliver instruction to their students and faculty. Major studies such as the Horizon report, ACRL's Top Ten Trends, the ECAR report, and Project Information Literacy consistently show traditional models of education giving way as technology drives change, mobile devices proliferate, massively open online courses (MOOCs) challenge existing structures, and student expectations change (Johnson et al. 2013; ACRL Research Planning and Review Committee 2012; Dahlstrom 2012; Head and Eisenberg 2010). According to ACRL, one of the top ten trends affecting academic libraries is this very "period of flux, and potentially even turmoil" that postsecondary institutions are experiencing (ACRL Research Planning and Review Committee 2012, 313).

While the higher education student body in the U.S. has grown 2.6% annually over the past decade, online education has leapt ahead, growing 17.3% each year (Allen and Seaman 2013, 18), and the proportion of postsecondary students taking at least one online course is at an all-time high at 32%. Moreover, 69% of academic leaders report that online education is critical to their long-term strategy (Allen and Seaman 2013, 4). Ithaka S+R's 2012 report on online instruction indicates that virtually every post-secondary institution is experimenting with online instruction (Bacow et al. 2012). Trends show that e-learning has passed the point of no return: after years of experimentation, it is now firmly a part of post-secondary education.

Students are increasingly demanding an education on their terms, one that is technology-based and customizable. This trend, according to Chronicle Research Services, will solidify as students come to expect "a plethora of learning options that they can mix and match to play to their strengths" (2009, 52). Increasingly they expect to combine in-class and online instruction at their convenience (Chronicle Research Services 2009). As the Horizon Report observes, the days of the "one-size-fits-all" teaching model are quickly disappearing (Johnson et al. 2013, 10). Online education will not only produce fundamental changes in how teachers teach and students learn (Bacow et al. 2012), but also affect users' expectations of library instruction. Academic libraries must expand their repertoire of approaches beyond face-to-face classes to help meet the changing needs of these students (Dupuis 2009).

Like many institutions, Wilfrid Laurier University Library has responded to these trends by increasing online instruction in a piecemeal, ad-hoc way. Lack of goals, vision, and direction has hampered our ability to coordinate efforts. In 2012, the library formed a task group to consider an external library review's recommendation of a more robust and coordinated online instruction program. The group was tasked to articulate a five-year vision and determine what would be needed in order to accomplish this vision. Our mandate was to assess the instructional goals, resources, and governance required to create an effective online instruction program. We examined the technology, pedagogical models, organizational structures, administrative supports, and partnerships we would need in order to succeed. Our findings may be useful for libraries reassessing their own online instruction programs.

Goals

The cornerstone of an online instruction program is its goals. These objectives must support the values of its parent institution, be rooted in best practices, and gain wide acceptance by all instructional librarians. We created a set of goals, which other libraries can adopt or adapt to local needs. We agreed that our online instruction program must:

- Support and facilitate the mission, academic plan, and core principles of the university
- Incorporate best practices as outlined in ACRL's newly revised "Characteristics of Programs That Illustrate Best Practices" (2012)
- Support equity of instruction access for all students regardless of location, reflecting ACRL's "Standards for Distance Learning Library Services" (2008)
- Reach as many students as possible in order to engage them and facilitate learning
- Increase the number and variety of online tutorials so that the library achieves a robust online instruction presence
- Involve all instruction librarians equitably and fit into their schedules in a sustainable way
- Incorporate learning objectives and assessment into instruction in order to facilitate learning, provide evidence that students are learning what we are teaching, and generate data to prove our value

- Provide instruction that can be used at point-of-need on the library Web site, in a blended learning environment, in the learning management system (LMS), or in other online venues in order to accommodate students with a variety of learning style preferences
- Use a scalable and sustainable model of instruction

Reasons for Online Instruction

In order to make evidence-based decisions and help librarians reach a consensus, we began by examining the body of research on this issue, summarizing the results, and reporting on it to our colleagues. The following synopsis will provide other libraries with the supporting ideas and data they need to revamp their own instructional programs.

The paradigm shift in education, one fueled largely by developments in technology, is the single biggest reason that libraries need to reevaluate their instruction programs. A recent report by the Council of Ontario Universities (2012) describes cutting-edge teaching methods, practices that are technology-driven and representative of innovative teaching methods in all postsecondary institutions. According to the latest Horizon Report, technologies expected to impact education in the near- and mid-term horizon are MOOCs, tablets, games/gamification and learning analytics (Johnson et al. 2013)—all technologies that will profoundly influence online instruction. Since technology “continues to drive futuristic thinking within academic libraries” (ACRL Research Planning and Review Committee 2012, 313), we must not risk being sidelined by not keeping up with e-trends (Petrowski and Deiss 2009). In fact librarians can lead the way in instruction by providing superior support for online courses (Lockerby and Stillwell 2010).

If technological change in education is an important driving force behind the shift to online teaching, economic realities are another. The full-time residential model of higher education is beyond the economic means of an increasing number of students who are looking for more flexible models (Chronicle Research Services 2009). Postsecondary institutions are cognizant of these economic challenges, and academic leaders admit to increasing their online offerings to meet this demand for flexibility and choice (Allen, Survey, and Seaman 2011). As the 2012 Horizon Report points out, “Budget cuts have forced institutions to re-evaluate strategies and find alternatives to the exclusive face-to-face learning model” (Johnson, Adams, and Cummins 2012, 4–

5). Online programming has helped postsecondary institutions maintain their enrolment and revenue (Bacow et al. 2012). Furthermore, only 13% of U.S. colleges and universities today do not currently offer online options (Allen and Seaman 2013, 20). Chronicle Research Services (2009) estimates that by 2020, upwards of 60% of students will be enrolled in online classes (779). It has become clear that libraries must meet the instructional needs of students who learn through online and distance environments. Indeed ACRL's "Standards for Distance Learning Library Service" remind us that on- and off-campus users must have the same equity of access to library instruction (ACRL 2008).

Many students are not just discontented with traditional forms of education but "eager to use the tools and devices that are omnipresent in their lives" (Chronicle Research Services 2009, 7). Millennials spend an increasing amount of time online and see their futures centered around technology (Usova 2011; Chronicle Research Services 2009). For students who are accustomed to accessing instantaneous information and learning through YouTube and social networking sites, online instruction provides a rich and appealing learning environment (Bacow et al. 2012; McDonald and Thomas 2006). Furthermore, research shows that two-thirds of learners prefer online instruction to face-to-face (Silver and Nickel 2007). Students report that not only do they learn best in blended environments, but they expect instructors to use technology to engage them (Dahlstrom 2012). For them, technology makes learning an "immersive, engaging, and relevant experience" (Dahlstrom et al. 2011, 10). Online instruction also allows for individualization of learning and uses a range of media—both factors which motivate students (Beyth-Marom, Saporta, and Caspi 2005). As colleges and universities move towards more engagement- and user-centered models of education, libraries can support their users as well as their parent institutions by doing the same.

Students value speed, convenience, and service embedded at points of need in their access portals (Chronicle Research Services 2009; Lynn Silipigni Connaway, Dickey, and Radford 2011; Lynn Silipigni Connaway and Dickey 2010; De Rosa et al. 2011; Head and Eisenberg 2009; P. Williams and Rowlands 2007; JISC 2009; ACRL Research Planning and Review Committee 2012). As the development of electronic resources has improved the ease with which students conduct research, and increased confidence in their research skills, so too has the demand for point-of-need instruction increased (Befus and Byrne 2011; The New Media Consortium 2011). Chat services are expanding as in-

person reference declines; similarly e-resource usage has increased as users research from home. Online tutorials accessed at point-of-need fill a service gap by providing self-service instruction at a place and time when students need it most.

Electronic offerings expand the library's instructional reach. Students can learn when the library is closed or when they are working off-campus. Online learning fits with students' schedules more easily, particularly those learners who juggle school and work (Beyth-Marom, Saporta, and Caspi 2005; Gunn, Hearne, and Sibthorpe 2011; Silver and Nickel 2007). E-tutorials are also available for students when the instructor has no free class time for library instruction (Oud 2009). Although distance students benefit from online tutorials so too do on-campus students who prefer to self-serve. The latest OCLC "Perceptions of Libraries" study reports that only 10% of students ask librarians for assistance when they need help (De Rosa et al. 2011, 53). Online instruction is especially suited to shy or hesitant students (Usova 2011). It can equally appeal to independent and self-directed learners. We can expand our reach to non-traditional student populations in distance education (for example, older students, employed students, working professionals, students who live at a distance from the institution) (Bacow et al. 2012). Commuters, a segment of the population that will likely expand as more flexible course options are implemented, also benefit by expanded online offerings.

Students increasingly want to learn in ways that meet their own learning styles (Council of Ontario Universities 2012; Chronicle Research Services 2009; Johnson et al. 2013). With its varied assortment of instructional formats (text, audio, image, video), e-learning practices can appeal to a variety of preferences. Unlike in-person classes, online instruction allows for self-pacing, which is helpful for struggling learners and students whose mother tongue is not English. Entire instruction modules or individual parts may be replayed as many times as necessary for reference, practice, and reinforcement (Gunn, Hearne, and Sibthorpe 2011). Online instruction is, in effect, "more conducive to the expansion of learning time than is face-to-face instruction" (U.S. Department of Education 2010). It can supplement in-person classes and provide additional support for them (Oud 2009; Owston, Lupshenyuk, and Wideman 2011).

The one-shot model, by itself, is an inefficient instructional method. It forces all students to learn the same way, does not allow enough time to effectively teach information literacy skills, and does not promote active or deep learning (Anderson and May 2010; Farkas 2011; Gurney and Wilkes 2008; Montgomery 2010). Unlike the one-shot model which is constrained by course schedules, the number of available librarians, and their workload, online tutorials can be more easily scaled to large numbers of students (Williams 2009).

Objections to Online Instruction

Since the shift to online instruction can feel like a disruptive practice to some professionals, it is essential to address librarians' concerns when revamping the library's teaching and learning program. The loss of personalization is an oft-cited objection to e-learning. Indeed students are more inclined to feel a personal connection to librarians and the library once they meet an instructor. However, online instruction does not have to replace in-person classes. It can be used in combination with or as a supplement to face-to-face instruction. Furthermore, research has shown that students learn in various ways and that some prefer in-class instruction while others favor online learning (Bacow et al. 2012; Silver and Nickel 2007). In a meta-analysis of 50 independent studies, the U.S. Department of Education found that students in online learning environments performed modestly better than face-to-face ones (2010). As librarians, we should provide different forms of instruction to accommodate a variety of learning styles and preferences.

E-learning and its tools are still foreign to most instructors who teach today as they were taught (Bacow et al. 2012). New instructional technologies can seem intimidating, especially if people do not work with them regularly. However, not all online instruction requires the use of unfamiliar technologies. Most librarians are already creating online learning objects such as class guides or presentations uploaded to the library site. While ongoing training for unfamiliar technologies is essential (Bacow et al. 2012; Whatley 2009; Crawford-ferre and Wiest 2012), many traditional instructional resources are transferable to online environments. And while it takes considerable time to learn online instructional technologies and create e-learning objects, an online instructional program will become efficient over time.

Pedagogical Approaches

Research in the field of education has much to offer librarians who teach. Information literacy and library instruction have traditionally been situated within a constructivist framework that stresses active learning based on an individual's experiences with information or concepts (Dunaway 2011; Grassian and Kaplowitz 2009). As Weimer (2002) notes, students who learn under a constructivist framework "need not wait until they have developed expertise before they interact with content. They are encouraged to explore it, handle it, relate it to their own expertise . . . the goal is to involve students in the process of acquiring and retaining information" (13). This framework informs ACRL's Information Literacy Competency Standards for Higher Education (Dunaway 2011). Since the codification of the current standards in 2000 though, information technology has substantially changed the manner in which people seek, acquire, and create information. The following pedagogical practices constitute best practices that work well in online learning environments:

- Identify learning outcomes to demonstrate how students will meet them (Bacow et al. 2012; Council of Ontario Universities 2012; Oakleaf 2010; Plumb 2010; Whatley 2009)
- Develop evaluation measures based on learning outcomes to provide data that demonstrates our value as teaching librarians (Oakleaf 2010). This data is essential since "demands for accountability and assessment will increase" in the future (ACRL Research Planning and Review Committee 2010, 287)
- Whenever possible use quizzes and interactive elements to incorporate active learning into online instruction. Adopt the model of "guide on the side" rather than "sage on the stage" (Ferguson and Ferguson 2005; Council of Ontario Universities 2012)
- Focus on student-centered learning, a model that emphasizes "discussion and student-developed interests rather than an instructor pushing what is important" (Guder 2010, 38). Discussion boards, chat rooms, online polling, and quizzes invite student participation. Interaction with both the instructor and peers is essential to avoid the isolation that e-learning can foster (Sung and Mayer 2012; Boling et al. 2012; Driscoll et al. 2012)
- Provide examples of successful quizzes and assignments so students have a model from which to work (Robbins 2012)

- Build choice into online instruction. A sense of agency facilitates learning and engages students (Lindgren and Mcdaniel 2012)
- Use principles of universal design to accommodate a variety of learning styles (Boyd 2012)
- Give students control over pacing of instruction. Embed user-based controls into tutorials so that students can pause, rewind, or skip ahead
- Post the length of online videos; users are hesitant to commit to an unspecified length of time
- Use both synchronous and asynchronous methods of instruction. Synchronous methods such as webinars and chat in LMSs allow for greater interactivity and provide real-time feedback. Asynchronous methods such as screencast tutorials and online discussion boards allow for greater flexibility and convenience (Beyth-Marom, Saporta, and Caspi 2005; Bower 2011; Lietzau and Mann 2009; Passonneau and Coffey 2011; Roblyer et al. 2007)
- When feasible, build group work into instruction activities. Peer-to-peer interaction facilitates authentic learning and promotes a sense of community and belonging (Boling et al. 2012)
- Scaffold instruction by linking to what students already know (Oud 2009). Begin with basic, general concepts, then progress to more advanced instruction
- Introduce e-portfolios to motivate students and promote personalized, reflective learning. E-portfolios, which were identified as one of the fastest growing technologies in education in 2012 (Dahlstrom 2012), can also be used as assessment tools

Venues and Methods

Library Web Sites

The vast majority of library instructional content appears on its own Web sites. An obvious venue for library assistance and a particularly useful place for point-of-need instruction, the library site is a useful place for tutorials. However, academic libraries should also consider outreach and find ways to promote their modules beyond the library Web site.

Learning Management Systems

Research tells us that “73 percent of students use a course or learning management system and 27 percent of these students use it several times a

day” (Dahlstrom et al. 2011, 14). Whatever tutorials are uploaded to the library site could find a wider audience in an LMS. Placing tutorials in both locations increases their visibility. Course-embedded librarians in LMSs are also becoming increasingly popular (Whatley 2009). Librarians can embed themselves by offering chat for specified hours each week, creating an ask- a-librarian discussion board, uploading class-specific tutorials, or adding a Twitter widget (Mairn 2010). Although embedding in an LMS builds strong relationships with students and faculty, it is a time-consuming venture so the library should be strategic about the courses it chooses (Edwards, Kumar, and Ochoa 2010; York and Vance 2009).

Video Hosting Web Sites

YouTube and other high-traffic video hosting sites are popular with students. YouTube videos can be accessed through online computers as well as mobile devices, thus extending the reach of library instruction.

Mobile Devices

The smart phone and the tablet are two of the most important technologies of the decade (Lankes et al. 2010; Johnson et al. 2013). Educause found that two-thirds of undergraduates use their devices for academic purposes (Dahlstrom et al. 2011, 7); another study reported that three-quarters of students never leave home without their smartphones (Lippincott 2010, 209). Developing mobile sites and apps will appeal to this increasingly “always-on” population.

Collaboration with Campus Partners

Collaborating with partners to integrate instruction on campus is essential. Fostering communication with faculty raises awareness of library programming and integrates our instruction services more effectively into courses (Anderson and May 2010). Collaboration with partners such as student learning services and faculty teaching support departments promotes our services and coordinates our efforts within the academic community.

Production and Delivery

Online instruction is often equated with video tutorials, but it is much broader. There are a variety of ways to deliver instruction electronically, some of which are more time-consuming and training-intensive than others. Accessibility must be a top priority in whatever learning objects we create.

Whenever possible, we should incorporate analytics into online instruction in order to collect usage data.

Video Tutorials

Millennials are accustomed to learning through videos on YouTube and other sites. Video tutorials can supplement in-person classes or act as standalone products at point-of-need. They can also be exported into audio-only files or PDF files of the images and text, thereby accommodating different learning styles. Video tutorials take considerable time to create but once completed, can be viewed by many patrons over extended periods. They can be uploaded to multiple places—a library site, an LMS, or a video-hosting site.

Slide Decks Using Presentation Software

Learning objects created from presentation software can be uploaded to library Web sites or hosting sites such as Screencast.com or SlideShare. The same slide deck can be repurposed for in-class presentations. Since librarians are already familiar with presentation software, they are not faced with a steep learning curve when creating slide decks.

Vendor Tutorials

In order to reduce time spent on creating tutorials, librarians should use vendor tutorials where appropriate. Tutorials from vendors such as Web of Science or RefWorks are designed and revised regularly with the user in mind. Linking to these tutorials avoids “reinventing the wheel” and gives librarians time to work on other projects.

Text and/or Image Tutorials

PDF documents are easy to create and require no additional training. Text-based tutorials that use headings, subheadings, and bullet points are more effective than ones using large blocks of unbroken text (Krug 2006).

Webinars and Lecture Capture

Webinars and lecture capture present live or pre-recorded lectures in online environments, facilitate the recording of live sessions, and enable student learning through communication and interaction (EDUCAUSE Learning Initiative 2008). These learning objects allow people to meet in an online environment in real time. Students and facilitators are able to participate from different locations, and sessions can be recorded for future use. Products such as Adobe Connect can present traditional slide decks or project the facilitator’s

screen to all the users. Facilitators are able to mark up slides with digital highlighters, or add callouts and text directly onto slides. A separate “whiteboard” can be used when facilitators require the entire screen to illustrate a concept. Participants are able to ask questions through chat boxes or audio; take part in polls, quizzes, and discussions; or even be given control of the facilitator’s desktop to present their own concepts to the class. Webinars are becoming increasingly popular with distance education students since users can participate from off campus (Bower 2011; Barnhart and Stanfield 2011; Kear et al. 2012).

Video Conferencing

Video conferencing is useful for online courses and particularly for multi-campus institutions. The same in-person instruction can be delivered to two places at once, which cuts down on travel time and increases the yield of instruction. Video conferencing equipment is expensive – much more so than any of the other technologies discussed in this paper.

Online Gaming

Gamification is the process of integrating challenges, rewards, levels of competency, and feedback into learning (Markey, Leeder, and St. Jean 2011). Students often perceive library sessions as tedious, boring, and irrelevant (Markey, Leeder, and St. Jean 2011; Smith and Baker 2011), but games can interest learners in ways that other approaches do not. The 2013 Horizon Report predicts that gaming as an instructional technology will predominate in the next 2 to 3 years (Johnson et al. 2013). Game-based learning can stimulate productivity and creative inquiry and support 21st-century competencies such as collaboration, problem-solving, and communication (Johnson, Adams, and Cummins 2012; Johnson et al. 2013). James Paul Gee, the seminal researcher on gaming in education, also argues that good video games incorporate sound learning principles such as experiential and scaffolded learning (2007, 2003). He claims that “the theory of learning in good video games is close to what I believe are the best theories of learning in cognitive science” (2007, 7). A number of academic libraries have invented online instruction games but the development of such games takes time and technological expertise (Martin and Ewing 2008; Smale 2011).

Organizational Structures

The development of a robust, responsive online teaching and learning program is a time-consuming enterprise that demands a variety of skills sets and knowledge. While its instructional focus on information resources, research strategies and citation management is similar to a traditional instructional program, a successful online instruction program requires experience in information technology and course design, proficiency with consumer information delivery devices such as smart phones and tablets, and expertise with different content-creation platforms.

These technological and design challenges present academic libraries to team-based efforts that draw upon different kinds of expertise, and help diffuse knowledge to library users and librarians alike.

There is no perfect organizational model for the academic library, let alone its instructional plan. Factors such as the library's age, its size and relationship to other groups on campus, and its collaborations with library- and non-library partners all make one library and its programming distinct from others. However, the fiscal and resource constraints of today's economic climate make it important for all libraries to analyze how their organization and governance models affect their program outcomes. The success and sustainability of an online instruction program in a changing environment will be dependent on its fit within the library's organizational structure. Libraries must consider in particular their organizational planning processes and means of transforming information into strategy, their ability to share knowledge through teams, their internal and external learning partnerships, and the functions they must perform to meet its goals and user needs (Chen 2007, 7).

This emphasis on organizational management, knowledge sharing, and performance is not unique since the management of resources has become a critical function of librarianship. Saarti and Juntunen note that today's librarians have academic as well as program-driven, managerial expectations placed on their shoulders (2011), while Matteson, Schlueter, and Hidy remind us that "a gap exists in preparing librarians to take on these challenging management responsibilities" (2013, 220) in LIS programs. Managing teams, productivity, and program goals are subjects that are finding greater traction in LIS literature, however. Martin's survey on management and productivity in libraries shows that "the literature focuses on how to implement teams in an effort to streamline work processes" (2007) and that implementing Total Quality

Management, or assessment-driven, team-based service models (Owens 1999; Stoffle and Cuillier 2010; Chang and Bright 2012), leads to “increased productivity, as well as increased job satisfaction; the empowerment, job enrichment, and development of workers; and higher quality services” (Martin 2007, 131). Within the context of online teaching and learning, where the production of instructional content through a variety of skills and knowledge must be reconciled against the financial demands of stagnant budgets and the technological demands of the digital user, libraries should consider a team-based governance model in order to best achieve its instructional goals. Best practices for team implementation include:

- Developing a function-based team to organize, manage, and implement the library’s online instruction program. Following Peter Drucker’s widely held understanding of a manager’s duties, teams should be tasked to:
 - organize tasks and workload
 - develop and maintain reporting mechanisms with other teams inside the library
 - establish measurable performance targets
 - maintain professional development for its group members (2008)

These duties, which are purposely general in scope to meet the needs of different organizational cultures, will create teams whose focus is on developing and achieving deliverable goals, communicating with other groups in the library, and creating assessment and feedback mechanisms to evaluate and improve upon their body of work.

- Using a self-managing model to govern the team’s work. Teams that are given the autonomy to set their own goals and measure the quality of its work often meet and exceed high performance standards (Kozlowski and Bell 2003; Kline 1999). Although team members may not necessarily agree with all goals, it is essential that they understand how and why a goal was determined in order to maintain social cohesion and group effectiveness (Kline 1999).
- Letting team members determine their roles and duties. Allowing team members to determine their roles and expected outcomes helps people stay encouraged about their duties and ensure that workload is evenly distributed (Kline 1999).

- Limiting the size of teams. Small teams often reach consensus faster than larger teams. Groups of 4 to 7 people tend to be nimble and can take on tasks and achieve their goals more efficiently than larger groups can (Drucker 2008; Yeatts and Hyten 1998).
- Defining internal and external evaluation mechanisms based on the team's output and viability. Teams that have a voice in the development of their evaluation mechanisms have a better sense of the reasons for assessment, as well as their ability to attain these goals within the organizational mission (Hackman 1987).
- Allowing the team to choose its own leader and form of leadership. Leadership roles take many forms, such as consultants or coaches (Recardo et al. 1996), or as liaisons to external governance structures. However the role manifests itself, the leader has a responsibility to maintain "favorable performance conditions for the team . . . [through] monitoring and taking action" (358) to maintain a steady course.

Implementing these guidelines, which summarize the definition and work of self-managed teams, would take the necessary step of codifying organizational practices and strategies that are common to others organizations within the academic library (Garrison 2011). Applied to online instruction, a library can create functional teams that include representation from people with the different kinds of expertise required to generate goals and take actions that fit the entire library mission and meet the demands for both general and discipline-specific resources. By giving it the autonomy to set its own goals and manage its work, and by fitting its assessment within the larger organizational structure, it can develop a results-based culture that focuses on measurable results and excellent service to the library's online users.

Conclusion

Online instruction is by no means a new mode for librarians to conduct their teaching and learning programs. It is part of today's instructional program in most academic libraries, and tools such as chat widgets, video tutorials, and instant feedback are naturally expected by our users. Today's social and information technologies have placed new demands on academic libraries, and it is time to reconsider how well we meet our users' information needs and our own instructional aims with these tools. By evaluating online pedagogical aims and models, organizational structures and administrative supports, and

preferred modes and formats of delivery, academic libraries can assess the strength of their current online instructional program and build upon it to meet future successes.

References

- ACRL. 2008. *Standards for Distance Learning Library Services*. <http://www.ala.org/acrl/standards/guidelinesdistancelearning>.
- ACRL Research Planning and Review Committee. 2010. "2010 Top Ten Trends in Academic Libraries." *College and Research Library News* 71: 286–292. <http://crln.acrl.org/content/71/6/286.full.pdf+html?sid=9ebda6c7-84eb-4b72-b289-6a7d3c182258>.
- . 2012. "2012 Top Ten Trends in Academic Libraries: A Review of the Trends and Issues Affecting Academic Libraries in Higher Education." *College & Research Libraries News* 73 (6): 311–320. <http://crln.acrl.org/content/73/6/311.full.pdf+html>.
- Allen, I.E., B. Survey, and J. Seaman. *Going the Distance: Online Education in The United States*, 2011. <http://www.onlinelearningsurvey.com/highered.html>.
- Allen, I.E., and J. Seaman. 2013. *Changing Course: Ten Years of Tracking Online Education in the United States*. http://sloanconsortium.org/publications/survey/changing_course_2012.
- Anderson, K., and F.A. May. 2010. "Does the Method of instruction Matter? An Experimental Examination of Information Literacy Instruction in the Online, Blended, and Face-To-Face Classrooms." *The Journal of Academic Librarianship* 36 (6): 495–500. doi:10.1016/j.acalib.2010.08.005.
- Bacow, L.S., W.G. Bowen, K.M. Guthrie, K.A. Lack, and M.P. Long. 2012. *Barriers to Adoption of Online Learning Systems in U.S. Higher Education*. <http://www.sr.ithaka.org/research-publications/barriers-adoption-online-learning-systems-us-higher-education>.
- Barnhart, A.C., and A.G. Stanfield. 2011. "When Coming to Campus Is Not an Option: Using Web Conferencing to Deliver Library Instruction."

- Reference Services Review* 39 (1): 58–65. doi:10.1108/009073211111108114.
- Befus, R., and K. Byrne. 2011. "Redesigned With Them in Mind: Evaluating an Online Library Information Literacy Tutorial." *Urban Library Journal* 17 (1). <http://ojs.cunylibraries.org/index.php/ulj/article/view/54>.
- Beyth-Marom, R., K. Saporta, and A. Caspi. 2005. "Synchronous Vs. Asynchronous Tutorials: Factors Affecting Students' Preferences and Choices." *Journal of Research on Technology in Education* 37 (3): 245–262. http://www.openu.ac.il/Personal_sites/avner-caspi/Download/Beyth-Marom_layout.pdf.
- Boling, E.C., M. Hough, H. Krinsky, H. Saleem, and M. Stevens. 2012. "Cutting the Distance in Distance Education: Perspectives on What Promotes Positive, Online Learning Experiences." *The Internet and Higher Education* 15 (2) (March): 118–126. doi:10.1016/j.iheduc.2011.11.006.
- Bower, M. 2011. "Synchronous Collaboration Competencies in Web-conferencing Environments – Their Impact on the Learning Process." *Distance Education* 32 (1) (May): 63–83. doi:10.1080/01587919.2011.565502.
- Boyd, M. 2012. "From the Comfort of Your Office: Facilitating Learner-Centered Continuing Education in the Online Environment." *Cataloging & Classification Quarterly* 50 (2-3): 189–203. doi:10.1080/01639374.2011.651195.
- Chang, A., and K. Bright. 2012. "Changing Roles of Middle Managers in Academic Libraries." *Library Management* 33 (4/5): 213–220. doi:10.1108/01435121211242263.
- Chen, K.-N. 2007. "Institutional Evaluation and Its Influence on Organizational Learning." *Aslib Proceedings* 59 (1): 5–25. doi:10.1108/00012530710725188.
- Chronicle Research Services. 2009. *The College of 2020: Students*. http://www.washington.edu/faculty/facsen/issues/college_2020.pdf.

- Connaway, L.S., and T.J. Dickey. 2010. *The Digital Information Seeker: Report of Findings from Selected OCLC, RIN and JISC User Behaviour Projects. Behaviour*. <http://www.jisc.ac.uk/media/documents/publications/reports/2010/digitalinformationseekerreport.pdf>.
- Connaway, L.S., T.J. Dickey, and M.L. Radford. 2011. "If It Is Too Inconvenient I'm Not Going After It: Convenience as a Critical Factor in Information-seeking Behaviors." *Library & Information Science Research* 33 (3): 179–190. doi:10.1016/j.lisr.2010.12.002.
- Council of Ontario Universities. 2012. *Beyond the Sage on the Stage: Innovative and Effective Teaching and Learning at Ontario Universities*. http://www.cou.on.ca/issues-resources/key-issues/more/pdfs/cou_beyond_the_sage_on_the_stage---teaching-and-le.
- Crawford-ferre, H.G., and L.R. Wiest. 2012. "Effective Online Instruction in Higher Education." *The Quarterly Review of Distance Education* 13 (1): 11–14.
- Dahlstrom, E. 2012. *ECAR Study of Undergraduate Students and Information Technology, 2012*. Louisville, CO. <http://www.educause.edu/library/resources/ecar-study-undergraduate-students-and-information-technology-2012>.
- Dahlstrom, E., T. de Boor, P. Grunwals, and M. Vockley. 2011. *ECAR National Study of Undergraduate Students and Information Technology*. Boulder, CO. <http://www.educause.edu/library/resources/ecar-national-study-undergraduate-students-and-information-technology-2011-report>.
- De Rosa, C., J. Cantrell, M. Carlson, J. Hawk, and C. Sturtz. 2011. *Perceptions of Libraries, 2010: Context and Community, a Report to the OCLC Membership. Context*. Dublin, OH. http://oclc.org/reports/2010perceptions/2010perceptions_all_singlepage.pdf.
- Driscoll, A., K. Jicha, A.N. Hunt, L. Tichavsky, and G. Thompson. 2012. "Can Online Courses Deliver In-class Results?: A Comparison of Student Performance and Satisfaction in an Online Versus a Face-to-face Introductory Sociology Course." *Teaching Sociology* 40 (4): 312–331. doi:10.1177/0092055X12446624.

- Drucker, P.F. 2008. *Management*. Ed. J.A. Maciariello. Rev. ed. New York, NY: Collins.
- Dunaway, M.K. 2011. "Connectivism: Learning Theory and Pedagogical Practice for Networked Information Landscapes." *Reference Services Review* 39 (4): 675–685. doi:10.1108/00907321111186686.
- Dupuis, E.A. 2009. "Amplifying the Educational Role of Librarians." *Research Library Issues: A Bimonthly Report from ARL, CNI, and SPARC* (August): 10–14. <http://www.arl.org/bm~doc/rli-265-dupuis.pdf>.
- Edwards, M., S. Kumar, and M. Ochoa. 2010. "Assessing the Value of Embedded Librarians in an Online Graduate Educational Technology Course." *Public Services Quarterly* 6 (2-3): 271–291. doi:10.1080/15228959.2010.49744.
- Farkas, M. 2011. "Tutorials That Matter: Learning Objects in the Library Instruction Program." *American Libraries* 47 (7): 32–32. <http://americanlibrariesmagazine.org/columns/practice/tutorials-matter>.
- Ferguson, K.S., and A. Ferguson. 2005. "The Remote Library and Point-of-Need User Education: An Australian Academic Library Perspective." *Journal of Interlibrary Loan, Document Delivery & Electronic Reserve* 15 (3): 43–60.
- Garrison, J. 2011. "What Do We Do Now?" *Reference & User Services Quarterly* 51 (1): 12–15. <http://rusa.metapress.com/index/J21420M421654H54.pdf>.
- Gee, J.P. 2003. *What video games have to teach us about learning and literacy*. New York: Houndmills.
- Gee, J.P. 2007. "Good Video Games and Good Learning." *Phi Kappa Phi Forum* 85 (2): 34–37.
- Grassian, E.S., and J.R. Kaplowitz. 2009. *Information Literacy Instruction: Theory and Practice*. 2nd ed. New York: Neal-Schuman.
- Guder, C. 2010. "Patrons and Pedagogy: A Look at the Theory of Connectivism." *Public Services Quarterly* 6 (1): 36–42. doi:10.1080/15228950903523728.

- Gunn, C., S. Hearne, and J. Sibthorpe. 2011. "Right from the Start: A Rationale for Embedding Academic Literacy Skills in University Courses." *Journal of University Teaching & Learning Practice* 8 (1): 1–10.
<http://ro.uow.edu.au/jutlp/vol8/iss1/6>.
- Gurney, L.J, and J. Wilkes. 2008. "Creating a Library Presence in Online Units." *Australian Academic & Research Libraries* 39 (1): 26–37.
<http://www.alia.org.au/publishing/aarl/39/ARRL.Vol39.No1.2008.pdf>.
- Hackman, J.R. 1987. "The Design of Work Teams." In *Handbook of Organizational Behavior*, ed. J.W. Lorsch, 315–342. Englewood Cliffs, NJ: Prentice-Hall.
- Head, A.J., and M.B. Eisenberg. 2009. *How College Students Seek Information in the Digital Age (Project Information Literacy)*. http://projectinfolit.org/pdfs/PIL_Fall2009_Year1Report_12_2009.pdf.
- Head, A.J., and M.B. Eisenberg. 2010. *How College Students Evaluate and Use Information in the Digital Age. Literacy*. http://projectinfolit.org/pdfs/PIL_Fall2009_finalv_YR1_12_2009v2.pdf.
- JISC. 2009. *National E-books Observatory Project*. <http://observatory.jiscebooks.org/reports/>.
- Johnson, L, S. Adams Becker, and M. Cummins. 2012. *The NMC Horizon Report: 2012 Higher Education Edition*. Austin, TX.
<http://www.nmc.org/publications/horizon-report-2012-higher-ed-edition>.
- Johnson, L., S. Adams Becker, M. Cummins, V. Estrada, A. Freeman, and H. Ludgate. 2013. *The NMC Horizon Report: 2013 Higher Education Edition*. Austin, TX. <http://www.nmc.org/publications/2013-horizon-report-higher-ed>.
- Kear, K., F. Chetwynd, J. Williams, and H. Donelan. 2012. "Web Conferencing for Synchronous Online Tutorials: Perspectives of Tutors Using a New Medium." *Computers & Education* 58 (3): 953–963.
doi:10.1016/j.compedu.2011.10.015.

- Kline, T. 1999. *Remaking Teams : The Revolutionary Research-Based Guide That Puts Theory into Practice*. San Francisco: Jossey-Bass/Pfeiffer.
- Kozlowski, S.W., and B.S. Bell. 2003. "Work Groups and Teams in Organizations." In *Handbook of Psychology*, ed. I.B. Weiner, 12: 333–375. 2nd ed. Hoboken, NJ: Wiley.
- Krug, S. 2006. *Don't Make Me Think: A Common Sense Approach to Web Usability*. 2nd ed. Berkeley, CA: New Riders.
- Lankes, D.R., C.J. Stoffle, J. LaRue, and M.L. Radford. 2010. "Theory Meets Practice: Educators and Directors Talk." In *Reference Renaissance: Current and Future Trends*, ed. M.L. Radford and R.D Lankes, 17–36. New York: Neal-Schuman.
- Lietzau, J.A., and B.J. Mann. 2009. "Breaking Out of the Asynchronous Box: Using Web Conferencing in Distance Learning." *Journal of Library & Information Services in Distance Learning* 3 (3-4): 108–119. doi:10.1080/15332900903375291.
- Lindgren, R., and R. Mcdaniel. 2012. "Transforming Online Learning Through Narrative and Student Agency." *Educational Technology & Society* 15 (4): 344–355. http://www.ifets.info/journals/15_4/29.pdf.
- Lippincott, J.K. 2010. "A Mobile Future for Academic Libraries." *Reference Services Review* 38 (2): 205–213. doi:10.1108/00907321011044981.
- Lockerby, R., and B. Stillwell. 2010. "Retooling Library Services for Online Students in Tough Economic Times." *Journal of Library Administration* 50 (7-8): 779–788. doi:10.1080/01930826.2010.488964.
- Mairn, C. 2010. "Enhancing Learning While Creating a Library Presence in Course Management Systems." *Journal of Web Librarianship* 4 (1): 55–61. doi:10.1080/19322900903565200.
- Markey K., C. Leeder, and B. St. Jean. 2011. "Students' Behaviour Playing an Online Information Literacy Game." *Journal of Information Literacy* 5 (2): 46–65.

- Martin, E. 2007. "Team Effectiveness and Members as Leaders." In *Making a Difference : Leadership and Academic Libraries*. ed. P. Hernon and N. Rossiter, 125–141. Westport, CT: Libraries Unlimited.
- Martin, J., and R. Ewing. 2008. "Power Up! Using Digital Gaming Techniques to Enhance Library Instruction." *Internet Reference Services Quarterly* 13 (2-3): 209–225. doi:10.1080/10875300802103874.
- Matteson, M.L., E. Schlueter, and M. Hidy. 2013. "Continuing Education in Library Management: Challenges and Opportunities." *Library Management* 34 (3): 219–235. doi:10.1108/01435121311310905.
- McDonald, R.H, and C. Thomas. 2006. "Disconnects Between Library Culture and Millennial Generation Values." *EDUCAUSE Quarterly* 29 (4): 4–6. <http://www.educause.edu/ero/article/disconnects-between-library-culture-and-millennial-generation-values>.
- Montgomery, S. E. 2010. "Online Webinars! Interactive Learning Where Our Users Are: The Future of Embedded Librarianship." *Public Services Quarterly* 6 (2-3): 306–311. doi:10.1080/15228959.2010.497467.
- Oakleaf, M. (for the Association of College and Research Libraries). 2010. *The Value of Academic Libraries: A Comprehensive Research Review and Report. Review Literature and Arts Of The Americas*. http://www.acrl.ala.org/value/?page_id=21.
- Oud, J. 2009. "Guidelines for Effective Online Instruction Using Multimedia Screencasts." *Reference Services Review* 37 (2): 164–177. doi:10.1108/00907320910957206.
- Owens, I. 1999. "The Impact of Change from Hierarchy to Teams in Two Academic Libraries: Intended Results Versus Actual Results Using Total Quality Management." *College & Research Libraries* 60 (6): 571–584. <http://crl.acrl.org/content/60/6/571.full.pdf>.
- Owston, R., D. Lupshenyuk, and H. Wideman. 2011. "Lecture Capture in Large Undergraduate Classes: Student Perceptions and Academic Performance." *The Internet and Higher Education* 14 (4): 262–268. doi:10.1016/j.iheduc.2011.05.006.

- Passonneau, S., and D. Coffey. 2011. "The Role of Synchronous Virtual Reference in Teaching and Learning: A Grounded Theory Analysis of Instant Messaging Transcripts." *College & Research Libraries* 72 (3): 276–295. <http://crl.acrl.org/content/72/3/276.abstract>.
- Petrowski, M.J., and K. Deiss. 2009. *ACRL 2009 Strategic Thinking Guide for Academic Librarians in the New Economy*. <http://www.ala.org/acrl/sites/ala.org.acrl/files/content/issues/value/acrlguide09.pdf>.
- Plumb, T.K. 2010. "Creating Electronic Tutorials: On Your Mark, Get Set, Go!" *Journal of Electronic Resources Librarianship* 22 (1-2): 49–64. doi:10.1080/1941126X.2010.486729.
- Recardo, R.J., C.A. Mention III, J. Jolly, and D. Wade. 1996. *Teams: Who Needs Them and Why?* Houston, TX: Gulf Publishing Company.
- Robbins, S. 2012. "Moving a General Reference Course Online: Issues and Considerations." *The Reference Librarian* 53 (1): 12–23. doi:10.1080/02763877.2011.591689.
- Roblyer, M.D., J. Freeman, M.B. Donaldson, and M.Maddox. 2007. "A Comparison of Outcomes of Virtual School Courses Offered in Synchronous and Asynchronous Formats." *The Internet and Higher Education* 10 (4): 261–268. doi:10.1016/j.iheduc.2007.08.003.
- Saarti, J., and A. Juntunen. 2011. "Bringing Out the Best of Everyone: A Systematic Approach to the Workplace Coaching and Learning at the Kuopio University Library, Finland." *Library Management* 32 (8/9): 579–588. doi:10.1108/01435121111187932.
- Silver, S.L., and L.T. Nickel. 2007. "Are Online Tutorials Effective? A Comparison of Online and Classroom Library Instruction Methods." *Research Strategies* 20 (4): 389–396. doi:10.1016/j.resstr.2006.12.012.
- Smale, M.A. 2011. "Learning Through Quests and Contests: Games in Information Literacy Instruction." *Journal of Library Innovation* 2 (2): 36–55.

- Smith, A.-L., and L. Baker. 2011. "Getting a Clue: Creating Student Detectives and Dragon Slayers in Your Library." *Reference Services Review* 39 (4): 628–642. doi:10.1108/00907321111186659.
- Sung, E., and R.E. Mayer. 2012. "Five Facets of Social Presence in Online Distance Education." *Computers in Human Behavior* 28 (5): 1738–1747. doi:10.1016/j.chb.2012.04.014.
- Stoffle, C.J., and C. Cuillier. 2010. "From Surviving to Thriving." *Journal of Library Administration* 51 (1): 130–155. doi:10.1080/01930826.2011.531645.
- The EDUCAUSE Learning Initiative. 2008. "7 Things You Should Know About Lecture Capture." <http://www.educause.edu/library/resources/7-things-you-should-know-about-lecture-capture>.
- The New Media Consortium. 2011. *The Horizon Report: 2011 Edition*. <http://www.nmc.org/pdf/2011-Horizon-Report.pdf>.
- U.S. Department of Education. 2010. *Evaluation of Evidence-based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*. http://edicsweb.ed.gov/edics_files_web/03898/Att_References and Glossary.doc.
- Usova, T. 2011. "Optimizing Our Teaching: Hybrid Mode of Instruction." *Partnership: The Canadian Journal of Library and Information Practice and Research* 6 (2). <https://journal.lib.uoguelph.ca/index.php/perj/article/view/1521>.
- Weimer, M. 2002. *Learner-centered Teaching: Five Key Changes to Practice*. San Francisco: Jossey-Bass.
- Whatley, K.M. 2009. "New Roles of Liaison Librarians: A Liaison's Perspective." *Research Library Issues: A Bimonthly Report from ARL, CNI, and SPARC* (August): 29–32. <http://www.arl.org/bm~doc/rli-265-whatley.pdf>.
- Williams, K. 2009. "A Framework for Articulating New Library Roles." *Research Library Issues: A Bimonthly Report from ARL, CNI, and SPARC* (August): 3–8. <http://www.arl.org/bm~doc/rli-265-williams.pdf>.

- Williams, P., and I. Rowlands. 2007. *Information Behaviour of the Researcher of the Future: A British Library / JISC Study*. http://www.jisc.ac.uk/media/documents/programmes/reppres/gg_final_keynote_11012008.pdf.
- Yeatts, D.E., and C. Hyten. 1998. *High-performing Self-managed Work Teams: A Comparison of Theory to Practice*. Thousand Oaks, CA: Sage Publications.
- York, A.C., and J.M. Vance. 2009. "Taking Library Instruction into the Online Classroom: Best Practices for Embedded Librarians." *Journal of Library Administration* 49 (1-2): 197–209. doi:10.1080/01930820802312995.