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"MOOL" in a MOOC: Opportunities for Librarianship in the Expanding Galaxy of Massive Open Online Course Design and Execution

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"MOOL" in a MOOC: Opportunities for Librarianship in the Expanding Galaxy of Massive Open Online Course Design and Execution

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The discussion around, and analysis of, massive open online courses (or MOOCs) continues to grow and develop. Educators unfamiliar with MOOCs, their hosts, structures, benefits, and challenges will find this article helpful for gaining understanding of this on-trend form of distance learning and course delivery. Furthermore, the author proposes that the potential for librarianship within MOOCs should also be considered. Much of the relevant literature from the fields of education, librarianship, information science, and academia at large, reviewed here, have not delved too deeply into the concept of librarianship within this setting (yet). In an effort to discover MOOC faculty opinions, challenges, and incentives for MOOC creation and participation, as well as their thoughts on librarians in MOOCs, the author developed a survey. This survey aimed to assess: (1) the costs and benefits experienced by faculty teaching MOOCs; (2) perceived/anticipated student and learning environment successfulness within MOOCs; and (3) the extent faculty engage with their institution's librarians. Additionally, the survey approached MOOC faculty regarding whether they envision a future for librarians within MOOCs and what that future might look like. This article closes with discussion on survey findings, suggestions for future research, hypotheses regarding the future of MOOCs, and opportunities for a "MOOL" in a MOOC.

Keywords: MOOCs; massive open online courses; nontraditional education programs; open source education programs; online learning; distance learning; information literacy; media literacy; instructional technologies; higher education; e-learning; librarianship; copyright; open access.

Within the last two years or so, the landscape of education and of instruction delivery has shifted. While this shift has not been entirely new—online instruction and distance education have been around for decades—it has generated substantial buzz in terms of openness, access and accessibility, affordability, successfulness, and complications. Broad and affordable, yet complicated and contentious, the emergence of the massive open online course, or MOOC, serves as the origin of this transition.

The EDUCAUSE Library (2013) defines the MOOC very simply as "a model for delivering learning content online to any person who wants to take a course, with no limits on attendance." Though this brief explanation may not come across as groundbreaking, the MOOC environment, and the

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benefits and opportunities it presents, offers a unique new look at how we approach education in general, distance learning, and distance instruction and content delivery. (See Figures 1 and 2 at the end of this article for two multimedia presentations. Figure 1 is an MP4 of a presentation by the author called "What Teachers Can Learn as Students in MOOCs," delivered at the Global Education Conference in November 2012. Figure 2 is a Prezi entitled "MOOCs: What Are They and How Do They Work?" created July 2013 by the author for this publication.)

Literature on teaching and learning, as well as about librarianship, abounds—yet the fields do not always comingle in their discussions as much as they could. A literature review opens up this education and librarianship discussion with the intention to lead into establishing the connections between these fields. Then, current literature on MOOCs will provide background on the MOOC environment and the idea of "place" in the online atmosphere, followed by the MOOC as a consumer and provider of access, content, and resources. Lastly, the literature review addresses prognostications for the future of MOOCs and the engagement (and potential for engagement) with librarians.

A survey was conducted to explore MOOC faculty feelings, impressions, and realities with regard to delivering instruction and content in this setting. The study purpose, demographics, methods, results, and lessons learned are detailed, followed by a discussion of the survey and its results. The underlying hope for the survey was to create reflection upon MOOC faculty as to their expectations, their observations, their experience of costs and benefits, and their understanding of the twenty-first century academic library and the skillsets of its librarians.

Relevant literature, survey responses, and additional resources from the field of librarianship led to the vision of a "MOOL" in a MOOC—that is, the concept of massive open online librarianship, or (with less jargon) acting as a librarian and/or providing library resources in the MOOC setting. Resource creation, course content design and delivery, and issues of copyright and access constitute the three major foci of this section. In the final section, the author recommends several areas for future research, including the impact of the MOOC on copyright issues and access shifts on the side of publishers.

Review of Relevant Literature

Teaching and Learning: A Few Highlights

At the heart of the MOOC lies the debate about whether such a course is or can be an effective means of instruction delivery, on the behalf of its faculty members, and of education, on behalf of those enrolled. College and university faculty and administrators, as well as government and other organizations, have placed importance upon the study of data gathering about the experience of teaching and learning. A substantial study, conducted by Lawrence M. Aleamoni (1999), addresses student ratings (and the myths surrounding their course and instruction evaluations) and research-supported facts with supporting evidence spanning from 1924 to 1998. Critically, these myths highlight the disconnect between faculty and administrator flippancy regarding student opinions (e.g. "it's a popularity contest," students are immature/inexperienced/capricious, students need hindsight to evaluate "accurately," majors versus nonmajors significance, course grade versus course rating correlation suspicions, and so on) and faculty opinions of

the usefulness and validity of student evaluations (e.g., unreliable; invalid; impacts of class size; faculty–student gender impacts; class time impacts; requirement versus elective; course level impacts; instructor rank; existence of rating rubric differences by discipline). The final myth, especially important here, speaks to whether student ratings can be meaningfully applied toward improving instruction—Aleamoni indicates that, by consulting with students, instructors can indeed improve their instruction, and their ratings.

Following Aleamoni's discussion, Scarboro (2012) conducted a survey of more than 13,000 students in Istanbul, seeking information on how to improve pedagogy and how to promote student learning while also providing an actual learning task for students in his undergraduate Sociology research methods course. Their primary question ("What do university students perceive as the teaching strategies, environments, and tools that promote their learning?") takes Aleamoni's work a step further, beyond student evaluation-related evidence. Scarboro writes, "We were further interested to discover if gender, student residence (at home, in a dormitory, or in an apartment), academic achievement, discipline of study, national or international student status, year in school, and other factors shaped student preferences for teaching and learning approaches" and includes the English version of the questionnaire in the article's appendices (p. 52). Of Scarboro's conclusions, we find that students "perceive their faculty as very important in their success as learners," and that faculty research interests and activities enhance student learning (p. 55). In the world of MOOCs, we can apply the favorable student perceptions of peer-to-peer information sharing (e.g., they much prefer study groups to group assignments) and an internationally diverse environment, as well as the use of modern technological aids. Further supporting Aleamoni's research, Scarboro also finds that faculty rank "seems unrelated to student learning," and that gender and national origin did not seem to have an impact either whereas factors like reliability, the use of technology, and engagement in their field or discipline to be of far greater interest to students and have an impact upon their learning.

The world of blended learning continues to shapeshift, as described in Wang, Shen, Novak, and Pan's (2009) article on mobile learning, or m-learning. Where both "individual flexible learning" and "extended classrooms" have become more popular, students can transform from passive learners in traditional classroom environments into engaged learners who are behaviorally, intellectually, and emotionally involved in their learning task (p. 674). But mobile learning and technologies integrated into course delivery are only part of the battle to demonstrate value in education, though they certainly seem like dazzling components for driving student participation. Additional current and recent discussions of value include those about: integrating competencies into the undergraduate curriculum (Scaramozzino, 2010), faculty members and administrators engaging with students in new contexts and environments (Haden, 2013), the concept of quality control in higher education settings (Hazelkorn, 2013), freshman research skills and overconfidence (Gustavson & Nall, 2011), accomplishing library services and education in transnational educational settings (Green, 2013; Mangan, 2011), and the need to reinvent teaching while monitoring costs and/or suffering budget cuts (New, 2013; Rivard, 2013).

Reflecting on these topics and the world of MOOCs, many MOOCs and their hosts (e.g., Coursera) integrate learning

outcomes, instructional technology, and pre- and post-course evaluations, and highlight faculty expertise and research interests in a new environment. These features often exist automatically in the very design and presentation of the MOOC. Other elements, like student research and critical thinking skills (as well as cost monitoring), are not so simply accomplished in this environment. There are issues, such as publisher and database restrictions and embargoes, as well as faculty human resource or human capital costs (e.g., course releases or graduate assistant(s) usage), institutional funding and/or grant funding, technology costs, and opportunity costs (e.g., What are faculty not doing so that they may take on MOOC-related responsibilities?). The survey conducted for this article aims to better understand these aspects of MOOC instruction and delivery, as well as the relationships institutions have or are cultivating with their MOOC instructors. These articles and the concepts detailed here set the stage for moving into the literature regarding librarianship and librarian engagement with online instruction and learning.

Librarians in Online Instruction and Learning

One finding from the Scarboro article suggests that when students deem university library collections insufficient, they perceive libraries to be a detriment to their learning (p. 57). He states, "strong libraries and helpful librarians, ease of access to electronic journals, strong computer laboratories and well-equipped science laboratories were all seen as vital to their learning" (p. 60). But what defines a "helpful" librarian in the twenty-first century academic environment and to the Millennial-generation student? Frank, Raschke, Wood, and Yang (2001) believe one of the critical components of academic library success lies in the role of librarian as information consultant—an individual who "cultivates active partnerships with students and scholars, collaborating on the design of meaningful learning experiences for students and providing relevant value-added information […] Delivering the right information to the right people at the right time underscored the value of librarians and libraries" (p. 90). They believe that in embracing the concept and opportunity of librarian-as-information-consultant, the relationship is more about collaboration than mere cooperation, where goals are defined together and, hopefully, achieved together (p. 92).

While subject specialization has been a part of librarianship in the United States and Great Britain since just after World War II, the concept of "embedded librarianship" has altered not so much what librarians do as it has how librarians provide what they do to their patrons and users (Rudasill, 2010). The concept of "holistic" or "comprehensive" librarianship entails: reference service and instruction (oftentimes now termed "research and instructional services"), collection development (e.g., purchasing, weeding, recommending, and usage tracking), and at times even cataloging work for a specific subject area. This may be the traditional understanding of the job of an academic librarian, and yet librarianship has also changed with the tremendous leaps of technology that we have seen in the new millennium.

Numerous job functions have been added and these are, in a sense, part of what may fall under "other duties as assigned" in a librarian's job description (Rudasill, 2010). The work of an embedded librarian may fall into this area. These "other duties" unfortunately mask (internally and externally) the closeness, the liveliness, and the enterprising

nature of being "embedded." Rudasill writes, "Embeddedness implies that the librarian is sharing in the life of the department or program, understanding the dynamics of relationships between individuals within the department as well as relationships between departments or departments and higher administrators" (p. 84). Included here may be outreach to teachers outside the college/university, teaching credit-bearing courses, department meeting attendance, grant writing collaborations, being on-site (physically or remotely) to better cover for users' points of need, and much more (Rudasill, 2010; Rudin, 2008; Cordell, 2012). Covone and Lamm (2010) note that, "Embracing a proactive approach to library service is necessary in order to be successful and relevant in the academic environment" and they urge librarians to become a part of the "global campus environment" (p. 198-199).

Why is embedded librarianship a developing new realm of the work of librarians? Rudasill (2010) found four common factors at the helm: innovation, access, budgets, and pedagogy (p. 85). Rudasill also notes that opportunities for embedding librarians are limited, regardless of how exciting they can be as drivers of change; the library, as a place, must still be provided for and it may not be necessary or even possible to embed a librarian in every department or course at an institution. Rudasill is not alone in stressing the importance of new forms of librarianship. In an article about embedded librarianship, Hoffman (2011) highlights a concern from a 2003 article by John Shank and Nancy Dewald, where the authors felt "librarians should become involved in distance education at the course level or they would 'risk being bypassed by technology and losing relevance to students and faculty'" (p. 445).

Despite Rudasill's wide-ranging concept of embedded librarianship, perhaps one of the most efficient and popular environments for embedded librarianship is the online course environment. This particular environment enables librarians to serve a community that often does not have easy in-person access to librarians and just as often does not understand the nature and nuances of their access to library resources. Librarians can be "intense[ly] integrat[ed]" into the course, where the best implementations of this effort include transformative information literacy components (Lloyd, 2004) and "multiple opportunities for rich interactions with the librarian" (Edwards, Kumar, & Ochoa, 2010). Because online courses are not traditional learning environments and librarians do not always have the extensive history of providing assistance in that setting (Piper & Tag, 2011, p. 320-321), these courses in particular require the librarian to be flexible and innovative. Edwards, Kumar, and Ochoa's (2010) article includes a section on "Embedded Librarians in Online Courses" which highlights much of the relevant literature and discussion of a variety of implementations (p. 277-278). Furthermore, Wang, Shen, Novak, and Pan (2009) assert that "distance learning with no interactivity reinforced the negative effects of passive nonparticipatory learning" (p. 675). While Lai, Chang, Li, Fan, and Wu (2013) focus on outdoor education in their article for the British Journal of Educational Technology, several of their points apply to instruction taking place outside of traditional classroom environments, in general: the teaching and learning that occurs outside the classroom facility has different values and qualities which must be considered; teachers must consistently explore ways to create dynamic content for that atmosphere, including "meaningful contextual experiences"; and that the experiences of

this environment should "complement and expand classroom instruction" (p. E57). As such, it is then critical that librarians and faculty in the online course environment work to create dynamic content to engage and support students. Librarians and faculty may need to seek out professional development within and beyond their institution to develop the skills and know-how regarding online content delivery options.

The librarianship workforce has grown to not only include embedded librarians but also "blended librarians." Like embedded librarians, these librarians also have much in common with "traditional" librarians (reference, instruction, collection development), but "blended" librarians also take on instructional design responsibilities and have a wealth of knowledge, training, and affection for instructional technology. These librarians are, at least in part, sought out as a result of the challenges and opportunities technology has brought to the ways libraries handle the storage, collection, spread, and use of information and resources. Shank (2006) includes tables of frequently required qualifications (p. 519) and frequently desired qualifications (p. 520), as well as primary responsibilities (p. 521), in the role of an instructional design librarian that may help the reader better understand the demands of such a position. Top requirements include web/multimedia application experience (e.g., Adobe), communication and interpersonal skills, and organizational skills; top desired qualifications include project management experience, completed coursework in instructional design and technology, and online courseware experience; and top responsibilities include creating online tools and resources (e.g., modules, tutorials, or guides), current and emerging technological skills and experience, and library instruction (p. 519-521). And we may find that further "blending" occurs, where instructional designers may not (yet) be present at an academic library but where librarians have the technological and pedagogical skills to serve, in a limited fashion, in the kind of "blended librarian" role Shank describes. Additionally, Shank and Bell (2011) declare that "[b]lended librarianship is intentionally not library centric […] but, rather, it is librarian centric (i.e., focused on people's skill, knowledge they have to offer, and relationships they build)" (p. 106). It is, therefore, the integration of the librarian, more than only the library, that should make for the most engaging, dynamic, and critical resource in the collaboration between a course and a library—the human resources driving toward student success within both environments, the course and the library, are its most powerful components.

As Pritchard (2010) writes, embedded librarians begin engaging in elements of instructional design alongside the faculty member(s) of a particular course, serving as a collaborator in the entire course process rather than in a session or two of the course, or just in the content management system (CMS) element (e.g., Blackboard or Desire2Learn). Pritchard lists attitude, visibility, and professional expertise as the most important factors in establishing this kind of team-teaching effort with a faculty member (p. 387-388). Montgomery (2010) writes, "Social networking tools provide [college students] with an interactive online experience. Academic libraries and librarians need to provide the same experience" (p. 307). Instructional webcasts (e.g., YouTube videos), Facebook pages for academic libraries, Skype interactions, and other virtual services aimed at increasing library/librarian visibility to students and online-based professional expertise for librarians all echo and heighten the presence of courses and other institutional services in similar for-

mats. Embedded librarianship has become well-known enough that best practices have been researched and delineated, such as those found by York and Vance (2009), and these will likely grow and change over time as the role of librarians engaged with instruction and technology continues to evolve and as faculty awareness and appreciation for what librarians can contribute to their course, and to student success, continues to grow.

Gustavson and Nall (2011) highlight one such example where faculty members often bemoan the lack of "real" research skills in their students, often specifically with regard to a major or discipline. Librarians are uniquely poised to monitor, make suggestions to, and consult with students and to remedy deficient skills. (Pickard and Logan (2013) also elaborate on student understanding (or lack thereof) regarding the research process and the library.) Librarians do this, most critically, without altering or stepping on course content and without taking time away from course content instruction by the faculty member, but they work alongside the instructor to drive student engagement in research and learning and change or update the way students view the library as a resource (Kuh & Gonyea, 2003). Roff (2011) calls attention to the comingling of librarianship training with museum studies training, such that librarians may be able to use their knowledge of information literacy in combination with their understanding of exhibitions (scripting, press releases, and so on) in order to deliver an information literacy course with historical, and visual, primary source materials. Montiel-Overall and Grimes (2013) point to AASL's Standards for the 21st Century Learner Guidelines (specifically pages 13, 20, and 25), stating that librarians must be sure to target their information literacy instruction toward essential twenty-first century learning skills, to collaborate with members of the learning community (not necessarily limited to faculty and/or students), and to implement inquiry-based learning approaches regarding the information search process (p. 41).

Mackey and Jacobson (2011) broaden the concept of information literacy involving a variety of formats into the concept of "metaliteracies"—the "overarching, self-referential, and comprehensive framework that informs other literacy types"—which "provides an integrated and all-inclusive core for engaging with individuals and ideas in digital information environments" (p. 70). These authors argue that an information literate individual "[applies] information knowledge gained from a wide range of verbal, print, media, and online sources and continuously [refines] skills over time. This constitutes a practice of critical engagement with one's world as active and participatory learners" (p. 70). With these quotes in mind, one can readily see overlap between the MOOC's opportunity to provide global learning environments and the kindred opportunity for librarians to investigate and incorporate metaliteracies into the MOOC curriculum in collaboration with MOOC faculty.

While not specifically focused on librarianship, Hopper (2012) takes a valuable approach to the concept and growing field of instructional design, creating a conversation between an institution's instructional designer ("Dave") and Buddha (aka "Sid"), who is about to teach "PHIL5001—Special Topic—Toward Nothing." Those reading the article should note the instructional designer (who could be a librarian or could be a faculty member in another department entirely) sees his role as that of a consultant—assessing faculty needs, informing them of standards and regulations, offering solutions, recommendations, and assistance. Essentially, the instructional designer focuses

on making the most of the online environment for the students while adhering to faculty desires, skills, and plans.

Librarians take their role in the development of lifelong learners and the information literate very seriously. Educators curious about working with librarians in online or other settings for instruction, embedded collaborations, and creating meaningful student–librarian interactions may benefit from exploring the freely accessible "Analyzing Your Instructional Environment: A Workbook" (IS Management & Leadership Committee, 2010). Whether approached individually or with a librarian, this resource should provide a wealth of concepts and ideas for future discussion and, perhaps, implementation.

MOOCs, Their Future, and Librarianship

Little scholarly research regarding the future of MOOCs with direct reference to librarians and libraries exists, and with good reason. MOOCs are new enough that research into MOOCs and their needs in order to achieve success (for a variety of definitions of success) are still very much in an emergent stage. Institutions engaging in discussion, planning, development, and augmentation of their MOOCs will conduct and participate in research pertaining to those aspects of MOOCs. As the prevalence of institutionally hosted platforms and credit-bearing MOOCs continues to grow and transform, that will also serve as a burgeoning area of MOOC research. MOOCs also have, and will continue to have, an impact on the world of copyright clearance, open access, and creative commons licensing. While some up-to-the-minute conversations on those topics are shared in the "Survey Comments, Feedback, and Lessons Learned," "Further Survey Discussion: A Vision of 'MOOLing' in a MOOC," and "Future Research" sections below, these are only conversations and only time will tell where MOOCs and the scholarly research around them will go.

But researchers will not hunger for inspiration. The "literature" in Appendix A consists of a mix of more popular items (blog, non-scholarly journal, and Chronicle of Higher Education articles), multimedia resources to explore, and several scholarly publications. These inclusions will demonstrate the wealth of ways in which librarians are involved in, engaged with, and ready to assist MOOCs.

The survey conducted in preparation for this article also seeks to illuminate areas of real and potential involvement of libraries and librarians with MOOCs. Later sections continue this discussion using survey findings related to the future of MOOCs and where librarians may fit within that scope.

Survey of Coursera MOOC Instructors

Purpose of the Study

In considering the potential for librarians in the instructional and educational environment of the massively open online course, we must also assess whether and to what extent faculty teaching MOOCs see a place for librarians in that atmosphere. With that in mind, the author decided that a survey of MOOC faculty could accomplish several goals, including the primary area of research interest: gauging MOOC faculty interest in and conceptualization of librarians in MOOCs. Additional goals of the survey as stated in the Institutional Review Board (IRB) form were:

- to discover variations in faculty status among MOOC faculty;

• whether MOOC faculty have established relationships with the library and/or librarians at their home institution;
• whether MOOC faculty attempt to incorporate information literacy outcomes into their MOOC through learning objectives or other means;
• whether librarians at the home institution of the MOOC faculty member have played a part in the MOOC course development process; and
• to gain insights regarding institutional (or other) incentives for MOOC faculty, which may illuminate both barriers to and opportunities for librarians in MOOCs.

This survey was not designed to be exhaustive, but to be exploratory. Data gained from responses shared a common level of importance with qualitative replies from survey participants.

Methods

As the author focused on MOOC faculty solely within the Coursera site (http://www.coursera.org), a Microsoft Access database was built containing information from each MOOC home page (all 367 of them, as of May 15, 2013) within Coursera, regardless of whether the course was complete, in-progress, or upcoming. This database contains a unique ID for each course title, course titles, the primary instructor's name and email address (gathered from web searching), course category/subject areas, course duration, course estimated workload (in hours), whether a "signature track" was available for that course (and, if so, at what cost), the home institution of the primary instructor of the MOOC, the location of the home institution (country), the language of the MOOC, the names of up to three additional instructors, and the total number of non-primary instructors for the MOOC. This database provided the author with an opportunity to understand the distribution of MOOC subject areas, engagement of international faculty members, extent of team-teaching used for MOOCs, and the average workload a Coursera MOOC student might anticipate doing in order to complete a MOOC. This resource also enabled the author to gauge the number of courses with "TBA" instructors, instructors outside of traditional higher education institutions, and potential survey participants who may or may not speak (fluent if any) English. Data from the Access database dates to May 15, 2013 and thus courses created in Coursera since then were not included in the survey.

After building the Access database and much internet searching to discover MOOC faculty email addresses, the author built a survey using Qualtrics through an institutional license. This software was chosen as it allows the survey designer to route participants based on responses, allows for a record of informed consent from participants, permits relatively quick and easy emailing of potential survey participants (for initial contact and reminders), and automates "thank you" messages to survey respondents. Questions in the survey were multiple choice, "choose all that apply," or written responses (most often used where the author sought elaboration or thoughts related to a particular question or response). The complete survey is available in its entirety in the appendix of this article. The author generated a report based on survey responses on July 7, 2013 for the purposes of this article. Any responses completed after that date will not be included in this article.

Access Database Demographics Information

Prior to and during the survey (see Question 7), several points of data were gathered or requested regarding survey participants, both real and potential. As described in the Methods section, the Access database created to support this research project can establish a number of valuable points of data. Tables 1–3 of the present article display the most prominent Coursera host institutions within the United States, the most prominent Coursera host countries outside the United States, and the distribution of Coursera courses by sole or primary subject area/category, respectively. Consider the following additional Coursera-specific MOOC details gleaned from the author's database:

- Five MOOCs listed would be taught in Chinese, eight in French, one in Italian, one in German, and 10 in Spanish—this group (25 courses, or 7%) would be surveyed, but participation levels may be low, depending on primary instructor's fluency in English.
- Nineteen courses (5%) were not hosted by traditional institutions of higher education (e.g., the American Museum of Natural History or Exploratorium).
- Institutions outside the United States host 101 MOOCs (28%) on Coursera—the Commonwealth Education Trust (United Kingdom), the University of Copenhagen (Denmark), and the University of Toronto (Canada) were each hosting eight MOOCs (2% each, or together hosting 6%–7% of the 367 MOOCs on Coursera).
- Of the 25 MOOC categories, or subject areas, used by the Coursera site, 194 (53%) were listed for more than one category—this may or may not indicate interdisciplinary collaboration between MOOC faculty.
- Sixty-seven (20%) of the 339 unique MOOC faculty members surveyed were female (Note: those listed as the primary instructor for multiple MOOCs on Coursera were not counted more than once).
- Fourteen courses (4%) anticipated student workload would be a minimum of 10 hours per week, 50 courses (14%) anticipated coursework would consume up to 10 hours per week, and 109 courses (30%) anticipated between 1 and 5 hours of coursework each week for students.
- Eleven MOOCs on Coursera had a Signature Track available for enrolled students (fees per Signature Track course ranged from $39.00–$79.00).

The details extrapolated from this database do not provide any conclusive information regarding MOOCs, but they do give readers an impression of what MOOC students have to choose from in terms of subject area and workload, broadly who is involved in MOOC hosting and instruction (countries, institutions, and individuals), and what options are being explored on the Coursera for-profit platform (e.g., course lengths, workloads, and free versus fee-based courses).

Survey Demographics

One additional piece of very valuable demographic information was gathered using the Qualtrics survey. Of those who responded, approximately 18% of those contacted (335 unique MOOC faculty members) completed the survey, though 80 individuals (24% of those contacted) began the survey. Questions 7 and 8 of the survey sought information as to the status, faculty and otherwise, of MOOC primary instructors on Coursera. A full 70% (61) of those responding to Question 7 indicated that they are tenured faculty at their home

institutions; 11% indicated that they are adjuncts, instructors, or "other." Those who responded with a status of "Instructor/Adjunct/Non-tenure track" (11 respondents) were asked to elaborate on their status in Question 8. Two individuals elaborated that they are research faculty at an institution, rather than tenured or tenure-track faculty, and only occasionally teach. These two questions become important when considering the community of MOOC faculty on Coursera, what habits and responsibilities they may have at their home institution, and other survey findings from the Survey Discussion that follows.

Survey Comments, Feedback, and Lessons Learned

This survey was by no means "perfect" though it did accomplish at least two important goals of the author, one primary and another an underlying hope. The first goal, to approach MOOC faculty about their role in MOOCs, their engagement with their institution's library/libraries/librarians, and their thoughts on whether librarians have a place in MOOCs (and what that place might look like), was front and center within the survey. The underlying hope of the author, however, was to create a thought-provoking survey that would generate further discussion among MOOC faculty, among faculty in general, and among faculty and librarians about what roles we can all play in the MOOC setting and how those interested in supporting, rather than instructing, a MOOC might best be able to assist MOOC faculty.

After completing the survey, three faculty members approached the author for additional discussion on the topic as well as possible future collaboration. Five faculty members (three from survey participants and two from the fields of Instructional Design and Librarianship) and a director at the Copyright Clearance Center (CCC) have indicated interest in the survey results and exploring the data and subject matter further.

If this survey were to be repeated in the future, the author would apply several of the suggestions of and feedback from those contacted about the survey including, perhaps, different surveys entirely for those who have not yet taught, those who have finished teaching, and those who are currently in the midst of teaching their MOOC(s); stating a response deadline; including a brief description of "information literacy" (rather than a link to a definition); and strengthening the "permission to quote" section of the survey with clearer options that the respondent can select for how their responses may be handled in publication.

Survey Discussion: A Vision of "MOOLing" in a MOOC

The concept of a MOOL in a MOOC was foreign to some MOOC faculty on Coursera but, when loosely defined, was somewhat in use by or favorably imagined by many who responded to the Qualtrics survey. Several respondents made common suggestions or shared similar thoughts. Additionally, the author consulted with a director at the CCC (Tim Bowen), an Instructional Design and Technology faculty member at the University of Memphis (Dr. Trey Martindale), and an Instructional Design Librarian from Pennsylvania State University's Berks campus (John D. Shank) for further thoughts on MOOCs and MOOLs. Both survey results and valuable thoughts from those conversations are used in this section to discuss current uses and future opportunities and options for librarians interested in involvement with MOOCs.

While there may not be much that a MOOC faculty member may want a librarian to develop, it is still critical that faculty members are at least aware that librarians may very well be interested in engaging with their home institution's MOOCs. Additionally, faculty members also need to have some understanding of what their librarians may be able to contribute—they need not aim to incorporate every librarian strength, tool, resource, and ace-up-the-sleeve, but it is a lot easier to pick the proper tool in a toolbox if you know what they do.

Within the survey, Question 25 ("Have you ever had a librarian embedded into your courses at your institution?"), Question 28 ("Please describe the involvement of the library and/or librarians in your MOOC(s)"), and Question 31 ("Do you envision a future where librarians can/will be a part of the MOOC course environment?" and its "Please elaborate" follow-up prompt, Question 32) were particularly informative with regard to perceived usefulness of librarians in a variety of settings, as well as how MOOC faculty are accustomed to using librarians at their home institution.

Despite the low number of responses for the survey, in terms of significance, the repetition of a number of comments, especially in the questions noted above, leads the author to believe that there are at least a few common understandings of the role librarians can serve and whether and how that may be applicable to the MOOC. These trends include librarians as resource creators, librarians as experts or support for course content design and delivery, and librarians as hubs for knowledge and negotiation of copyright and access.

Resource Creation

A number of survey responses to questions 31 and 32 indicated the need for close conversation with the librarians of their home institutions in order to hone in on the best ways in which librarians could become engaged in their MOOCs. Comments and perceptions were quite mixed: "I'm not sure what role an academic librarian could play in a course where the students aren't affiliated with the institution," "Most of the functions of a librarian can now be automated," "On line education is in a state of a rapid evolution. Who knows what will happen...," "Not easy to see what they can do that they don't already do for regular courses," and "Librarians could be key players in a connectivist MOOC."

Overall, MOOC faculty indicated the most interest in librarians serving as experts in managing digital assets, suggesting additional readings to students, citing sources, discovering and using information, and evaluating resources. Question 28, which asks respondents to elaborate on how librarians are involved in their MOOC, received a few comments that indicate to the author that some MOOC faculty are already harnessing these identified skills of librarians for their MOOC. Responses included: "I asked a librarian to film two videos about how to locate information and do online research and the difference [between] peer reviewed and popular literature," "locating open access material," "establishing learning outcomes," and "We incorporated materials developed by our librarians for research assistance, evaluating sources, other tasks. I think all were repurposed from previously prepared library skills teaching materials." These comments suggest that, even in small ways, librarian skills and resources can be mounted into

MOOCs to provide additional support, content, and learning objects for the global MOOC community.

Librarians—especially those engaged in digital preservation, instruction, emerging technologies, and instructional design—enjoy working with and showcasing technology and resources. Some MOOC faculty are very aware of these skills and interests and have started taking advantage of them; other faculty have not yet had sufficient discussion at the local or institutional level to know what collaborative opportunities may best suit their MOOC. Additionally, other MOOC faculty are aware of the fact that their particular MOOC—often in the sciences—may not be suited to this kind of partnership. As with on-campus collaborations, librarians engaged in resource creation (and/or even some MOOC instruction through videos) for use in a course must fit the course, its needs, and its population.

Course Content Design and Delivery

MOOC faculty often spend significant amounts of time adapting content to and creating content for the MOOC setting (see questions 18–21). Responses to the author's inquiry as to the amount of time spent adapting their course to the MOOC platform ranged from estimates given in hours, days, weeks, months, and even years. Faculty hour estimates ranged from a lower end of 30–60 hours to a high end approximating thousands of hours of effort. As many faculty indicated that teaching assistants, graduate assistants, student workers, and other forms of human resource capital had at times been made available to them, often perceived as a form of incentive (survey questions 10 and 11), the high estimates for adaptation time will likely be due to MOOC faculty factoring in the effort per person involved in mounting and/or adapting their course. The estimates here are not necessarily given at the individual level, yet they are no less telling.

With regard to Question 25 in particular, of the 14 respondents (23%) stating that they had used embedded librarians before at their home institution, there were no stated disadvantages of that collaboration when they responded to the follow-up (Question 26). Two respondents commented "all advantages" and "no disadvantages" explicitly in their reply. This would indicate to the author that, at least for these 14 MOOC faculty, the concept of an institutionally embedded librarian of some sort would be favorably received in the MOOC setting. Coincidentally, 14 respondents also indicated that they had involved librarians from their institution in their MOOC (Question 27). While it is not clear that these responses come from the same 14 faculty members, it could indicate that those more accustomed to collaborating with librarians at their institution may be more open to collaborating with librarians in their MOOC.

Copyright and Access

Librarians frequently engage in discussions about and in activities involving copyright, open access, fair use, creative commons, and many other terms and arguments regarding these concepts. They may be the institutional liaison to the CCC; they may be instructing students on plagiarism and fair use; and they may be discussing the frustrations with and/or importance of obtaining copyright clearance, or what open access is, or many other nuances of the publishing world as it relates to education. Librarians are, therefore, part of the voice regarding copyright and access.

Furthermore, librarians are part of the actions involved in copyright adherence and advising. They often arrange for electronic and print reserve items, may administer or post cleared PDFs to an institutional CMS (e.g. Blackboard), may assist student and faculty members with printing or scanning at the libraries, and may instruct users on how to access e-books (and e-book limitations and copyright stipulations). Given the wealth of direct and indirect copyright-related activities in which librarians engage, it seems a natural fit that faculty instructing MOOCs would approach librarians about course content concerns, issues, availability, and negotiation. Furthermore, as the MOOC grows in a credit-bearing direction, librarians will be an important institutional resource.

At the American Library Association 2013 Annual Conference (June 27–July 1, 2013), the CCC hosted a Product Advisory Session for College and University Librarians (June 28, 2013). The first item on the agenda was "MOOCs Licensing" and was led by Tim Bowen, the Director of Academic Products and Services at CCC. In Spring 2013, the CCC piloted a partnership with the Stanford Intellectual Property Exchange (SIPX) with a Stanford course offered on Coursera. The goal was to create the equivalent of a "course pack" where, if they wanted to, students enrolled in that MOOC could pay to have access to course materials—as one-offs, if there were only certain items or sections in which they were interested, or the option to purchase it all—and if they did not, would still have access to all the lectures, quizzes, and so forth. Bowen stated that roughly 4,000 students "completed" the MOOC, and approximately 1,200–1,300 of them purchased the "course packs" at $98 for the full array of content.

This meeting engaged librarians in discussion as to whether we felt this would be a viable option moving forward and whether we had additional ideas or concerns about this plan—which they hope to unveil in the next few months. Librarians have long had a strong voice in the argument for information access and freedom of speech, and now librarians are clearly seen as an important community to consult in the confluent discussion of copyright, access, and open education. Yet, the open access movement will provide compelling opportunities for MOOC content in the sciences in particular as major industrialized countries, like the United States and the United Kingdom, pursue making publicly funded research freely accessible to the public (Rushby, 2012). The medicine, technology, and science subject areas account for approximately 50% of the MOOCs available through Coursera (see Table 3) and increased use of scholarship from open access avenues should be expected.

Additional Feedback on Librarians and MOOCs

Only 13 respondents (22%) felt they would take advantage of a Coursera-provided librarian if one was to be offered to them for use in their course (Question 33); the majority of respondents here (29, or 48%) answered "maybe." Based on participant responses in the follow-up prompt (Question 34) and to questions 31 and 32 (discussed earlier), there are several reasons why faculty may be unsure. The degree to which a MOOC involves information literacy components and/or is "information-oriented" were noted variables. Several participants voiced wariness about Coursera providing such a resource. Comments related to that include: "I think a local contact is better," "I'd prefer to make

one of our institution's librarians a partner in our course and deliver library services I have confidence in," and "Coursera is a for profit company. Frankly, their goals are entirely different than those of an instructor." That last remark indicates awareness on the part of MOOC faculty members that their goals and the goals of the platform may be somewhat at odds. Faculty interest in "local" collaborators and desire for "confidence" in their resources may further indicate that librarians do have a place in the future of the MOOC, especially where support for course design and content delivery are concerned.

Within Question 35, participant responses to this question indicated a few other areas librarians may want to delve into when vying to be part of MOOCs:

> "Two-thirds of the academic work involves the on-line questions, which you did not ask about. […] The issues are identifying suitable questions, deciding the format of the questions, entering questions, and testing questions. In my subject, and I think in most others, good questions, well formulated, are hard to find. I wonder if there might be a lot of expertise among the community of librarians that might be brought to bear."

> "MOOCs could certainly benefit from knowledge management teams—several NGOs that are involved in continuing education frame this in the context of knowledge management, program learning and the like and an expanded definition of a 'librarian' certainly is valuable there"

> "I just participated in a virtual panel on MOOCs, organized by the Association of College and Research Libraries (ACRL). It confirmed my opinion that librarians are way ahead of most academics when it comes to the transformative power of information technology."

> "I believe that overall the issue of librarianship has so far received insufficient attention in the discussion on MOOCs. There is an unfounded belief that the brave new world of online learning relegates libraries to a secondary position. This is, in my view, wrong. Libraries remain indispensable and we have been extremely grateful for the support we have received from the Royal Library of Denmark."

These statements indicate several areas of collaboration that had not been recognized previously by the author—essentially, this is a wonderful thing, as the dialogue of collaboration should involve the sharing of ideas. The survey was intended to generate discussion, rather than establish firm answers, on the topic of librarians in MOOCs. The fact that a number of MOOC faculty did take the time to address their own fresh thoughts on potential collaboration between MOOC faculty and librarians does indicate at least some amount of success in developing additional conversation.

Future Research

Predictability: Library Use and MOOCbrarians

While the survey detailed in this article did aim to unveil elements of that information, the response rate (18% of all individuals surveyed) was not high enough that any clear conclusions could be drawn (Instructional Assessment Resources, 2011). Thus, no conclusions can be drawn with regard to a relationship between MOOC faculty use of their library for their non-MOOC courses and research and whether they feel there is a place for librarians within the MOOC environment. The author would suggest further research into whether MOOC faculty members who are regular users of

their institutional libraries and librarians more or less predictably have an interest in bringing librarians into their MOOC environment. As institutionally run and credit bearing MOOCs become more and more popular and prevalent, the author expects that institutional libraries and their librarians will become more and more involved. Additionally, it may be easier to survey in that circumstance, institution by institution, rather than approaching all Coursera MOOC faculty, as was done here.

Additionally, the author predicts that, as humanities MOOCs continue to develop and become more popular (currently more MOOCs are offered for the physical, biological, and social sciences), the special collections and archives of institutional libraries and other relevant library collections, academic institution-based or not, will become more involved in MOOCs as well. Future research could be conducted regarding whether this relationship develops, as predicted here, or not.

Copyright and Access Regulation Shifts

Given the fact that the CCC approached the largest conference of librarians in the United States (ALA Annual, 2013) for advice and opinions on copyright, access, and the directions the CCC is planning to head regarding MOOCs, this will not be the end of the discussion but is merely a tributary new channel in the flow of conversation between copyright providers and copyright navigators. If the CCC and SIPX follow through on expanding their pilot with Stanford and Coursera from Spring 2013, and offer that option to all MOOCs, research into the impacts of that relationship and that option will be important.

Future research regarding the impacts of these partnerships will be most important in terms of: (1) the completion rate of these courses, (2) how MOOC faculty respond to these fees, (3) how students respond to these fees, and (4) whether students and faculty work to circumvent or otherwise avoid these barriers to access (which may be financial, but which may also be impacted by international copyright regulations, faculty interest in/intention to provide open education, publisher agreements, and more). The OCLC conference at the University of Pennsylvania in March 2013 also raises the question of whether tuition translates to productivity, which the author believes raises a fair point—one with which educators will be familiar from more traditional instruction settings. No matter the type of institution, or the cost of your course, students will always span the spectrum .

The author urges faculty to continue placing a premium on providing open education regardless of financial or other resources. She also urges researchers, MOOC platforms, and host institutions to consider and analyze the international impacts of these regulations, the prohibitive and exclusionary nature of such fees for non-credit bearing work, and the good intentions of an open education resource and the opportunity for self-improvement in a world of people who may otherwise not have access to such options, let alone to courses taught by such "experts" as those teaching and supporting MOOCs and their development.

Survey questions 21, 22, 24, and 28 engaged participants in reflection on special permissions from publishers and/or vendors, obtaining those special permissions, how MOOC faculty use their home institution library (or libraries), and how librarians have been involved in MOOCs with survey participants thus far.

Delivery and Success of MOOC Learning Outcomes

Research on these topics has already commenced, but it will continue. Many different communities have an interest in the percentages of stick-with-it students and "dropouts," issues of plagiarism, accomplishments of MOOC learning outcomes, assessments and measurability, academic integrity, user privacy and authenticity, and the MOOC "honor code(s)," to name just a few areas of curiosity regarding the successfulness (or unsuccessfulness) of the MOOC. T. Hugh Crawford's article for CHE (2013) states that, "to MOOC or not to MOOC [is] not really the question. The real issues [is] how brick-and-mortar institutions could embrace MOOCs while continuing to build on the strengths of local, capital-intensive pedagogical practices—actual in-the-flesh pedagogy in a world of Coursera." And so, at the most basic level, the resources devoted to the delivery and success of any MOOC should supplement the attention an institution devotes to its paying customers, its students. The capital-intensive investments of human resources, programming, technology, and support systems at brick-and-mortar institutions should drive the ability to create, hone, and sustain global education efforts and achievements. Crawford does not encourage institutions to turn a blind eye to the opportunities beyond their doorstep, merely to keep in mind that home is where the heart is and there is much we can do, always, to better how we educate the students who pay us for the privilege.

Yet there may be ways to meet in the middle. For those looking to create institutional platforms (whether for-credit or free), whichever institutional faculty members have already used MOOCs hosted by for-profit entities (e.g., Coursera) will have the advantage of having experimented in these learning environments already. These faculty members will have delivered video lectures with embedded quizzes, created weekly (or bi-weekly) quizzes with honor codes, created mass assignments, used peer review options in this setting, and more. EDUCAUSE (2012) notes the MOOC business model opportunities that institutions may consider pursuing: data mining, the cross- or up-sell, advertising and course sponsorship, tuition-based models, and/or the spin off/licensed content model (p. 2). Slate's Will Oremus (2013) suggests that MOOCs should not act as a supplement to teachers and classrooms, but that "MOOC-style video lectures and online features [should be used] as course materials in actual, normal-size college classes" utilizing blended and flipped classroom strategies. Thus, there is not a complete transformation of the education delivery system after all, but instructors are just taking advantage of newer content delivery methods and bringing them back home to institutions. This may also be a useful way for MOOC-ing institutions to make better use of MOOC content for their on-ground or otherwise enrolled students paying for the enhanced version of a course—with library materials, guided research, and more traditional "perks."

If the MOOC is to live on, and the author believes it will do so in a variety of permutations, then we will need to continue developing ways to strengthen the level of engagement students have in the MOOC, the accountability and ethics of those taking the MOOC, and the technological elements within the MOOC (e.g., in-video quizzing, closed-captioning in non-English languages) especially as they relate to and increase the chances of students completing the course and the ability of adaptive instruction to increase skills development and knowledge retention. Research deeper into

these features and how they support learning outcomes, knowledge building, information retention, and student engagement will be critical to the profitable development of MOOCs, as well as the experience of the non-paying student.

Librarians engaged in instructional design and information literacy, including media and technology literacies, will be looking out for research on MOOCs and (like the author of this article) conducting their own research (e.g., participating in MOOCs) to understand how learning outcomes and course competencies are achieved in this educational environment and, more generally, what it takes to run and support a MOOC. Especially by taking MOOCs hosted by their home institution, librarians will have the first-hand knowledge necessary to give strategic feedback and suggestions to MOOC faculty, and perhaps better understand specific scenarios in which they can contribute their skills as a librarian into the MOOC. The author suggests collaborative research between MOOC faculty and librarians to gauge the complexities, necessities, challenges, and benefits of collaborative work between MOOC faculty and "MOOCbrarians"—or "MOOLs in a MOOC."

Lastly, the author suggests that special collections, archival, and outreach librarians also keep an eye on these developments and the MOOCs that they may be able to support—whether at their home institution or not. Libraries will always seek ways to better demonstrate and highlight their value. Bringing 2,000–10,000 unique users to your digitized collections over the course of one MOOC (which might run as few as three weeks), from all over the globe, would be a coup, internally and institutionally, and statistics would not be terribly difficult to gather as well, with tracking support from a systems or information technology department. Sharon Weiner (2009), Dean of Library Services at the University of Massachusetts Dartmouth, notes "[t]here is a growing consensus that the library should be recognized as a partner with other entities in the university in supporting the institutional mission, resulting in increased integration of the library" (p. 4). If an institution chooses to offer MOOCs as a way to engage with the global learning community and increase access to their resources, including human (faculty) resources, then a shift has occurred in the institutional goals and priorities, and libraries must pursue (and be pursued regarding) opportunities for engagement with this community and their potential needs. Most specifically, scholarly communication models development, curricula development, and student learning integration are all areas where the libraries might engage in boundary spanning efforts within their institution (Weiner, 2009, p. 9).

Hypotheses?

What might the future hold for MOOCs? The author suggests a few hypotheses.

(1) Many students will still pursue the full extent of open education (free of barriers to entry), without the intent to seek certification or other credit for the course. These students will resist requests to pay for a MOOC or its contents and seek the access to opportunity rather than academic credit or otherwise attaining some sort of official achievement.

(2) We will find those who are willing to pay because they seek credit for completing the course—and those for whom such fees will continue to prevent their access to educational opportunities.

(3) There will be ramifications to the educational community, which has already begun transforming in response to the MOOC. For example, Harvard requires students take an introductory level economics MOOC with Brigham Young University, rather than taking the course with Harvard's own faculty. As the Tennessee Board of Regents begins a relationship with Coursera, it will be interesting to see the impact of MOOCs at the state consortium level (University of Tennessee Media Resources, 2013). Among those who could very likely suffer are community colleges and their faculty, where students may be able to replace for-credit courses there (often used for placement and transfer into four-year schools and programs) with the burgeoning for-credit MOOCs, thus offering the already-strained budgets of community colleges an opportunity to cut faculty numbers (and diminish the budget lines that accompany them).

(4) The educational sphere will need to work to create an open education system that stays open, perhaps still relying on venture capitalism but also perhaps finding venture capitalists that are more interested in the adventure and the benefits to humanity than in the capitalism. John Daniel (2012) states, "While the hype about MOOCs is presaging revolution in higher education has refocused on their scale, the real revolution is that universities with scarcity at the heart of their business models are embracing openness" (p. 1). Regarding the pursuit of MOOCs for financial gain, Ed Techie (2013) writes, "So what about MOOCs, you know, those free open courses? Is this the end of them? No, I don't think so, but maybe they can now become what we always wanted them to be, focused on access and experimentation, not hype and commercialism." Where Charles Rinehimer (2013) knows that, many times, the student with the spark is his motivator for "walk[ing] into class every day with a smile on [his] face and a sense of anticipation"—MOOC students with "the spark" deserve a chance to make a MOOC professor's day, and MOOC faculty deserve the opportunity to engage that spark.

Many in education who hope for the redefinition of "return on investment" will want that return to be a smarter, more curious global community with access to opportunities for personal betterment and achievement, regardless of whether they live on Long Island or on Micronesia. Such opportunities might require not a form of tender from students but a desire to learn and a willingness to try, and hands and minds that want to be part of such an adventure—to keep it growing and improving, yes, but also to keep it free.

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Appendices

Appendix A: Additional Resources

There are a number of blog entries and multimedia resources of interest regarding MOOCs and librarians. The following list constitutes a number of valuable articles and other resources:

• TED talks not only form valuable elements of MOOC content; the TEDtalks website (http://www.ted.com/talks) also contains a TEDtalk from Daphne Koller, the co-founder of Coursera. (Her TEDtalk can be accessed here: http://www.ted.com/talks/daphne_koller_what_we_re_learning_from_online_education.html.) Another TEDtalk of interest will be "Peter Norvig: The 100,000-Student Classroom" (Link: http://www.ted.com/talks/peter_norvig_the_100_000_student_classroom.html).

• Elizabeth Dill posted "MOOCs: Where Are the Librarians?" on the Humanities, Arts, Science, and Technology Alliance and Collaboratory Scholars blog (HASTAC.org) on August 14, 2013. In her post, she writes, "I find it hard to believe that in all of the MOOC furor no one is considering a crucial part of education: the research component, the research component." With perhaps an understandable bias, Dill—a librarian—equates librarians in the MOOC setting as a benchmark necessary to achieve and uphold educational standards.

• The associate vice presidents for outreach at Penn State University, and executive director of their World Campus, Wayne Smutz—like Elizabeth Dill—sees potential in MOOCs and knows they will not stand as the be-all, end-all solution for education that the hype can often make them out to be. He states, "MOOCs aren't likely to solve the fundamental student learning challenges that colleges and universities face, and they certainly won't take the place of a college education." However, he notes the critical components of online student success, which MOOC instructors may then wish to bring into their courses and course design. Of these six keys, three overlap quite nicely with librarianship: intensive support, the personal touch, and flexibility.

• The Ed Techie has two important posts, "You Can Stop Worrying About MOOCs Now" (May 30, 2013) and "What Quality Measures Apply to MOOCs?" (June 26, 2013), of interest. The former suggests critical issues looming regarding MOOCs, venture capitalists, return on investment (ROI), and commercial versus social enterprise goals within MOOCs. Ed Techie notes that for MOOC providers to consider "MOOC based learning on campus" we still just have blended learning (with which librarians and course instructors alike have experience) stating, "If you take the MOO out of the MOOC you're left with just a C, and no one's interested in just a C." The latter post states that those participating in MOOCs are "very different" and, perhaps strangely for some readers, pleas for MOOCs to be free of the "quality demands we have placed on higher education" so that experimentation through this unique, free relationship between student and educator may remain open. Librarians, too, may wish to have an open field for collaboration with MOOC faculty and experimentation with literacy content development and delivery. (The Ed Techie's assertion of the "differentness" of the MOOC student is also explored by Jeffrey R. Young in his article for Chronicle of Higher Education (May 20, 2013), entitled "What Professors Can Learn From 'Hard Core' MOOC Students," where he underscores the hugely important role that curiosity and passion play in student drive to participate in MOOCs.)

•In March 2013, the Online Computer LibraryCenter, or OCLC, (OCLCResearch 2013a; OCLC Research 2013b; OCLCResearch 2013c; OCLCResearch 2013d) hosted a two-and-a-half-day conference, titled "MOOCs and Libraries: Massive Opportunity or Overwhelming Challenge," hosted at the University of Pennsylvania. Video content was posted on YouTube dated April 9, 2013. (See Table 1. Penn State is tied for the most number of MOOCs hosted by a single institution on Coursera.) Valuable resources available in the aftermath of that conference include a blog post from Brooklyn College librarians (Evans, 2013). See Panel 4, in particular. Recorded videos from the conference can be found on YouTube from the conference sessions:

o The "MOOCs and Libraries" welcome speech from H. Carton Rogers III—the Vice Provost and Director of Libraries at the University of Pennsylvania: http://www.youtube.com/watch?v=fU8Mle0Tar8.

o "Why MOOCs? Why Penn? Why now?" is a 23-minute talk led by Professor Ed Rock of Penn Law: http://www.youtube.com/watch?v=guQyTudlFCI

o A panel of academics from several institutions, along with a representative from the Association of Research Libraries, led an hour-long session on copyright, licensing, and open access: http://www.youtube.com/watch?v=7FvR4K3eddU.

o A second hour-long presentation from librarians and instructional designers, titled "MOOCs and Libraries: New Opportunities for Librarians," is also extremely relevant to the content in and context of this article: http://www.youtube.com/watch?v=3ebkaSjXtmk.

• The Association of College and Research Libraries' Virtual World Interest Group (VWIG) also posted a short video on YouTube on this topic called "MOOCs and Librarians": http://www.youtube.com/watch?v=SinXCiMF_Cs&feature=youtu.be.

• Two articles published by Library Journal are also worth reading: Ben Showers's "The Constant Innovator: The Academic Library as a Model of Change Management" (http://lj.libraryjournal.com/2012/01/opinion/backtalk/the-constant-innovator-the-academic-library-as-a-model-of-change-management-backtalk/) and Meredith Schwartz's "Massive Open Opportunity: Supporting MOOCs in Public and Academic Libraries" (http://lj.libraryjournal.com/2013/05/library-services/massive-open-opportunity-supporting-moocs/).

• The Open Education Database (http://www.oedb.org) published an article on May 16, 2013 entitled "Librarians: Your Most Valuable MOOC Supporters" and states, "Libraries are a major part of universities, but they're almost entirely missing from the MOOC conversation. That's a big mistake." Staff writers go on to describe the wealth of ways that librarians can participate in, contribute to, and help support MOOCs.

Chronicle of Higher Education (CHE) articles worth review:

• Josh Fischman discusses the "Rise of Teaching Machines" in his 2011 article for CHE's Digital Campus—exploring adaptive-learning technologies and their impact on student motivations, as well as noting resources engaged with these strategies, such as Knewton, Carnegie Mellon University's Open Learning Initiative, and Wake Forest University's "BioBook" project. More studies are needed on the outcomes of implementing this avenue of learning and content delivery, particularly for students in the community college environment. One may suspect that the concept of "teaching machines" outright replacing teachers is akin to the concept of

computers replacing librarians.

• Steve Kolowich has a number of thought-provoking and informative articles from 2013 regarding the complex debates over MOOC efficacy and host institution administration and return on investment available through the Chronicle of Higher Education, including:

o "Why Some Colleges Are Saying No to MOOC Deals, At Least for Now";

o "As MOOC Debate Simmers at San Jose State, American U. Calls a Halt";

o "Wired Campus: MOOC Professors Claim No Responsibility for How Courses Are Used";

o "Wired Campus: Harvard Professors Call for Greater Oversight of MOOCs"; and

o "Outsourced Lectures Raise Concerns About Academic Freedom."

• Additional 2013 CHE articles of relevance here are:

o Jennifer Howard's "Tomorrow's Academic Libraries: Maybe Even Some Books"; and

o Laurie Essig's "It's MOOAs, Not MOOCs, That Will Transform Higher Education."

Relevant scholarly articles, while not always directly about MOOCs and librarianship, can provide for inspiration, reflection, and collaborative brainstorming. Readers may want to pursue:

• Sandra Roff's "Visualizing History: Using Museum Skills to Teach Information Literacy to Undergraduates" (2011), published in College & Undergraduate Libraries, may enlighten educators about creative efforts of librarians for traditional, credit-bearing courses and may provide a necessary spark to try new methods of engagement with their home institution's students as well as in the MOOC environment. As humanities and social science courses grow, the generation of visually appealing, and educational, customized materials for the MOOC setting—to help students "visualize history"—seems very appealing.

• Verpoorten, Westera, and Specht's "Using Reflection Triggers While Learning in an Online Class" (2012) discusses reflection triggers (RTs), which are used to provide opportunities for learners to contemplate and assess their learning. Rather than propagating the belief that reflection should occur at the end of a course or project, such as part of a portfolio, these authors advocate for reflection during the learning process, not as part of the aftermath (p. 1031). Within the context of online learning, technology has enabled opportunities for adaptive learning and MOOCs would likely benefit from adopting adaptive learning strategies into the scaffolding of their courses.

• Joyce Chao-chen Chen's "Opportunities and Challenges of MOOCs: Perspectives From Asia" (2013) explores issues of open access, archiving, and open educational resources, as well as multimedia instructional resources in use for "technology-based instruction" such as iTunesU, YouTubeEDU, and others. Librarians are often a great source for relevant resource suggestions, for faculty and students, and certainly working with a librarian to locate and mount such resources in a MOOC would be an appropriate collaboration. Also important in Chen's research is comparative data on locations of their MOOC students (p. 3), major MOOC developments in Asia (p. 5), highlighted opportunities that MOOCs provide (p. 6-8), cultural themes and differences (p. 9), and challenges and important competencies for MOOC teachers (p. 10-13).

• Jones, Regan, and Mitra (2011) consider "information literacy beyond the library" within the context of social enterprise and

workforce development. When discussing open education, we must note the critical opportunity for personal development and enrichment presented for MOOC students—"the marriage of concepts of information literacy and social enterprise produces opportunities that clearly represent a unique value-added proposition in the world of workforce development, education, and training for low-income workers" (p. 392).

• Youngju Lee, Jaeho Choi, and Taehyun Kim's "Discriminating Factors Between Completers of and Dropouts From Online Learning Courses" (2013) focuses on online course completion, and barriers to it. Suggestions and knowledge herein may be applicable to MOOCs and their estimated 10% completion rate.

Appendix B: MOOCs, MOOC Instruction, and Librarianship Survey

Q1 Informed Consent

This survey is about Massive Open Online Courses (MOOCs)—but also about librarianship. Your participation is completely voluntary, and you may leave blank any items that you do not feel comfortable answering. We sincerely appreciate your participation in this research effort. All data from this survey will be presented in aggregate and any quotes will not include any identifying information, unless your express permission is granted on the next screen ("Permission to Quote"). If you have any questions regarding this survey, please contact the Investigator: Laureen Cantwell, Instructional Services Librarian, University of Memphis (email: lcntwell@memphis.edu). By filling out this survey, you indicate that you have read, understand, and agree to these terms. Thank you for time and assistance! By selecting "Yes" below, you accept the Informed Consent details as outlined above.

Yes (1)
No (2)
• If No Is Selected, Then Skip To End of Survey

Q2 Permission to Quote

By selecting "Yes" below, you give the Investigator permission to quote from your responses. Please note that Permission to Quote is NOT a requirement to participate in this survey. If you select "No" your responses will ONLY be presented in aggregate and any quotes will NOT include any identifying information. If you have any questions or concerns, please contact the Investigator: Laureen Cantwell, Instructional Services Librarian, University of Memphis (email: lcntwell@memphis.edu). Thank you.

Yes, you have my permission to quote from my reply. (1)

No, you do not have my permission to quote from my responses. Please only use my entries for aggregate data and do not include any identifying information in any quotes used. (2)

Q3 Thank you for choosing to complete this survey. You should anticipate it will take about 10–20 minutes to complete, depending on the flow of your responses.

Q4 Your email address. (This information will be used to pair you with data gathered from your Coursera course page. Your contact information will not be published.)

Q5 Title(s) of courses taught through Coursera (past, present, upcoming). (This information will be used to pair you with data gathered from your Coursera course page. This information will be used within aggregate data. If you gave permission to quote on

the previous screen, your course title(s) may be included in the quote information.)

Q6 Your institution. (This information will be used to pair you with data gathered from your Coursera course page. This information will be used within aggregate data. If you gave permission to quote on the previous screen, your institution's name may be included in the quote information.)

Q7 Your faculty status
Emeritus/Retired (1)
Tenured (2)
Tenure-track (3)
Instructor/Adjunct/Non-tenure track (4)
Other (5)

• Answer If Your faculty status. Other Is Selected:

Q8 If you selected "Other" please describe your position as an instructor within your institution.

Q9 Did/Will you receive any amount of course release for your role as Instructor of a MOOC on Coursera? If so, how much?

Q31 Did/Will you receive any pay from your institution for your role as Instructor in a MOOC on Coursera?
Yes (1)
No (2)

Q32 Other than pay and/or course release, have you been offered any other incentives from your institution to instruct/develop a MOOC?
Yes (1)
No (2)
• Q33 Please describe these incentives.

Q14 Are you currently teaching a MOOC (or MOOCs)?
Yes, one. (1)
Yes, several. (2)
No, my MOOC is finished. (3)
No, my MOOC is upcoming. (4)

• Answer If Are you currently teaching a MOOC (or MOOCs)? Yes, one. Is Selected Or Are you currently teaching a MOOC (or MOOCs)? Yes, several. Is Selected Or Are you currently teaching a MOOC (or MOOCs)? No, my MOOC is finished. Is Selected:

Q10 # of students enrolled in your MOOC(s). (If you teach/have taught more than 1 MOOC, please state final enrollment #s for each with the name(s) of the course(s).)

• Answer If Are you currently teaching a MOOC (or MOOCs)? No, my MOOC is finished. Is Selected:

Q11 # of students earning a Certificate in your MOOC(s). (If you teach/have taught more than 1 MOOC, please state #s for each course along with the name(s) of the course(s).)

• Answer If Are you currently teaching a MOOC (or MOOCs)? Yes, several. Is Selected:

Q15 How many MOOCs are you teaching currently?

Q13 How would you describe the level of your MOOC?
Introductory—no prior knowledge/study necessary (1)
Intermediate—some experience will be helpful (2)
Advanced—prior experience highly recommended (3)
Various levels—I teach several MOOCs (4)

•If Various levels—I teach se... Is Not Selected, Then Skip To How many hours of curriculum design a...(Continue at Q16)

•Answer If How would you describe the level of your MOOC? Various levels—I teach several MOOCs Is Selected:
Q34 What levels would you assign to the MOOCs you are teaching?

Q16 How many hours of curriculum design and course content preparation have gone into your MOOC(s)?

Q17 Have you also taught your MOOC(s) as in-person/online/non-MOOC course(s) at your institution?
Yes (1)
No (2)

• If No Is Selected, Then Skip To Have you gotten any special permission...(Continue at Q29)

• Answer If Have you taught your MOOC(s) as in-person/online/non-MOOC... Yes Is Selected:

Q18 How did you adapt your course(s) to for the Coursera/MOOC environment?

Q29 Have you gotten any special permissions from publishers (or others) to use copyright protected information in your MOOC(s)? (E.g., a book chapter, scholarly article, for use as a course material at no charge to enrolled Coursera students)
Yes (1)
No (2)

• If No Is Selected, Then Skip To End of Block

• Answer If Have you gotten any special permissions from publishers (... Yes Is Selected:
Q30 How did you obtain this permission? (E.g., what offices were involved?)

• Answer If Have you gotten any special permissions from publishers (... Yes Is Selected:

Q39 Did your institution incur a cost to accomplish access to the resource(s)? If there was a cost involved, what was it? (Estimates are fine)
Yes (1)
No (2)

Q12 Does your institution have a library (or libraries)?
Yes (1)
No (2)

• If No Is Selected, Then Skip To End of Block (Continue at Q24)

• Answer If Does your institution have a library (or libraries)? Yes Is Selected:

Q19 Do you use your institution's librarians and/or library/libraries for any of the following services? (Please check all that apply.)

	Purchasing materials	Locating resources at other institutions	Research instruction in my courses	Assistance developing course curricula	Assistance with emerging technology	Developing learning outcomes for courses	Copyright clearance for course materials	Information literacy instruction in my courses
I use my Library for:	☐	☐	☐	☐	☐	☐	☐	☐
I use my Librarian(s) for:	☐	☐	☐	☐	☐	☐	☐	☐

Q20 Have you ever had a librarian embedded into your courses at your institution? (NOT within your MOOC(s).) ("Embedded librarians" can serve for in-person, blended, and/or completely online courses; they may provide instruction, research consultations, writing/bibliographic reviewing assistance, or other kinds of assistance. Another definition and explanation can be found: http://library.uncg.edu/info/distance_education/embedded_librarian.aspx)
Yes. (1)
No. (2)

• If No. Is Selected, Then Skip To Q22 Have you involved your institution's ...

• Answer If Have you ever had a librarian embedded into your courses ... Yes. Is Selected:

Q21 Please describe any advantages and/or disadvantages of having an embedded librarian in your course(s).

Q22 Have you involved your institution's library and/or librarians in your MOOC(s)?
Yes. (1)
No. (2)

• Answer If Have you involved your institution's library and/or libra... Yes. Is Selected:

Q23 Please describe the involvement of the library and/or librarians in your MOOC(s). (This might involve: obtaining copyright clearance for course materials, working with publishers to create special access permissions for articles/book chapters, establishing information literacy components and/or learning outcomes, curricula development, course/instruction design, use of technology, and more.)

Q24 Do you feel students in your MOOC(s) can/do/will learn your course content?
Yes (1)
Maybe/Not sure yet (2)
No (3)

• Q25 Please elaborate on your answer.

Q40 Do you feel students in your MOOC(s) can/do/will become more information literate as a result of your course? (You can view the American Library Association's Association of College & Research Libraries (ACRL) Information Literacy Standards, Performance Indicators, and Outcomes here (www.ala.org/acrl/standards/informationliteracycompetency#stan—link will open in a new window.)
Yes (1)
No (2)

Q27 Do you envision a future where librarians can/will be a part of the MOOC course environment?
Yes (1)
Maybe/Not sure yet (2)
No (3)

• Q37 Please elaborate on your answer.

Q36 If Coursera made a librarian available to your course, can you see yourself making use of the librarian?
Yes (1)
Maybe (2)
No (3)

• Q28 Please elaborate on your answer.

Q35 Please use this space to provide any additional thoughts about MOOCs, librarianship, instructing in MOOCs, etc., here.

Figure 1. Cantwell, L. P. (November 2012). Global Education Conference: What Teachers Can Learn as Students in MOOCs. (See also the archived copy of this presentation via this link: http://www.screencast.com/users/LaureenHome/folders/Default/media/c31e218b-a4d2-401d-968e-88387cc2cfa8/embed).

Figure 2. MOOCs: What are they and how do they work? This figure is an embedded Prezi created by the author. It discusses MOOC basics, excitement and value, concerns, business and management of MOOCs (e.g., return on investment), and readiness assessment for MOOC hosting, with links to source material. (This Prezi and the survey used for this article are available on the author's website accessible through this link: http://prezi.com/embed/88b5f819f595f286fe64551a9d62fe9ba5ae88af/)

Table 1
Most prominent Coursera host institutions within the United States

Institution	# of courses hosted by institution based within the United States	% of Coursera courses hosted by institution based within the United States
Stanford University	22	6%
University of Pennsylvania	22	6%
University of Washington	14	3.8%
Georgia Institute of Technology	13	3.5%
Johns Hopkins University	13	3.5%
Duke University	11	3%
Princeton University	10	2.7%
University of Illinois, Urbana-Champaign	10	2.7%
Total courses hosted by these institutions	115	31%

Note. Data current as of May 15, 2013.

Table 2
Most prominent Coursera host countries based outside the United States

Country	# of courses hosted by country other than the United States	% of Coursera courses hosted by country other than the United States
United Kingdom	18	5%
Canada	13	3.5%
China & Hong Kong	11	3%
France	7	2%
Mexico	7	2%
Total courses hosted by these countries	56	15.5%
Total courses hosted outside U.S.	101	28%

Note. Data current as of May 15, 2013.

Table 3
Distribution of Coursera courses by sole or primary subject area/category

Course Subject Area/Category	# of courses with particular sole or primary subject area or category	% of Coursera courses with particular sole or primary subject area or category
Art	10	3%
Biology and Life Sciences	41	11%
Business and Management	28	8%
Computer Science categories (Artificial Intelligence, Software Engineering, Systems and Security, and Theory)	67	18%
Economics and Finance	17	5%
Education	35	10%
Health and Society	18	5%
Humanities	45	12%
Music, Film, and Audio	12	3%
Physics	11	3%
Total courses in these subject areas/categories	284	78%

Note. Data current as of May 15, 2013.