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*Open Praxis* welcomes contributions which demonstrate creative and innovative research, and which highlight challenges, lessons and achievements in the practice of distance and e-learning from all over the world.

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# Table of Contents

**Editorial**

*Introduction to Open Praxis volume 9 issue 3*  
Inés Gil-Jaurena  
265

**Research articles**

*Metaliteracy as Pedagogical Framework for Learner-Centered Design in Three MOOC Platforms: Connectivist, Coursera and Canvas*  
Kelsey L. O’Brien, Michele Forte, Thomas P. Mackey, Trudi E. Jacobson  
267

*Higher Education Lecturers’ Lived Experience of Going Public in MOOCs*  
Ulf Olsson  
287

*Distance Education Examination Management in a Lowly Resourced North-Eastern Region of Zambia: A Phenomenological Approach*  
Francis Simui, Henry Chibale, Boniface Namangala  
299

*Academic Workload Planning for Open and Distance Learning (ODL) Universities: The Experience of National Open University of Nigeria (NOUN)*  
Juliet Obhajajie Inegbedion  
313

*Developing Self-Efficacy through a Massive Open Online Course on Study Skills*  
Brenda Cecilia Padilla Rodriguez, Alejandro Armellini  
335

*Open Access Research Via Collaborative Educational Blogging: A Case Study from Library & Information Science*  
Kristen Radsliff Rebmann, Camden Bernard Clark  
345

**Book reviews**

*Book review of Revolution in Higher Education*  
Jennifer Anna Kepka  
359
Introduction to **Open Praxis** volume 9 issue 3

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This third *Open Praxis* issue in 2017 is an open issue that includes six research papers and a book review. Fourteen authors from six countries (the United States of America, Sweden, Zambia, Nigeria, Mexico and the United Kingdom) have contributed to this issue, presenting their research and innovation in open, distance and flexible education.

In the first paper (*Metaliteracy as Pedagogical Framework for Learner-Centered Design in Three MOOC Platforms: Connectivist, Coursera and Canvas*), Kelsey L. O'Brien, Michele Forte, Thomas P. Mackey and Trudi E. Jacobson from SUNY (USA) present their study based on three Metaliteracy massive open online courses they have developed in three platforms (one as cMOOC and two as xMOOCs). They thoroughly report on the experience and analyze learners’ active roles as participants, contributors and teachers, using metaliteracy as a lens. The discussion and conclusions are of interest to course designers willing to generate active online spaces and processes for learners.

Also dealing with MOOCs, Ulf Olsson from Stockholm University introduces teachers’ perspectives in his paper *Higher Education Lecturers’ Lived Experience of Going Public in MOOCs*. This qualitative interview-based study reports on the experience of 20 Swedish professors who have been involved in MOOCs. The paper focuses on five issues and concerns emerged in the analysis: being in front of a camera for shooting the MOOC videos, language (as non native speakers of English), being online forever, quality and intellectual property rights. It also explores the pros and cons of developing MOOCs identified by the lecturers, and provides valuable reflections and ideas for other professors and organizations planning to go public.

The next two papers refer to relevant aspects in the management of distance education – examinations and academic workload– based on two institutional cases.

In the first case (*Distance Education Examination Management in a Lowly Resourced North-Eastern Region of Zambia: A Phenomenological Approach*), Francis Simui, Henry Chibale and Boniface Namangala explore the way that decentralized distance education examinations take place in regional centres. Their interpretative study, based on Chaos Theory, collects information from both examination facilitators and students. It identifies challenges that lead to distress during the examination process, and the strategies put into practice to overcome the critical situations. The paper finishes with a set of recommendations that their institution and others facing similar concerns could assume in order to improve the examination process and thus the quality of their programmes.

In the second case study (*Academic Workload Planning for Open and Distance Learning (ODL) Universities: The Experience of National Open University of Nigeria (NOUN)*), Juliet O. Inegbedion explores existing workload models and literature and undertakes a survey-based study, focusing on two aspects: the activities developed by academic staff and their satisfaction with those activities. After providing an overview of the situation at NOUN, she introduces a workload model and applies it in NOUN as an example. Finally, she suggests some recommendations to be considered institutionally with regards to academic workload.

The last two papers are focused on two course experiences aimed at developing soft skills among learners.
In the first one (Developing Self-Efficacy through a Massive Open Online Course on Study Skills), Brenda Cecilia Padilla Rodriguez and Alejandro Armellini, from Mexico and UK respectively, report on a MOOC on study skills originally designed for first-year students, covering aspects such as time management, information search or academic writing. They analyzed learners’ pre and post MOOC self-efficacy, finding that MOOC participants improved their confidence in their own skills for success, self-motivation, learning regulation, endurance and goal achievement. So, the authors highlight the potential of MOOCs for improving learners’ skills at scale.

In the second paper focused on a course experience (Open Access Research Via Collaborative Educational Blogging: A Case Study from Library & Information Science), Kristen Radsliff Rebmann and Camden Bernard Clark from the USA explore an innovative practice addressed to developing the skills of understanding open access and searching for open access literature. They do so by a collaborative blogging assignment in six distance LIS courses for graduate students. With a concern with the sustainability of the blog beyond the course timeline, the authors clearly describe the experience and highlight lessons learned.

Finally, the issue includes a review by Jennifer Anna Kepka of the book Revolution in Higher Education: How a small band of innovators will make college accessible and affordable, authored by Richard DeMillo and published in 2015 by MIT Press.

We wish these papers will encourage our readers to also reflect and innovate in open, distance and flexible education.

Special thanks from Open Praxis to the authors and reviewers who have contributed to this issue.
Metaliteracy as Pedagogical Framework for Learner-Centered Design in Three MOOC Platforms: Connectivist, Coursera and Canvas

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Abstract
This article examines metaliteracy as a pedagogical model that leverages the assets of MOOC platforms to enhance self-regulated and self-empowered learning. Between 2013 and 2015, a collaborative teaching team within the State University of New York (SUNY) developed three MOOCs on three different platforms—connectivist, Coursera and Canvas—to engage with learners about metaliteracy. As a reframing of information literacy, metaliteracy envisions the learner as an active and metacognitive producer of digital information in online communities and social media environments (Mackey & Jacobson, 2011; 2014). This team of educators, which constitutes the core of the Metaliteracy Learning Collaborative, used metaliteracy as a lens for applied teaching and learning strategies in the development of a cMOOC and two xMOOCs. The metaliteracy MOOCs pushed against the dominant trends of lecture-based, automated MOOC design towards a more learner-centered pedagogy that aligns with key components of metaliteracy.

Keywords: Massive Open Online Courses; MOOCs; metaliteracy; pedagogy

Introduction
Since the coining of the term “Massive Open Online Course” (MOOC) nearly a decade ago (Siemens, 2012), MOOCs have unlocked countless learning experiences, breaking down geographic and socioeconomic barriers to connect a global classroom of learners. Likewise, MOOCs have provided exciting opportunities for educators to extend their reach and broaden their instructional impact beyond the walls of the classroom. Despite the technological evolution of MOOCs, however, the pedagogy supported by MOOC platforms suggests a more backward trajectory from student-centered, networked learning to a more traditional hub-and-spoke model that revolves around the instructor. How might educators leverage the unique assets of MOOC platforms to enhance and transform, rather than compromise, our teaching?

An examination of the connectivist theory that propelled the creation of the first MOOCs provides insight into their potential. Connectivism is a “network-based pedagogy” underpinned by the theory that “knowledge is distributed across a network of connections, and therefore that learning consists of the ability to construct and traverse those networks” (Downes, 2007). While the original connectivist or “cMOOCs” were decentralized models that encouraged collective participatory learning and user-generated content, the university-sponsored “xMOOC” platforms that became prominent in 2012, such as edX, Coursera and Udacity, diverged from cMOOCs in their focus on scalable content delivery using video lectures, automated assessments, and quizzes (Siemens, 2012; Pappano, 2012). In contrast to the organic, collaborative, and fluid nature of cMOOCs, the structured, centralized, and presentation-oriented environments perpetuated by dominant xMOOC platforms overlook the opportunities envisioned by the original MOOCs to engage students in valuable self-directed learning practices.
Scholarship on hybrid and blended MOOCs (Anders, 2015; Fidalgo-Blanco, Sein-Echaluce, & García-Peñalvo, 2016; Dubosson & Emad, 2015) and emerging MOOC taxonomies (Pilli & Admiraal, 2016) demonstrates a growing awareness of the need to revisit and re-incorporate foundational connectivist features into the prominent xMOOC platforms. Leveraging the networked nature of MOOCs, scholars have identified the value of decentralized learning models for fostering self-regulation competencies such as evaluative decision-making, adaptability and self-reflective learning (Siemens, 2012; Littlejohn, Hood, Milligan, & Mustain, 2016; Terras & Ramsay, 2015). However, they have also identified a lack of self-regulated learning skills as a potential barrier to student success in these environments (Terras & Ramsay, 2015; Littlejohn et al., 2016).

Thus, the globally interconnected nature of MOOCs provides a promising, but troublesome learning environment. When designed with students as the central drivers of their learning, MOOCs can foster important lifelong learning competencies related to self-regulation and learner agency. This decentralized learning model, however, calls for a supportive pedagogy that addresses the learning processes needed for students to take on active roles as participants, contributors and teachers.

In this paper we build on the argument for self-regulation not only as a means to an end (i.e. MOOC completion), but as an important lifelong learning skill that can be fostered and practiced through learner-centered participation in MOOCs. We use metaliteracy as a framework to address the challenges of learner-centered MOOC design through a consideration of the following research questions:

1. How can we leverage MOOC platforms to promote learner-centered pedagogy based on a metaliteracy framework?
2. How might metaliteracy be applied as a pedagogical strategy for supporting self-regulated learning in MOOCs?

In exploration of these questions we draw from our experiences designing and implementing three metaliteracy MOOCs on three different platforms—connectivist, Coursera, and Canvas—that pushed against the dominant trends of lecture-based, automated MOOC design.

Metaliteracy, which emerged around the same time that MOOCs were beginning to gain mainstream appeal (Pappano, 2012), offers a valuable framework for empowered learning in complex interconnected learning environments. According to the initial conception of this framework, “Metaliteracy expands the scope of information literacy as more than a set of discrete skills, challenging us to rethink information literacy as active knowledge production and distribution in collaborative online communities” (Mackey & Jacobson, 2011, p. 64). The emergence of social media and online networks influenced this theoretical shift from the skills development generally associated with traditional approaches to information literacy, to knowledge acquisition in collaborative and participatory environments. Rather than simply create a new literacy type for an isolated purpose or based on the emergence of a specific technology, metaliteracy redefines information literacy as an overarching and fluid model that prepares learners to engage as critical and adaptive participants in an expanding landscape of socially constructed and technology-mediated information environments. While connectivism frames the learning processes that occur in networked environments, metaliteracy can support this framework to inform teaching practices across myriad interconnected learning landscapes (Dunaway, 2011, p.680).

The creation of three Massive Open Online Courses (MOOCs) based on the metaliteracy framework provides a unique opportunity to trace the arc of metaliterate teaching and learning in...
these collaborative spaces. What began as an exploration of MOOCs ultimately led to a comparison of pedagogical experiences in three different MOOC platforms. In 2013, core members of the Metaliteracy Learning Collaborative developed the original Metaliteracy MOOC, a connectivist MOOC created in-house using Stephen Downes’ open gRSShopper programming (http://metaliteracy.cdlprojects.com). We followed this project in 2014 with a Coursera MOOC entitled Metaliteracy: Empowering Yourself in a Connected World (https://www.coursera.org/learn/metaliteracy), as well as a Canvas MOOC, Empowering Yourself as a Digital Citizen (https://learn.canvas.net/courses/591).

The first half of this paper applies metaliteracy as a conceptual framework to address the challenges of learner-centered MOOC design. In the second section, we offer specific examples of how we applied metaliteracy as a pedagogical strategy in both cMOOC and xMOOC platforms to enhance the engaged and participatory components of metaliterate learning.

The Value of Learner-Centered MOOC Design

Connectivism: from cMOOCs to xMOOCs

Connectivism served as both the content and the underlying pedagogy for the original MOOC, Connectivism and Connective Knowledge, offered by George Siemens and Stephen Downes in 2008 (Siemens, 2012). Siemens’ (2005) connectivist learning theory asserts that the fluidity and transience of online environments challenge the learner to continuously adapt to changing technologies and to make meaning from multiple resources. Learning in this context requires both an awareness of the space itself as well as critical thinking about information sources.

According to Siemens (2012), the MOOCs he developed with Stephen Downes “are informed by connectivist views of learning, namely, that knowledge is distributed and learning is the process of navigating, growing, and pruning connections” (section 1). In this context, individuals make meaning through the critical navigation of these decentralized spaces while connecting information and gaining knowledge with others. According to Downes, the distinctive value of MOOCs originated not from the content, but in the learning processes themselves. Therefore, connectivism asserts that educators should “treat learning as the formation of connections” as opposed to the acquisition of knowledge (Downes, 2011, para. 6).

With the emergence of university-sponsored MOOC platforms in 2012, a distinction was made between the original connectivist or “cMOOCs,” and “xMOOCs” such as Coursera, Udacity and edX that served as extensions of core university offerings (Pappano, 2012; Downes, 2013). While xMOOCs, as defined by Downes (2013), include open resources intended to reach wide audiences, the pedagogical approach is not inherently networked, collaborative, or adaptive in the same way as in cMOOCs. According to Siemens (2012), “The Coursera/EDx MOOCs adopt a traditional view of knowledge and learning” that is not reflected in the networked pedagogy of cMOOCs. Siemens argued that “Instead of distributed knowledge networks, their MOOCs are based on a hub and spoke model: the faculty/knowledge at the centre and the learners are replicators or duplicators of knowledge” (section 2).

Thus, despite the continuing advancement of MOOC technology, xMOOC platforms tend to remain fixed in the authoritarian, prescriptive banking model against which Paulo Freire (1970/2000) famously argued nearly a half-century ago. The lecture-focused structure of xMOOCs situates students as passive “‘receptacles’ to be ‘filled’ by the teacher,” perpetuating what Freire referred to as the mechanical memorization of narrated content (p. 72). Freire proposed that authentic learning is not passive skills acquisition, but rather a dialogue in which learners connect to each other and to the world around them, working in collaboration with their teachers as co-creators of knowledge.
The connected nature of cMOOCs thus better supports Freire’s thinking that “Knowledge emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other” (p. 72).

In his milestone piece on connectivism, Siemens (2005) identifies 21st century learning competencies that can be fostered through connectivist learning, particularly decision-making, adaptability to changing information landscapes, and pattern-recognition between ideas, concepts and fields of knowledge (Connectivism section). Downes (2011) reinforced this framework and its specific application to MOOC platforms, pointing out the value of learners as practitioners and teachers, and emphasizing that “the process of taking the course is itself much more important than the content participants may happen to learn in the course” (para. 9).

In the transition from cMOOCs to xMOOCs, the main dilemma lies in the fact that students are not making these connections themselves. Siemens (2012) asserted that “When an instructor does for learners what learners do for themselves, the learning experience is incomplete” (section 8). As opposed to the aggregated format of connectivist MOOCs that facilitate distributed knowledge networks, the dominant MOOC delivery platforms are more focused on scalable content delivery, and are structured around video lectures or “talking heads” that leave little room for learner interaction and agency. As Downes (2011) asserted, “When we focus on the content of a discipline...we learn the words, but not the dance” (final para.).

The driving question of cMOOCs, according to Siemens (2012), is “What can learners do for themselves with digital tools and networks?” (section 8). If MOOCs provide a unique opportunity for students to practice self-regulation and self-directed learning, the applied pedagogy should focus less on content delivery and more on learning processes, or, in other words, helping students learn how to learn. This distinction necessitates a shift beyond the teacher-centered hub-and-spoke model to a pedagogy that maximizes the networked nature of MOOCs and allows students to make their own connections.

Hybrid MOOCs: shifting towards learner-centered design

Emerging blended MOOC taxonomies that incorporate connectivist features into xMOOC platforms acknowledge the necessary shift towards a more learner-centered MOOC design. The literature examines a taxonomy of MOOCs that includes both cMOOC and xMOOC modes, among others (Pilli & Admiraal, 2016), and hybrid MOOC design (Anders, 2015; Fidalgo-Blanco et al., 2016). Additionally, distinct elements of the MOOC environment, such as the online forum, were studied as connectivist features that support community building and collaborative knowledge creation in the xMOOC platform (Dubosson & Emad, 2015).

A review of the literature reveals both the promising potential and the complex challenges of student-centered learning in MOOCs. Researchers identified the need for learner support in cMOOCs (Li, Tang, & Zhang, 2016), and the changing role of facilitators in the connectivist modality (Skrypnyk, Joksimović, Kovanović, Gašević & Dawson, 2015). Researchers also conducted a comparative analysis of popular xMOOC formats (Conache, Dima & Mutu, 2016; Funieru & Lăzăroiu, 2016), but this work has not always included cMOOCs as part of the evaluation. While the literature tends to focus on the features and characteristics of the cMOOC or xMOOC formats, with some exploration of hybrid design and completion rates, an analysis of one specific theme or pedagogical model across these three distinct platforms does not exist. Furthermore, while the trends towards more learner-centered MOOC design point to the potential benefits of this model, there is a need for further analysis on the abilities, as described by Downes (2011), required to make meaningful connections in these environments.
Learner agency and self-regulation: opportunities and challenges

Siemens (2012) asserted that “MOOCs foster not only a particular type of knowledge in a particular area of inquiry; they also foster a self-regulated, motivated, and autonomous learner” (section 8). These same competencies, however, can also serve as barriers to learning in MOOCs.

Self-regulated learning is identified as a key determinant for student success in MOOCs (Terras & Ramsay, 2015; Littlejohn et al., 2016). Terras and Ramsay (2015) addressed the psychological challenges of MOOCs, asserting that “the greater autonomy that e-learning offers also presents challenges to the e-learner as the burden of regulating learning is carried by the student rather than the instructor” (p.478). The flexible nature of MOOCs, lack of direct instructor feedback, and distractions of other online activities (Terras & Ramsay, 2015; Littlejohn et al., 2016) “places the onus on individual learners to create and navigate their own learning journey” (Littlejohn et al., 2016, p. 40).

Terras and Ramsay (2015) advocated for a heutagogical approach to MOOC pedagogy, as defined by Hase and Kenyon (2007) in which the learner is conceptualized “as the major agent in their own learning” (Terras & Ramsay, p. 480). Due to the wide variability of learner profiles and motivations, exacerbated by massive enrollments, it is impossible for the instructor to address the needs of every learner; therefore the pedagogy calls for the learner to take more responsibility for their own learning (Terras & Ramsay, 2015, p. 480).

It follows then that students with strong self-regulation skills are more likely to be successful in MOOCs. Littlejohn et al.’s (2016) study found that students who scored higher on self-regulated learning (SRL) assessments tended to be more successful and satisfied with their learning experiences. For example, students with higher SRL scores used assignments and peer discussions to reflect on their learning processes, and measured their achievements based on knowledge and expertise development rather than on completion and assessment scores (p. 46). This example illustrates the benefits of self-regulated learning not only for completion, but also for the quality of the learning experience.

However, some base level of self-regulation is needed in order to glean the benefits of student-driven learning. Students enter MOOCs with varying self-regulation abilities (Littlejohn et al., 2016) and psychosocial and cognitive characteristics related to engagement, motivation, and ability to self-monitor (Terras & Ramsay, 2015, p. 477). Therefore, the self-regulating competencies that can be fostered by learner-centered MOOCs can also act as barriers when they are absent from a learner’s baseline abilities.

Given the potential benefits and challenges related to self-regulation, learner-centered MOOCs require a pedagogy that not only enables learner self-agency, but also provides scaffolding and support for the learning processes involved, regardless of a learner’s baseline abilities. As disparate yet connected resources external to the individual, MOOCs require the learner to make ongoing associations within these spaces, including dialogue with other participants. This approach reflects the nature of the Web as a hyper-connected and social environment, inspiring an associated pedagogy that is facilitated on a larger scale with a community of users interacting with each other and contributing to a collective learning space.

The ability to navigate complex learning environments, differentiate between dissimilar forms of information, and promote critical thinking are fundamental tenets both of information literacy, and of the successive conception of metaliteracy. However, metaliteracy shifts the focus not only to more active learner roles, but also more directly onto the learning itself. In the following sections, we propose metaliteracy as a lens for critically exploring an enhanced MOOC pedagogy that places students at the center and empowers them to make connections to their learning.
Applying Metaliteracy as Learner-Centered Pedagogy

Metacognition and self-regulation

In *Metaliteracy: Reinventing Information Literacy to Empower Learners*, Mackey and Jacobson (2014) argue that: “A metacognitive approach to information literacy allows us to move beyond rudimentary skills development and prepares students to dig deeper and assess their own learning” (p. 13). This approach extends metacognitive learning to social media environments and open learning spaces, including MOOCs, as a strategy for success that allows one to continuously reflect and learn, and not just gain skills. Terras and Ramsay (2015) call for prioritized research on metacognition in MOOCs (p. 484), citing its importance in relation to self-regulation: “Meta-cognition captures the ability to reflect on how we think and learn, and students who apply metacognitive reflection, especially those who are highly self-regulated and accept responsibility for directing their own learning are more effective learners” (p. 479).

As a pedagogy, metaliteracy encourages learners to claim ownership of their learning as they take on more active roles in online environments. Paul Prinsloo (2016) has discussed metaliteracy in relation to Freire’s concept of praxis (Freire, 1970/2000, p. 52):

“...metaliteracy-as-praxis can benefit from creating and being a space for different voices from different disciplinary backgrounds who question, engage, critique, and make sense of what it means to be human, participate in the discourses of the day, and live dignified lives” (Prinsloo, 2016, p. 191).

As such, the online environment itself is a reflective space for individuals to create and share ideas while gaining critical thinking perspectives about their learning. Doing so also expands understanding about our network of ever-changing information technologies and how to effectively adapt to and navigate within these environments as active participants. Rather than simply teaching students how to use a particular technology, for instance, metaliteracy promotes a deeper approach to learning through collaboration, reflection, and critical thinking.

Metacognition is a key learning domain within metaliteracy. Metaliteracy as a pedagogy can therefore support the connectivist focus on autonomous and self-regulated learners, as learners who do not reflect on their thinking and learning are incapable of self-regulation.

Metaliteracy and connectivism

Siemens (2012) explores eight areas in which connectivist MOOCs differ from those that are offered by platforms such as Coursera and edX. The overlap between some of these areas and metaliteracy in general is striking. Leaving aside the first area, which emphasizes the connectivist component whose relationship to metaliteracy was addressed above, other areas with correspondences include generative knowledge; distributed, multi-spaced interactions; and autonomous and self-regulated learners.

Connectivism and metaliteracy are similar from a pedagogical perspective because of the shared emphasis on the critical evaluation of information in open and social media environments, and the active role that participants play as knowledge creators in these spaces. According to Michelle Kathleen Dunaway (2011),

“the parallels between the principles of connectivism and emerging frameworks for information literacy suggest that connectivism as a theory of learning and information literacy as a concept may exist in a synergetic relationship, in which each is strengthened by the other” (p. 683).
The author describes this association between connectivism as a learning theory and metaliteracy as an emerging framework (along with transliteracy) that has reimagined the conception of information literacy in digital environments. Dunaway argues:

“Metaliteracy and transliteracy are frameworks for understanding information literacy that emphasize the importance of communities, connections, information networks, and information technologies; these concepts are central to the principal of the theory of connectivism, which postulates that communities, connections, information networks, and information technologies are central to the learning process” (p. 680).

Metaliteracy also shares an affinity with connectivism in its emphasis on the collaborative nature of technology-mediated environments that feature open resources and social media. Distributed, multi-spaced interactions are central to connectivist MOOCs, and to connectivism itself, as it sees learning as “a process of connecting specialized nodes or information sources” (Siemens, 2005). Metaliteracy highlights the importance of being able to navigate information environments regardless of format, and having the ability to operate fluently within them. Metaliterate learners in these connected spaces need to be empowered critical thinkers that adapt to changing technologies, evaluate a variety of information sources, and learn to produce and share original and repurposed information.

The common threads found in both metaliteracy and connectivism influenced the selection of the cMOOC format as the first Metaliteracy MOOC. At the same time, the xMOOCs also offered promising features that allowed the ongoing development of metaliteracy to expand in two additional open online environments that offered distinct challenges and learning opportunities. In the following sections, we provide examples of how the tenants of metaliteracy were applied to enhance pedagogical design and practices in three MOOCs on three different platforms.

**Metaliteracy MOOCs: Overview**

In late spring, 2013, members of the Metaliteracy Learning Collaborative, a SUNY-wide think tank and incubator for investigating and promoting metaliteracy, began to explore the development of a MOOC focused on metaliteracy. The open nature of a MOOC with the opportunity to disseminate information about metaliteracy was appealing. Our goal was to provide an opportunity for learners to become familiar with the new concept of metaliteracy, while at the same time developing their own metaliterate abilities.

The original Metaliteracy MOOC (http://metaliteracy.cdlprojects.com) was a connectivist MOOC that used the gRSShopper programming created by MOOC pioneer Stephen Downes to aggregate participant blog postings and other social media contributions within daily news feeds. The cMOOC’s front end web site provided information about the MOOC itself, the schedule associated with the course, a list of blogs established by course participants, a feedlist, which harvested posts from those blogs as well as Diigo posts tagged for the course, and Twitter messages tagged with the metaliteracy hashtag. This MOOC was used as the basis for credit-bearing courses at the two institutions represented by the authors: one undergraduate, and one graduate. This decision required a structured course overlay not usually associated with the open connectivist format, including a learning contract that fulfilled some elements of a course syllabus (http://metaliteracy.cdlprojects.com/week9.htm). The MOOC, which focused on eight topics, ran from September to mid-December in order to mirror an academic semester.

We followed and expanded on this project with a 2014 Coursera MOOC entitled Metaliteracy: Empowering Yourself in a Connected World (https://www.coursera.org/learn/metaliteracy). At the time, the State University of New York system and Coursera were negotiating the role SUNY would
play in Coursera offerings. While there were other MOOC platforms from which to choose, we were aware that Coursera was well established, and had considerably influenced the design, pedagogy, and delivery of xMOOCs worldwide. Thus the xMOOC format expanded opportunities for engaging with metaliteracy concepts to a more global audience. The Coursera platform was a relatively straightforward and somewhat prescriptive design venture, with options for video, discussions, peer assignments, and integrated quizzes. The final MOOC design included ten modules, each one week long, with topical readings and multi-format videos created by the design team.

The third metaliteracy MOOC, Empowering Yourself as a Digital Citizen (https://learn.canvas.net/courses/591), emerged out of an unexpected setback in the creation of the Coursera MOOC. Although we planned to integrate an existing competency-based digital badging system (https://metaliteracybadges.org) into the Coursera MOOC, we were unable to do so based on technical limitations of the Coursera platform. Canvas’s flexible pedagogical approach and modular design structure provided the ideal platform for experimenting with badge integration. The third-party Canvabadges app (since replaced by Badgr) enabled students to earn a digital token of achievement for each successfully completed module. While the ten-week Coursera MOOC guided learners through the full spectrum of metaliteracy learning objectives, the Canvas MOOC was oriented more specifically around the theme of digital citizenship, and was condensed to six weeks.

MOOCs offer the opportunity to work with a wide spectrum of learners, and each metaliteracy MOOC attracted its own unique learning community. Most participants in the cMOOC were academic librarians interested in enhancing their knowledge of metaliteracy, smaller numbers of other educators, and members of the general public. The participants in this first MOOC came primarily from English-speaking countries, and totaled 554 enrollments. (Mackey, Forte, Allain, Jacobson & Pitera, 2015, p. 34) We were eager to explore the potential interaction of intergenerational learners, planning to combine a professional audience with traditional age undergraduates at The University at Albany and adult learners from Empire State College.

The international reach of xMOOC platforms engendered a diverse learner demographic. The first iteration of the Coursera MOOC included over 5,000 learners from 142 different countries. To accommodate earning the Digital Citizen badge, registration for the Canvas MOOC was closed after one week, limiting enrollment to approximately 300 learners. About half of the Canvas participants self-identified as international learners, and ranged from high school students to adult learners and professionals.

Our journey from cMOOC to xMOOC paralleled the emergence of MOOCs into the learning landscape. Yet as MOOCs became more automated and less learner-centered, we pushed against these trends, and set out to create engaged, decentralized learning communities that aligned with the tenants of metaliteracy.

Designing for Student-Centered Learning

The design of the metaliteracy MOOCs was influenced by the underlying connectivist assertion that technology not only creates the circumstances under which connectedness flourishes, but also invites learners to critically consider and engage their centrality in the perpetuation and creation of these new learning spaces. Metaliteracy challenges learners to take ownership of their learning, which is realized through a deeper understanding of how they learn and translate learning into action, and self-reflection on their learning as a continuous process. These practices are particularly pertinent to online environments in which learners are at once both consumers and producers of digital information in open and collaborative spaces (Mackey & Jacobson, 2014). Thus, like connectivism, metaliteracy
promotes a decentralized learning environment in which learners have greater agency in their own learning. As illustrated by Figure 1, and drawing comparisons to connectivism’s “personal learning networks” (Dunaway, 2011, p.682), metaliteracy situates learners at the center of four interrelated domains of learning as they take on myriad active roles in the processes of evaluating, producing and sharing information (Mackey & Jacobson, 2014). In the sections that follow we describe how we leveraged the distinct assets of each of the three MOOC platforms to support students in these active learning roles as participants, contributors and teachers.

**Learner as Participant**

Downes (2011) described the first connectivist MOOCs as a “community of practitioners” who are “introduced to ways of doing the sorts of things practitioners do, and through that practice, becomes more similar in act, thought and values to members of that community” (para. 9). In the same vein, our goal was for participants not only to learn metaliteracy, but to practice being self-directed and self-reflective metaliterate learners. Rather than privileging the instructors as the sole authorities on metaliteracy, we envisioned learners and instructors engaging together in collaborative meaning-making. This participatory environment necessitated a removal of instructors from the proverbial lectern in order to provide learners with opportunities to actively engage, interpret and respond to the content to make their own connections.
In the style of the original connectivist MOOCs, Metaliteracy MOOC disrupted the teacher-centered learning environment by integrating various user-generated components. Content in the MOOC was organized into topics, and each topic included an overview and key readings that served as a jumping off point for deeper engagement. The course was focused less on the instructors’ definitions of metaliteracy, and more on the interpretations of the participants. While there were required readings, students were instructed to select additional resources in order to shape the learning that would be most meaningful to them. Students were encouraged to keep personal blogs as a space to grapple with the content and incorporate concepts into their own context of understanding. They were also tasked with remixing, repurposing and making meaning of the metaliteracy concepts, and tracking and sharing these interpretations through social media outlets. The gRSShopper programming aggregated the contributions of course facilitators, guest speakers, and course participants within daily newsletters, which provided a new springboard for continued conversations. Rather than simply presenting information, the cMOOC sought to engage participants in critical conversations around metaliteracy concepts.

The cMOOC featured synchronous online webinars called “MOOC Talks,” so named to encompass the non-division between teacher and learner, which encouraged active engagement with the course content. The themed talks, which were also recorded for later viewing, captured conversations with national and international scholars from various disciplines, and explored topics such as metacognition, visual literacy, open learning, global perspectives related to literacy, media and news literacy, digital storytelling, and technobiophilia (Thomas, 2013). Learners who attended the live webinar or who submitted queries in advance could have their questions answered in “real time,” creating opportunities for formative feedback and dialogue. Because metaliteracy was still a new concept at the time, there was no pool of metaliteracy experts to call upon beyond the MOOC developers. Inviting speakers from a variety of backgrounds, however, emphasized the range of theoretical perspectives and real world situations in which metaliteracy is pertinent (Mackey et al., 2015, p. 34–40). In contrast with the passive and stagnant nature of pre-recorded lecture videos, MOOC Talks offered students opportunities for active engagement with guest speakers who represented a range of disciplines and approaches to elements of metaliteracy or related literacies. Along with the user-generated components of the course, the MOOC Talks modeled the decentralization of the “expert voice” within a given discipline, and afforded learners a pathway to contribute to this emerging community.

In contrast to the inherently decentralized structure of the cMOOC, the Coursera platform was more linear and lecture-oriented. We made the deliberate decision, however, that videos would not constitute the main content of our first xMOOC, Metaliteracy: Empowering Yourself in a Connected World. While Coursera’s navigation menu was organized by video lecture, we worked around this video-centric platform by hard-coding a navigation panel and creating landing pages for each module. We chose to avoid the “talking head” video that replicates lecture-based lesson delivery, and instead used the videos as engaging entry points to the main course content, which mostly consisted of readings that students were expected to critically engage with and respond to. The videos were intentionally varied by style, content and length and included animations, interviews, short introductory lectures, and pecha-kucha-style narrations accompanied by photo slideshows. We used various tools to develop the videos as well, including Animoto, GoAnimate, and the production studio at Empire State College. Compared to the passive experience of watching a video lecture, the brief introductory
videos prompted learners to engage in a variety of instructor-generated documents and open source articles. The instructional design decision to vary the video style and format aligned with the fluid nature of the course. Pre-recorded videos of professors sitting behind a desk leave no opportunity for student contributions.

As in the cMOOC, the Coursera MOOC encouraged students to interrogate and reflect on the course concepts for their assignments and in open discussion forums. While participation in the forums was not required, this is where we saw the deepest engagement as students grappled with the metaliteracy concepts. Students started their own threads, clarified each other's questions, and offered their own interpretations of the course content. As the course played out the Coursera discussion forums took on a life of their own, and were a driving force in terms of direction, content, and scope. In this sense, the course content had an opportunity to evolve as a diverse community of students engaged with and reinterpreted the content according to their own diverse perspectives.

**Canvas**

Using the Coursera MOOC as a model, the Canvas MOOC, *Empowering Yourself as a Digital Citizen*, used videos as engaging introductions to the course content, which consisted of instructor-generated readings and open source articles and videos. Canvas promotes the “flexible pedagogy” of its platform, and the simple modular format was essentially a blank slate that could be modified with third-party applications according to the preferences of the instructors. To complement the gamified style of this MOOC, we created all of the videos with GoAnimate, including animated skits with characters voiced by many of the course instructors, and celebratory video clips that acknowledged students' completion of each module.

Modules in the Canvas MOOC consisted of weekly quests and challenges that culminated in the Digital Citizen badge, which earners could choose to display on social networks and digital portfolios. The digital badge served as an incentive for engaged participation in the MOOC, especially since Canvas did not award its own certificates. In addition, tokens of achievement were awarded for successful completion of a module, and served as visual milestones throughout the course. The badges recognized students’ active participation in the course, and promoted their thoughtful engagement with the course concepts, as opposed to their duplication of instructor definitions of these concepts.

While we attempted to replicate Coursera’s discussion forums in the Canvas MOOC, we struggled to create the same level of active engagement. Despite prompts and encouragement from the course instructors, the students in the Canvas course mainly used the discussion forums as a place to ask questions about assignments or course navigation, and were resistant to participate in deeper dialogue. This tendency may have been related either to the smaller numbers of participants, or to the types of participants, as many students described themselves as new to the MOOC environment.

**Learner as Contributor**

Metaliteracy fosters the learner’s role not only as a consumer, but also a creator of information, recognizing that in networked learning environments the lines between consumer and creator are often blurred. This goal aligns with Siemens’ (2012) promotion of the generative nature of knowledge, asserting that “learners need to create and share stuff,” and not simply rely on information supplied by instructors (section 2). MOOCs provide learners with opportunities to generate knowledge by forming their own personal learning networks that integrate various nodes of learning into the context of their own interpretations. Furthermore, they offer opportunities to “feed forward” by connecting
their individual “small worlds of knowledge” with a diverse peer network (Downes, 2011, section 4; Siemens, 2005). The learner-centered course design in each of the MOOCs facilitated each participant’s role as contributor to a wider network of learners, as they engaged with the content individually, in small groups, and with the wider course community. Additionally, as learners engaged with open readings and media as part of their course assignments, the courses themselves were also openly licensed, encouraging participants to share and repurpose the course content beyond the MOOC itself.

cMOOC

The cMOOC employed the four types of activities established by the first connectivist MOOCs: aggregate, remix, repurpose and feed forward (http://metaliteracy.cdlprojects.com/how.htm). Learners were tasked with reading pertinent materials aggregated in the newsletter, working to understand the connections, and repurposing and sharing their interpretations in their own blog posts and tweets. As learners in the cMOOC generated course dialogue via blogs, social networking, and engagement in the MOOC talks, they took on a leading role in the creation of course content. The RSS feed collected this user-generated content and made it readily visible in order to “feed forward” in the practice of collective knowledge cultivation. However, we found that most students who were participating in the MOOC as a course requirement were focused less on meaningful engagement, and more on doing the minimum amount required to pass the course. While prompts encouraged students to comment on each other’s posts, few chose to do so. Thus, while the cMOOC supported learners as they formed their own personal learning networks to make “connections between various perspectives, opinions and concepts” (Dunaway p. 676), it was less successful in facilitating connections between individual learning networks.

Coursera

While the circuitous nature of the cMOOC better aligned with a decentralized learning environment, we found that the embedded tools in the Coursera MOOC helped to facilitate the generative roles that students hesitated to take on in the cMOOC. The assignments in the Coursera MOOC consisted of reflective essays completed at the end of each module, and the content often mirrored the processes being practiced in the course, such as remixing open content. Coursera’s integrated assignment tool clearly guided students through the three steps of the peer-assessed assignments: a written reflection, an optional self-assessment, and the assessment of two peers. We used the peer assessment tool to replicate the networked processes of the cMOOC as students engaged the content individually, in smaller peer groups, and with the wider course community. The tool was designed in such a way that students were required to review the work of their peers in order to receive a grade on their own work. The “feeding forward” phase was extended in the discussion forums where students shared their experiences with the assignments and further engaged with the metaliteracy concepts. Thus, the embedded constructs of the Coursera platform supported a generative, networked learning process as students formed their own individual as well as collective interpretations with their peers.

Canvas

Assignments in the Canvas MOOC were largely focused on the responsible creation, sharing and remixing of open content, and the culminating Digital Citizen badge validated these processes. However, while the participatory features from the Coursera MOOC were replicated in the design...
of the Canvas MOOC, they were not nearly as successful. This was primarily due to issues with Canvas’s peer assessment functionality. While Coursera’s assignment tool walked students through the peer assessment process, Canvas did not integrate the peer review step into the assignments; therefore, while students could review each other’s work, the review step was not automatically factored into the grade, requiring the instructors both to remind students to grade each other and ultimately to assign the official grade. When students were late in grading their peers, it held the ungraded students back from making progress in the course. Furthermore, if students chose not to complete the review step at all their peers were left without an assignment grade and the system was essentially broken. Consequently, and combined with their lack of engagement in the discussion forums, students in the Canvas MOOC practiced remixing content in open learning spaces, but in the MOOC itself they tended to remain siloed within their own learning networks.

Learner as Teacher

Metaliteracy envisions the full decentralization of learning as the exchange of learner and teacher roles. Downes (2011), likewise, expanded on his idea of a community of participants, explaining that “what a connectivist course becomes is a community of educators attempting to learn how it is that they learn, with the objective of allowing them to be able to help other people learn. We are all educators, or at least, learning to be educators, creating and promoting the (connective) practice of education by actually practicing it” (para. 11). Metaliteracy asserts that learners have expertise to share with others. By motivating learners to take on participatory, collaborative roles, we also encouraged them to recognize, embrace, and hone their roles as teachers.

cMOOC

In the cMOOC, we invited learners into a space wherein their voices could frame the course. While participants in the cMOOC readily assumed a participatory role in the generation of course content, they were hesitant to take on a formal role in teaching their peers. The instructors found that the information professionals participating in the cMOOC more robustly adopted the role of learner as teacher than did the university students enrolled in the course. This was not surprising, given the information literacy background the information professionals brought to the experience, and their comfort operating in a milieu of what could be considered colleagues. The undergraduate learners, however, lacked the confidence to participate independently, waiting for explicit permission or for defined roles to be explained to them. Thus, even when we made sincere pedagogical attempts to upend and challenge the traditional classroom the majority of learners remained predictably invested in viewing teacher as authority.

Coursera

Coursera’s peer review tool opened up new possibilities for learners to take on the teacher role as they assigned grades and provided constructive feedback to their peers. The instructors developed rubrics that carefully aligned with the metaliteracy objectives, which served both to ensure the validity of the assessments and to facilitate the learner as teacher role. We found the comment section in Coursera’s rubric builder to be especially useful in encouraging thoughtful feedback, requiring students to explain their reasoning rather than absentely assigning a grade.

While the peer assessment tool presented the most obvious application of teaching practices, the learner-as-teacher role was most fully realized in the discussion forums. Students critically engaged
with the content and asked important questions that led to deeper understanding, effectively helping each other learn. Many students shared relevant outside resources in the discussion forums to help their peers understand difficult concepts. It is important to note that this activity occurred with very little prompting by course instructors, suggesting that given the opportunity and the tools to do so, students are very willing to help their peers in a collective learning space.

Learners learning from each other is a hallmark of metaliteracy learning goals and objectives. However, scaling the peer assessment process within the MOOC environment brought layered challenges, including the results of expanded learner empowerment. Instructors had less “control” over the ways in which learning activities were assessed, and as such put into practice one of the many tenets of metaliteracy which challenge the traditional, top-down distribution of power in the classroom – virtual or otherwise.

Just as learners took on the role of teacher, the course instructors embraced the role of learner by encouraging and responding to course feedback and allowing the course to evolve accordingly. For instance, we modified the assignment rubric based on input from a student about the language barrier of global participants.

**Canvas**

The challenges with the peer assessment functionality in Canvas limited participants’ roles as teachers. As in Coursera, rubrics that aligned with course objectives guided students in the reviewing of their peers’ work. However, due to confusion about the peer assessment tool and the resulting delayed feedback, conversations around assignments were stalled and did not have an opportunity to organically evolve.

**Learner Roles Across MOOCs**

Overall, the cMOOC served as the foundational metaliteracy MOOC that allowed for the exploration of connectivist features that are aligned effectively with the participatory and collaborative goals of metaliteracy. The decentralized nature of the cMOOC better engendered the complex networks and user-generated content explored in metaliteracy. While xMOOCs are more structured and familiar to students accustomed to traditional learning management systems, cMOOCs challenge learners to choose their own learning avenues and to connect with others in a decentralized environment in which “teacher-student and the students-teachers reflect simultaneously on themselves and the world” (Freire, 1970/2000, p. 83). The cMOOC promoted participant interactivity, one of the central tenets of metaliteracy, by integrating various social media tools, and providing each user with a voice as content creators.

Coursera functioned as a well-oiled machine with embedded templates and thorough guidelines that facilitated a smooth and efficient course development process, and a structured and familiar environment for learners; this template could also feel constraining, however, when we tried to move outside of Coursera’s prescriptive box. Coursera’s lecture-oriented platform relies on the traditional “banking model” of education, which is in direct contrast to the fluid and participatory nature of the cMOOC that encourages and invites content from users. While Coursera and Canvas both promoted the production of high-quality video learning objects, these materials favor the instructor point of view and do not systematically support the kind of learner-centered narratives we experienced through the participant blog posts compiled and shared in the cMOOC. We succeeded in engaging learners through the interactive discussions in Coursera, but had to work against the linear grain of the Coursera platform to involve learners in the collaborative production and sharing of their own work in this space.
Canvas’s “blank slate” offered more flexibility and possibilities for designing the course around the pedagogy. Canvas’s philosophy is to be a “sounding board” for instructors, providing room for academic freedom and pedagogical creativity. Starting with a blank page, a simple web editing interface, and third party applications as building blocks, it is up to the instructor to decide how to build the course. Canvas offered a great deal of flexibility in course design, and the modular structure enabled the integration of badging elements, which was not possible with Coursera’s fixed template. However, the course tools meant to foster student engagement - particularly the peer assessment functionality - were not as well polished in Canvas as those in the Coursera platform, which limited students in realizing their roles as contributors and teachers.

Each of the MOOCs offered varied opportunities for communication and deep learning in a global context. In the cMOOC learners had the chance to engage with guest speakers from diverse disciplines, perspectives, and geographic locations. Both xMOOCs attracted a diversity of learners from a range of backgrounds and locations around the world, offering unique opportunities for global communication. The strong international presence in the Coursera MOOC generated especially engaging conversations around course content and pedagogy. In addition, language differences led to enlightening discussions highlighting the challenges of non-native English speakers, and several international learners remarked that the course gave them an opportunity to practice their English language skills. These experiences reinforced the learner’s role as contributor and teacher, encouraging development of the critical consciousness (Freire, 1970/2000) that results from deep reflection and engagement with the world.

**Empowered Learning and Self-Regulation**

All three metaliteracy MOOCs invited learners to take on more active learning roles as participants, contributors and teachers. However, as highlighted in the literature, students require support in order to be successful in these roles.

The connectivist MOOC enabled a situation in which learners interacted with information presented in disorderly ways, as evidenced by the disparate social media platforms or the selection of optional, rather than required, readings. This format reflected the circuitous nature of online search navigation and participatory social media environments, yet proved too unstructured for some. While a course that allows students to decide what they would read, what content or social media connections they would engage with, and whether they would watch the weekly MOOC Talks might work for advanced students, we found this approach challenging for learners new to blended or online study. They were not used to the extraordinary amount of self-direction allowed, indeed demanded, by the course (Mackey et al., 2015, p. 37).

Metaliteracy seeks to address the broader issue of learners overwhelmed by complex online information. Thus, its strategies promote intricate—and therefore supportive and collegial—connectivist interactions. Ironically, while the cMOOC sought to provide the opportunity for learners to both understand metaliteracy and become more practiced and proficient in its tenets, many of the participants would have benefitted from a more structured metaliteracy learning environment before they delved into what they saw as the anarchy of a cMOOC.

To help acclimate students to the decentralized MOOC environments, we provided navigational constructs that supported self-directed learning practices. The learning contract in the cMOOC, for example, was developed to provide support and guidance for students who were enrolled in the accompanying credit courses. The contract fulfilled some of the elements of a course syllabus, and included methods and criteria for evaluation, a plan for formative assessment, and assignment and scheduling details. Likewise, in the Coursera MOOC we worked against the lecture-oriented platform.
to create clear, straightforward navigation with weekly descriptions, learning objectives, videos, readings, discussion links, and assessments. The modular structure of the Canvas MOOC facilitated a similar structure, with designated landing pages for each module. The peer assessment tool guided students through learning activities in the Coursera MOOC. Thus, MOOCs can serve as exploratory spaces that replicate complex, interconnected learning environments, but also provide safety nets in the form of facilitator guidelines and assessment tools.

Striking the right balance can be challenging, however. Due to the credit course overlay of the cMOOC, students’ expectations aligned with a more traditional course structure, and assumed that there would be a clear route to successful completion of the course. They became anxious that, rather than being told what they needed to do to reach that goal, they were asked to choose their own learning pathways. In addition, students could become preoccupied with the learning activities that were required for the grade, rather than focusing on making meaningful connections to others engaged in the MOOC (Mackey et al., 2015, p. 41). It is therefore essential to reinforce in learners a sense of ownership and empowerment as they actively engage and think critically in collaborative social spaces.

As illustrated by the four inter-related domains of learning (Figure 1), metaliteracy addresses the needs of the whole person in today’s interactive social spaces. While the cognitive and behavioral domains are important for learning, the metacognitive and affective domains are especially pertinent to the self-regulation challenges and opportunities presented by complex, decentralized MOOC environments.

As discussed earlier, the metacognitive domain, central to metaliteracy, encourages learners to reflect on how and what they learn. As such, the content of all three MOOCs fostered the practices of self-reflection and self-assessment. In their written assignments and blog posts, students in each of the MOOCs were asked to reflect not only on the concepts, but also on their learning processes. Ungraded quizzes in the xMOOCs and the self-assessment component in Coursera’s peer review tool provided learners with the opportunity to reflect on their own work along with the work of their peers. Additionally, in the Canvas MOOC the culminating exercise for the Digital Citizen badge required participants to think back on their learning throughout the course, and to assess for themselves the extent to which they felt they had met the course learning objectives.

Furthermore, we designed the assignments to develop habits of self-regulation, encouraging participants to periodically revisit and reinterpret their understanding of the key concepts. For example, in each of the MOOCs we presented learners with the metaliterate learner figure (Figure 1) at the beginning of the course, and asked them to reflect on how they had developed in their active learning roles as the course progressed. Similarly, in the xMOOCs we presented the learning objectives at the beginning of each module, and asked students to revisit them at end of the module in alignment with the peer assessment rubrics. The digital badging element in the Canvas MOOC visualized and celebrated this reflective process throughout the course, with tokens of achievement symbolizing completion of each module, and encouraged students to periodically reflect on their progress and set goals towards earning the sharable course badge.

While the metacognitive domain encourages students to think deeply about their own learning, the affective domain addresses the emotions and attitudes of learners during a particular learning activity. Terras & Ramsay (2015) described “the burden of regulating learning [that] is carried by the student” (p. 478, emphasis ours) and further iterated the “importance of considering how learners cope and how they can be supported in dealing with the increased autonomy and flexibility that they encounter in e-learning environments” (p. 475). Addressing the affective domain requires a human element that cannot be achieved with an automated, pre-recorded format. In each of the MOOCs, we used a team-based approach to create a strong instructor presence, striving to address
student concerns and to commend their achievements. In smaller teams, and based on interest and content expertise, we collaboratively designed and facilitated each module, ensuring that the discussion forums were consistently monitored for any issues or interesting discussion that should be encouraged. Each team was responsible for weekly announcements, which guided learners in terms of next steps, forthcoming modules, or transitions from one week to the next.

The discussion forums provided opportunities for instructors to engage with and support students as they came to their own conceptual understandings, and allowed for formative feedback that is often missing in MOOCs. Our team routinely struggled with Coursera’s pedagogical recommendation to remain slightly disengaged from the discussions. The instructor documentation in Coursera recommended that we not “apologize” for enquiries regarding design decisions, including peer assessments and feedback therein. As a team, however, we were nonetheless compelled to directly engage students in dialogue about the important issues they raised in discussion; this approach more honestly captured the tenets of metaliterate pedagogy, and mirrored the learning engendered by MOOC content and design. As learners developed competence in the teacher role we followed Coursera’s advice and avoided the impulse to respond to every posting, letting the conversations play out with targeted instructor facilitation. However, in order to ensure that we taught towards the fullest expression of metaliterate learning and teaching, we chose to actively validate learner mastery of topics, reinforce progress, and encourage learners to move through course milestones towards course completion and recognition of said completion.

Deep engagement with the course content cannot be forced, and indeed conversations in the Coursera MOOC seemed to benefit from being allowed to evolve organically. However, instructor presence in the course encourages these conversations to flourish, provides a reassuring authority that was missing from the cMOOC, and helps to ensure that opportunities for sparking conversation or addressing challenging concepts are not missed.

**Conclusion**

This article presented metaliteracy as a pedagogical framework that encourages more reflective, student-centered learning and critical engagement in MOOCs. Metaliteracy aligns with key tenets of connectivism, and prepares learners to take on active, collaborative roles in complex online learning environments. It complements the connectivist model in that it focuses less on content, and more on the connections that students are making to the content. Metaliteracy not only promotes active learner roles, but addresses the learning processes themselves. Furthermore, it acknowledges the many dimensions of student learning, including the metacognitive and affective domains that are especially pertinent to self-regulation challenges and opportunities presented by complex, decentralized MOOC environments.

We explored the integration of metaliteracy-based pedagogical techniques across three distinct MOOC formats, from the original connectivist MOOC to the subsequent Coursera and Canvas xMOOCs. This trajectory of MOOC development in all three spaces coincided with the advancement of metaliteracy itself and the ways that our first cMOOC informed and challenged the design of the xMOOCs that followed. The original connectivist MOOC had a significant impact on how we envisioned and designed the two subsequent xMOOCs produced in Coursera and Canvas. We found a strong association between the original metaliteracy goals and learning objectives and the structure of a connectivist MOOC. This alliance was evident in the cMOOC format and in the theoretical underpinnings of both metaliteracy and connectivism. While the flexible, open, and participatory metaliteracy framework challenged outdated definitions of information literacy, the revolutionary connectivist MOOCs defied the bounds of closed classrooms and traditional approaches to online learning.
learning. At the same time, the conceptual understanding of the cMOOC was often in conflict with how this format played out in actually teaching metaliteracy. The theoretical alignment between metaliteracy and connectivism appealed to us as course designers and instructors but did not always provide the level of access we hoped for in practice when trying to include a wide spectrum of learners in the collaborative MOOC experience.

Using examples from three MOOCs designed on three different platforms—cMOOC, Coursera, and Canvas—we showed that despite the lecture-oriented format of dominant xMOOCs, the platform need not dictate the pedagogy. Rather, educators can leverage the unique characteristics and assets of MOOC platforms to create student-centered learning environments that empower learners to make their own connections and drive their own learning. MOOCs that allow for learner agency provide opportunities for fostering self-directed and self-regulated learning. The globally networked nature of MOOCs mirrors the complex interconnected nature of online environments, and thus presents opportunities for students to practice important lifelong learning skills for interacting in these environments. However, in order for students to reap the benefits of decentralized learning spaces, they need to be able to self-regulate their learning. Therefore, MOOC pedagogy must not only enable student agency, but also support students as they take on more active roles as participants, contributors and teachers. As envisioned by the original connectivist MOOCs, this pedagogy should focus less on content delivery, and more on learning processes.

While prominent MOOC platforms favor lecture-based formats, educators can and should push against the platforms’ embedded structures in consideration of strong pedagogical practices. In our experience, we found that xMOOCs are generally more restrictive than cMOOCs, less nimble, and therefore the full expression of metaliteracy could not be exactly captured either in Coursera or Canvas. Each of the two xMOOC platforms limited some of our pedagogical approaches and intended design decisions, but also pushed us to adapt new techniques that advanced the practice and tenets of metaliteracy. By supporting hybrid design that combines the best of cMOOC and xMOOC pedagogy, the connectivist aspects of MOOCs will best serve and support metaliteracy in practice.

Based on the findings explored in this article, the authors would like to offer a hybrid Metaliteracy MOOC that would focus less on the lectures found in xMOOCs, and more on user-generated content, collaborative knowledge creation, and student-driven learning promoted in cMOOCs, while supporting learners as teachers and contributors to the course. In addition, mechanisms would be incorporated to support and assess student learning and self-regulation. Since the original authoring of this article the Coursera MOOC has been modified in accordance with Coursera’s new on-demand format. The self-paced nature of the course requires more advanced self-regulation capabilities by participating students. While the new platform has in many ways become more flexible, we have noticed a significant drop in discussion forum activity. We have attempted to increase instructor presence with weekly emails that correspond to relevant current topics, but further research is needed to explore how we can integrate scaffolding mechanisms that support self-regulation and encourage students to help each other learn.

Our analysis of the three MOOCs has been offered through the lens of course design and its potential to convey not just content, but the learning opportunities that enable the formation of metaliterate practices and knowledge. Further research is needed to assess the extent to which learners in decentralized MOOC environments achieve this complex set of goals and objectives. An examination of the student experience in MOOCs, particularly in relation to their affective and metacognitive experiences, could provide valuable insight into both the challenges and opportunities for self-regulated and self-directed learning in MOOCs.

We recognize that institutionalized power structures resist challenges to the ubiquitous and insistent, codified nature of roles, responsibilities, and assessment, and therefore do not romanticize the degree to which a blurring of learner and teacher roles can be fully realized. The academy
authorizes teachers to make decisions, to create learning opportunities, and to assess, and learners capitulate, to some degree, to that relationship. Even when we make sincere pedagogical attempts to upend and challenge the traditional classroom—either via nature and design of MOOCs or peer assessments or learner-led sessions (to name just a few examples)—learners remain predictably (and perhaps necessarily) invested in viewing teacher as authority. It does not exactly matter how instructors self-identify; even the “facilitator” of the course has to make decisions about course length, structure, themes, and so forth. These are not decisions to which learners are generally privy, and the power therein signals a necessary authority.

While students tend to defer to the historical authority of teacher within the academy, we, ironically, did as well. On the one hand, we deliberately asked students to take on the “role” of “teacher”. On the other hand, we were positioned to do so—we had the authority to give it away in the first place, and in effect only felt comfortable giving away just so much. For instance, as course facilitators, we felt a responsibility to not let student concerns go unanswered and unresolved. While we did invite robust integration of learner perspectives, we were ultimately responsible for determining assessments and organizing access. Pedagogically, we need to recognize this inevitability, and support students if their participation signals discomfort with taking on the role of teacher. We also need to recognize that this discomfort may signal either lack of confidence and/or lack of experience. To dismiss the competencies embedded in taking on this role diminishes the concerns and needs of a learner and the potential for new learning through metaliteracy.

We encourage educators to examine their own MOOC pedagogies using metaliteracy as a lens for enhancing and supporting the multiple domains of student-centered learning. There is no ideal platform that delivers the best MOOC. Rather, instructors must consider pedagogy first, and push the platform as far as it will go in service of that pedagogy. When thoughtfully implemented, we can leverage the unique assets of MOOCs, particularly their global scale and open networked structure, to empower learners in an increasingly interconnected world.

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Higher Education Lecturers’ Lived Experience of Going Public in MOOCs

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Abstract
Academics in higher education are used to having their research publications reviewed and openly scrutinized. Teaching in higher education has traditionally been an individual academic’s activity that has taken place in a closed classroom. However, the introduction of open education, particularly massive open online courses (MOOCs) has challenged this. In MOOCs, lectures are recorded and made public for thousands of course participants to view. This study investigates, via semi-structured interviews, how 20 lecturers of 10 MOOCs at six Swedish Universities have experienced this. All have joined the projects voluntarily, but a few have done so with some ambivalence. For them, standing in front of the camera, publishing material and, to some extent, losing control of the course content was scary at the beginning of the projects. Overall, the lecturers overcame this and thought that it was a good opportunity to reach many students, as well as a way to keep up with the changing requirements for teaching in higher education.

Keywords: MOOCs; Open education; Open Teaching; Openness; Higher Education

Introduction
Research in higher education (HE) is scrutinized, reviewed, published, disseminated, cited and continuously challenged by upcoming research. Careers and grants are based on the number of publications that a researcher has had published in highly rated publications with a high citations index. This is a standard procedure that is sometimes discussed but not seriously questioned. Teaching in HE, on the other hand, is a hidden activity - One teacher, one classroom, one class. Students can make their voices heard, of course, but standardized course evaluations are often collected without a credible analysis. Sharing and awareness of course material is not as common as could be expected despite the growing use of open educational resources (OER) (Belikov & Bodily, 2016; Cronin, 2017; Nascimbeni & Burgos, 2016). OER is described by Wiley, Bliss and Mary (2014, p. 781) as “educational materials either licensed under an open copyright license or in the public domain.” With respect to publicity, the roles of the teaching and publishing academics are very different.

The introduction of open education and massive open online courses (MOOCs) changes the role of the lecturer in higher education. Open courses are dramatically transforming the teaching practice as lecturers are opening up their classrooms to the public. Their acting, presentations and material are open to course participants during a limited period but material put online can be saved, scrutinized and used by others without the lecturers’ control. The lecturer’s lived experience of going public in MOOCs is investigated in this study.

Background
Several trends are influencing teaching and the role of the lecturer in HE. One trend is the use of information technology (IT) when learning management systems (LMS) are used, as well as in online

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courses where tools for synchronous web-meetings, social media, wikis, presentation and other such tools are utilized. Campus and online education have merged to a large degree, and it is common that blended courses on campus have some ingredients from online teaching and vice versa (Gregory & Lodge, 2015). Another trend is the introduction of OER that has its roots in the open source movement and open access publishing (Weller, 2014). Intertwined with OER are the more current development and launch of open education (OE), and for roughly a decade, the launch of MOOCs (Weller, 2014).

Teaching has a tradition of "the closed classroom door", and most lecturers have normally developed their teaching material themselves. Interaction with the students mainly takes place in the classroom setting, and interaction and activities are almost always hidden from the outside even when technology, such as an LMS, is used. Despite this, the use of technology in the classroom can change the teachers' role, which they can often perceive as a loss of control (McNaughton & Billot, 2016). Anything that threatens the traditional manner of classroom interaction is also seen as threatening the teachers' identity (Hanson, 2009). However, exceptions exist - the introduction of technology is welcomed by several teachers as a possibility to change the teaching activity. The use of OER and Creative Commons licensing is increasing (Nascimbeni & Burgos, 2016), but limited sharing and the inertia of adopting OER can be recognized in many higher education settings. In her study, Rolfe found that lack of time and IT infrastructure were barriers to sharing resources among academic staff from a Faculty of Health and Life Sciences. Boyer's claim "(...) on many campuses, is a climate that restricts creativity rather than sustains it" (1990, p. xii) has not changed dramatically (Boyer, Moser, Ream & Braxton, 2016). More important for the current study is Rolfe's remark about staff feeling insecure and protecting their work (2012). There is little guidance available for teachers wanting to design an open course or a MOOC (Alario-Hoyos, Pérez-Sanagustín, Cormier & Delgado-Kloos, 2014). The next paragraph will therefore focus on lecturers' experiences of sharing and wanting to be a part of the open education trend.

The introduction of open practices within higher education causes the lecturers' role to change. This is especially the case in MOOCs, where roles are reshaped when the lecturer is expected to produce marketing and course material, such as videos, that may be seen by thousands of people. One MOOC can attract more attendees than a lecturer has in class during their whole career. The intimacy and student interaction in a classroom are replaced by transparency and mediated communication. It is about making use of IT, microphones and cameras, speaking in a digital context with text and voice, and making proper use of the new genre. It is also about language skills, especially if teaching is required in a language that is not the language of the lecturer's mother tongue. There is higher demand for unambiguous information in an online setting than in a classroom. Mistakes in a classroom presentation can easily be corrected while mistakes in a MOOC can be unmanageable.

In this sense, the lecturers' role in a MOOC differs a lot from most other educational contexts (Ross, Sinclair, Knox, Bayne & Macleod, 2014).

MOOCs are a possibility for academics to be more active in the public domain. In the current study, some academics in the MOOC setting were relatively unfamiliar with teaching. However, they quickly transitioned from relatively inexperienced lecturers to the main lecturer in a MOOC, which thereby made them more public in several ways. The motives for a higher education institution to be more public are to recruit talent, obtain a larger network and marketize the individual research group or university on a national and global scale. Another kind of ambition is to contribute to the idea that MOOCs are a possibility for more people to get access to HE. Regardless of ambition and motives for the HEI and the individual lecturers, the teaching activity will be public when offering open education.

In many descriptions of the open education context the xMOOCs are often described as teacher-centered as the teacher designs, prepares and records all course material before the course starts. On the other hand, the teachers’ central role is different in the connectivist MOOCs' (cMOOCs)
student-centered environment (Rodriguez, 2013). The difference in x- and c-MOOCs is however an oversimplified discourse (Conole, 2014), as stated in the method section below, but it can suffice as a brief description. The research on the lecturers’ role concerning theoretical perspectives is not straightforward. Ross et al. claim that HE is characterized by movement and disruption at all levels, and that scaling up to the MOOC level will increase levels of complexity. One example is a paradox (Ross et al., 2014) when comparing the teachers’ role in MOOCs when the design is based on a connectivist perspective (cMOOC) and another design with a stable teacher-defined structure and content (xMOOC). The participants in the former will develop new questions, add ideas to the learning space and create their personal learning environment, all with the teacher in the background and in line with the connectivist perspective. Ross et al. notice the paradox that “teachers have often been the major participants in cMOOCs” (2014, p. 61) despite the connectivist perspective.

Lecturers’ willingness to teach online courses has been examined in many studies (Pundak & Dvir, 2014), but few studies have taken this perspective when studying MOOCs and open courses (Janssen, Nyström Claesson & Lindqvist, 2016; Lang, Zhang, Li & Sun, 2016; Nascimbeni & Burgos, 2016; Ross et al., 2014; Siemens, Gasevic & Dawson, 2015). A recent review of theses and dissertations has been conducted by Bozkurt, Keskin and de Ward (2016) where similar results were found. Current research regarding MOOCs and open education focuses mainly on technology, students’ access and dropout rates, e.g. Katy Jordan’s (2015) study of completion rates in 221 MOOCs.

There is more research regarding students and less research about teachers and instructors using social media in educational settings (Kilis, Gülbahar & Rapp, 2016) and their identities (Hanson, 2009). This is not surprising as Torrisi-Steele and Drew (2013) found that of the literature addressing issues related to academic practice, five per cent of the 827 articles were about blended learning in HE. The focus is on students’ experiences, perspectives, and outcomes in blended education (Brown, 2016). Notably, Ross, Sinclair, Knox, Bayne, and Macleod argue in their position paper that “the current ways of writing and talking about MOOCs are not adequately addressing the complexity of the teacher’s role” (2014, p. 66). A small number of studies have explored staff attitudes towards OER (Brown, 2016). This deficiency is also manifested by the distribution of suggested research topics submitted to the MOOC Research Initiative (MRI) 2013, funded by the Gates Foundation, and administered by Athabasca University. The topic of social learning received the greatest interest and had the highest success in attracting funding (Kovanović, Joksimović, Gašević, Siemens & Hatala, 2015). The current study is devised to address this research gap and, more precisely, what the lecturers think about going public.

The research question is, accordingly, what are HE lecturers lived experience of going public in MOOCs. The current study is investigating what the lecturers, developing and teaching in MOOCs experience when going public by publishing material accessible to course participants on a completely different scale when compared with classroom teaching.

The study has some important delimitations. This study is not arguing for lecturers to adopt OER or making use of IT in teaching. It will not analyse any pedagogical issues connected to the design of MOOCs or the role of the lecturers in ‘traditional’ online teaching. As described in the next section, the result is based on interviewees who have voluntarily joined the MOOC projects. This is an important circumstance for the interpretation of their answers and conclusions in this study.

Method

Given the exploratory nature of the study, I adopted a qualitative approach to data collection and analysis by using systematic, yet flexible guidelines for collecting data in interviews with twenty academics at six Swedish HEIs. The method made it possible to initiate questions, but also to do a
follow up during the process. This method was chosen in order to construct tentative theories from the data given by the interviewees (Charmaz, 2014). The result from this study will also direct future studies and elaboration as mentioned in the last section. A quantitative method was estimated to not be able to answer the research question as thoroughly as a qualitative approach, i.e. a survey was not considered as only the most enthusiastic of the MOOC lecturers were deemed the most likely to complete such a survey. More importantly, the type of research question also required time for reflection from different viewpoints from the interviewee’s side. This could be better achieved by the individual interview sessions.

Before the interviews, the interviewees were informed that they, as individual respondents, would not be presented by name in the article. Likewise, the study was not an evaluation or judgment of the interviewees work or comparison of different work, projects or universities. Their roles as facilitators, mentors or assessors, and other roles when implementing the MOOCs, were not addressed as the focus was on their experience of going public.

“Lecturers” or “interviewees” (and in a few places academics) are used in this study, and includes lecturers independent of their research and teaching capacities. Eight are female and twelve are male. All but five are PhDs, including two professors. It is, however, not meaningful to compare these categories based on their research or teaching activities as lecturers, senior lecturers, and professors; normally all conduct teaching, albeit to a different extent. Enrolment in different kind of projects, which varies in scope over time, makes the roles even more complex, therefore it is not feasible to draw such conclusions from the existing data. More important for the current study is the role of teachers’ identity in MOOC context. Even in the simplified description of the different kinds of MOOCs the teacher’s roles are multifaceted. “(...) perhaps there is more complexity and variation in the notion of the teacher than MOOC debates and literature have yet engaged with. Indeed, the way MOOC teachers see themselves may sometimes be at odds with these categorizations (...)” (Ross et al., 2014, p. 61).

All lecturers in the study have been involved in the planning, production and delivery phases of MOOCs, and have joined the project voluntarily, albeit with different motives. They all have joined with curiosity but a few with some ambivalence as well. The interview sample has representation from a range of disciplines and experience levels.

The interviewee’s contribution to the MOOC design and production varied from one minor ‘part’ of a larger course to a teacher/producer of all of the material in a course. The degree of external support and the organization around the design and production also varied. Four of the HEIs have invested ‘strategic’ money in the MOOC projects and two HEIs have received external funding to cover the costs of developing the MOOC respectively. The interviewees have got combined experience from 10 MOOCs.

Interviews lasting from 40 to 100 minutes were conducted with 20 lecturers. The interview questions also included some issues about personal incentives not reported here. Thirteen interviews were conducted face-to-face at the teachers’ respective university and seven by using Skype. Fifteen interviews were conducted in Swedish and five in English. Any translated citation below is indicated. During the interviews, I avoided questions about the chosen pedagogy from a participant perspective so as not to limit interviewees’ responses by raising any critical perspectives. The interviews took place in 2016 and were recorded and transcribed. Interview data was analysed inductively, going back and forth between data and analysis, by using MAXQDA11 and emergent codes. Some initial codes stand out, when other codes may take form during the analysing process.

It is important to notice that the interviewed lecturers belong to the category of academics that have chosen (for any reason) to be involved in the MOOC project and “go public”. The result is therefore not representative of other lecturers.
Higher Education Lecturers’ Lived Experience of Going Public in MOOCs

The courses in itself were not analysed or categorised. The categorisation in e.g. cMOOCs and xMOOCs may be useful to have a dichotomous understanding of different perspectives on their design. It is also easy to relate epistemic foundation to these categories of MOOCs, but this is an oversimplified discourse that has been questioned and elaborated by Conole (2014) and others.

Ninety-seven (97) per cent (N=103) stated that their MOOCs contained videos when 184 professors were asked in a survey conducted by The Chronicle of Higher Education (Kolowich, 2013). The requirement to be recorded and go public is thereby valid regardless of how the MOOCs are labelled. The MOOCs in this study contain recorded material and other material produced with the purpose of being seen and used by as many course participants as possible. The MOOCs in the current study are, therefore, not categorized.

Results

The lecturers’ views on going public ranged from lecturers who think that it is not a big issue, represented by the quote “Actually, like your party pictures in facebook, that is actually not a concern” [211], to the lecturer who expressed that it’s hard to figure somewhere public on a video or somewhere on the Internet. However, going public is not a one-dimensional challenge as being in front of the camera was just one aspect mentioned by the interviewees. Questions the lecturers put to themselves were: “Is the content up to date?”; “Will it be used in any improper ways?” and “Are the most important parts of my teaching still understandable in the compressed material?” It is also about whether or not to give away material. It was also derived from all of the interviewees’ experiences that being public via a MOOC production was more time consuming than expected. The presentation to follow about the interviewees’ thoughts about going public starts with their expressed aspects of being in front of the camera and continues with five other issues. Table 1 summarizes the categories.

In front of the camera

Being in front of the camera was an issue. Nearly all lecturers expressed the effort it took to be recorded. “It takes a lot of effort and also not everybody is comfortable when speaking in front of a camera”[260]. Very few of the interviewees expressed that they enjoyed the recording sessions. The majority of the lecturers were nervous when presenting in front of the camera, and nearly all those interviewed described the support they received from production companies and other professionals as crucial.

“So, to be honest, in the beginning I was quite nervous because I have never spoke in front of so many people, but [the HEI] offers very good training, so [the HEI] invited some professional speakers to teach us how to speak in front of people, especially in front of a camera. So I got some training, and I think that is helpful. Therefore, in the end, I managed to do that, I don’t feel nervous any more” [243].

It was also important to have a good script to use. “The main thing was to have a good script in front of your nose. If you do have that, at least for me, no problem” [787]. A common opinion was that lecturers got used to the camera after a while. Altogether, the recordings were quite scary in the beginning, but with the help of professional staff the result was up to the required standard, and after a while, the lecturers became more relaxed. “At first there was a bit of a mixture of fear and excitement at the thought of 31,000 sitting and watching this. I think of the people who give TED lectures” [Translated 472].

Several lecturers concluded that those who wanted to be involved in any project or in all education needed to be accustomed to lecturing in front of the camera, even if it is initially uncomfortable.
Language

The language issue was raised as another challenge when going public. As all of the courses that appear in this study were produced in English, and nearly all of the lecturers did not have English as their mother tongue, giving lectures was a challenge even if they regularly spoke in English. One lecturer especially underlined this challenge. “I practiced, but it was tough. It would have been different if I had done it in my own language, Swedish. Then, I would probably have been able to speak more freely, but anyway I do teach in English, so the language itself [was] not a problem, but just that, this combination was tough” [Translated 339]. The possibilities to communicate the nuances suffered but the combination of being in the front of the camera and speaking in a second language was, on the other hand, something to overcome.

Online forever

Some lecturers did worry that people could watch the videos and course material online over a long period of time, even when the content became outdated. Several lecturers were concerned about the feeling of not having control over the material. Material that is on the online platforms can be updated or removed when outdated, but the material can also always be copied by others and included in new contexts out of the lecturers’ control. At the same time, one of the aims of the MOOCs is to get the produced material used by as many people as possible. Dissemination of materials to course participants and colleagues worldwide as well as at the lecturer’s home institutions is important.

Table 1: Categories summarised

<table>
<thead>
<tr>
<th>In front of the camera</th>
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<tbody>
<tr>
<td>Nervous to be in front of the camera but the lecturer expressed that they got used to it. Several expressed the need for lecturers to get accustomed to this kind of upcoming form of teaching.</td>
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<table>
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<th>Language</th>
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<tr>
<td>The possibilities to communicate nuances when not talking in a native language suffered, especially when being in front of the camera.</td>
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<th>Online forever</th>
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<tr>
<td>The loss of control of the material was an issue even if the aim was to get as many as possible to use it. The choice of platform mattered in this case.</td>
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<th>Up to the standard</th>
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<tr>
<td>Quality issues are very important as the MOOCs, more or less, are a way to marketize the research group and the institution. It is also an issue for the individual teacher to show that they are competent in what they are doing.</td>
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<th>Copyright and intellectual property rights of academic staff</th>
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<tr>
<td>It was an unclear situation in the relation between the HEI and the individual lecturer. A lot of material was produced in the projects that reduced the need and uncertainty for the use of others’ material. Several lecturers argue that the produced material has such a basic character which does not make it useable in commercial settings.</td>
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<th>Pros and cons</th>
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<tr>
<td>Going public is a new situation for lecturers. Many were uncomfortable being in front of a camera and all agreed on the time-consuming activities. However, it was also exciting and fun to try something new and future-oriented. The enthusiasm to keep up with the changing requirements for teaching in higher education was overshadowing the raised concerns.</td>
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“It is more in terms of that as many people as possible should use the material (...). You have put a lot of time and effort in it and you want to see that people use it” [211]. All interviewees agreed that the material should be openly and publicly published, even if the choice of platform differs. One production team chose to put all material on their institution’s platform instead of YouTube, having argued that the platform should have a login function and therefore, to some extent, restrict the possibility to reuse the material. Another insightful comment was about the need to update the course material. “If you create a MOOC, don’t think that it will be there for ever, you need to revise it, you need to update it. It will take more time. This is the challenge” [611].

**Up to the standard**

Various lecturers also raised concerns about the standard of the materials presented in MOOCs. As the aims for developing MOOCs are to marketize the research group and institution, the courses’ content, recorded presentation and overall design need to be of high quality. “I feel pressure, is the material I am creating, is it up to the standard? When going public, it must be of good quality” [603]. The issue of quality is important for the lecturers and includes updated material, good presentations and graphics. One aspect that was mentioned was the need to remove all national connotations due to the international audience of MOOCs. The way lecturers described the demands for a high standard depended on the type of content that was presented. Some MOOCs focus on new research field or topic that is in the process of development and needs to contain the latest research findings. The content of other MOOCs that focus on fundamental and basic knowledge in a subject can be reused for a longer period of time but still be of sufficient quality.

The lecturers were not alone as producers and presenters, and the overall structure and pedagogical principles were not stressed as an individual responsibility of the lecturer. The project groups and several competencies were often referred to when discussing different aspects of quality of both the course material and structure. Several lecturers explain this as a way to overcome the difficulties with going public. The colleagues in the MOOC production teams, mainly composed of a photographer, pedagogical experts and sometimes a speech expert, supported the lecturers in different ways.

**Copyright and intellectual property rights of academic staff**

The copyright rules were perceived as complex, especially in combination with the intellectual property rights of academic staff. None of the intellectual property rights regulations could be clearly described by the lecturers. They described their initial discussion and how they became more or less familiar with the rules of Creative Commons and some ideas about the intellectual property rights of academic staff. “But then, once you got using this license, “common license”, then it was over and done in some sense, then it was just sink or swim” [Translated 341]. One lecturer that had concerns about how to position themselves found that the union did not have any clear advice on the issue. “I understood that the union was a bit doubtful and didn’t really want to have anything to do with that issue, no one wanted to have anything to do with the issue as far as I could see” [Translated 343].

The unclear situation concerning the intellectual property rights of academic staff was common for all interviewees. The teachers had to allow some intellectual property rights to be shared by the HEI and themselves as individuals. They also learned how the material could be distributed and used by others. Spreading the material amongst the public is the main objective for all of the projects within MOOCs. One lecturer stated that they viewed the spreading of ideas and publications as a loss of control in a way that was positive.
As the videos, texts and other resources were published, copyright and intellectual property became less important as it became an obvious part of their engagement in the MOOC-projects. A key reason for this was summed up by one of the lecturers, who said “I don’t watch myself if I am not going to update it” [Translated 464].

One lecturer argued that remuneration was a major factor – if one is well paid they are more likely to not make intellectual property an issue, but this is not the case if the opposite applies. Another circumstance that seems to influence the teachers’ thinking with regards to giving away many ideas and materials was that it was simply a smaller piece of what they normally teach. “I didn’t devote my full ability” [Translated 335]. This means that the material is not of any extensive use for a consultant to take advantage of and earn money. Instead, it was mainly teasers and samples, and as some interviewees explained, a way to market oneself as a teacher and consultant. “I don’t get very much said in 10 minutes anyway, so it doesn’t matter, [it’s] just positive if they use me” [Translated 854].

The focus of the teaching material differed - Some were traditional lecture notes, and some were up to date research. “To prepare the teaching material - since there is no established textbook at all - I have to look at the most research papers. I have to look at the most recent research results. Therefore, it helps me to keep up with most recent development in the literature” [260]. That makes research and the MOOC project go hand in hand. Other lecturers who were developing MOOCs on a basic level raised the problem of the time-consuming activity of developing a MOOC despite good collaboration among the team.

**Pros and cons**

The majority of the interviewees believed the MOOC experience was an interesting one that had many pros and cons. This came despite the aforementioned fact that most of them didn’t like to be in front of the camera (at least at the beginning of the production phase). The flexibility required in order to run a MOOC was highlighted by an interviewee, who explained the format as being excellent for researchers. In this case, the lecturer was running short webinars and explained that this was his preference as it is possible to be anywhere in the world and not bound to a specific classroom at the campus. The rewarding side was also highlighted in several ways in other examples. The projects have been rewarding both personally and, in some examples, heralded a new start and revitalisation of their ongoing campus courses.

One lecturer explained that some colleagues have difficulties embracing new ideas. “(...) that those who find it most difficult to share material are the ones who love to speak in the classroom, and that have written three or so lines, … they are sort of so important, I am a performer in the classroom. I have found that they are the ones who find it very difficult to change forums and to work with digital teaching or online teaching” [Translated 081]. The academics described have stated different views than those the lecturer quoted. Many of them described her ambivalence that it was both uncomfortable and exciting to be public through a MOOC, and that it was better to be public in front of a camera now when everything is new. That way, everything did not need to be perfect as if one waits until everybody is public and perfect. “So, yes, that’s sort of both, but I think that we are going to get used to it regardless, soon, at least if we want to keep up, if we aren’t going to carry on doing things in the way we have always done things at the university, which some people do aim at, but not me” [Translated 893].

It is a new situation and a new role to be a lecturer in an open education setting. If thousands of students follow the course and view your video, a lecturer has to accept that. “You get recognized down town by a MOOCer, that is a strange thing” [807].
Conclusions

The lecturers were enticed by the possibility of going public via the MOOC projects even if they were not always keen on being recorded. To be in front of the camera was uncomfortable and more or less scary. However, with practice and advice from other professionals, it was possible to overcome the challenges. Comments like they “(…) almost dictated to us where to stand, where I was to look (…)” as in the McNaughton and Billot study (2016, p. 651) concerning teachers involved in videoconferencing did, however, not appear here.

Still, it is not advisable for lecturers to try to do everything themselves. Janssen et al. (2016) identified six different roles during the design and early development of their MOOC: owners, teachers, learners, designers, developers, and negotiators. The advice given by Pundak and Dvir (2014) to create an online support center is relevant as a first step to increase the possibility to develop online teaching but also to prepare for and adapt to identity challenges (McNaughton & Billot, 2016). A similar piece of advice is to make sure that different competencies can be combined in an open online course.

Putting material online was also a challenge, as seen through the analogues of Pundak and Dvir’s conclusion of going online “(…) the initial stage, when changes in teaching methods are introduced, the difficulties are at their peak” (2014, p. 225). This was also communicated by the interviewees who described all of the issues that needed to be taken care of in the early stages of the projects.

When e-learning and technology is implemented it changes the balance of power between academics and students in knowledge production and influences the nature of academic identities (Hanson, 2009). The enthusiasm of the lecturers in the current study can be interpreted as an expression of the desire to keep their identities as knowledge experts, but this hypothesis needs further investigation. However Hansson’s scenario that “(…) introducing e-learning threatens academic identity by removing from academics the intellectual capital created by them, packaging their expertise so that it can be delivered to students without their mediation or replacing them with cheaper teaching assistants” (2009, p. 557) does not seem to be of any concern to the interviewed academics.

The majority of the lecturers expressed a great experience in their working life, although the project has been more time consuming than expected. “We are not a huge community who has produced MOOCs. We share something. We are special” [801]. The work has contributed to their personal development, and they now have experiences about going public that they can share with colleagues.

Even if the lecturers’ participation in the MOOC production was voluntary and they saw benefits with going public, it was also an adaption and reaction to the development of higher education they expected to occur. “We have to do it because the nature of the job is changing. It is no longer an option to have students sitting in class. Now you have an audience that is all around; you need to think about them if you are keen to tutor” [608]. Very disastrous things do not happen if something is not perfect.

Conducting all the interviews and analyses made it possible for me to accomplish a proper research. Furthermore, the university of which I am active does not currently hold the development of MOOCs or online education as a high priority. Nevertheless, being one researcher, my appearance as a person and any other causes of bias leads to further research.

Further studies

Going public has been an exciting experience for all of the lecturers in this study, even if the majority sometimes felt uncomfortable and worried about standards. Questions and worries the lecturers had
were dissolved following collaboration with the project team. Despite this, we need to remember that the interviewees have all volunteered to be a part of the process. This has an inclination of validity, but also on the reliability as the interviewees might be inclined to give a positive view of the process. Because of this, further studies are needed, even if some indices are given by the remark about difficulties for the “classroom entertainer” (see above) to make use of online pedagogies. That is in line with Hanson’s conclusion of a need for further studies into of academics expressing anxieties and threats to their academic identities. “(...) into the impact of e-learning on academic identity, a factor which has not so far replaced academics, but may be displacing them” (Hanson, 2009, p. 562). The interviewees in this study definitely belong to the category of academics interested in making use of new technology and methods. However, more needs to be known with regards to the more hesitant academics (Weller, 2014).

It was not possible to characterise the lecturers in this study in a reliable way as discussed in the method section. Despite this, two questions should be elaborated by comparing lecturers in MOOC projects at a basic academic level with MOOC projects as a state of the art in a field. Another relevant follow up is what will happen at the department level when a MOOC has been launched? Will the openness and experiences of going public inspire or deter colleagues at the department? Can new projects make use of the experiences and issues raised and solved in the pioneer projects?

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Higher Education Lecturers’ Lived Experience of Going Public in MOOCs

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Distance Education Examination Management in a Lowly Resourced North-Eastern Region of Zambia: A Phenomenological Approach

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Abstract
This paper focuses on the management of distance education examination in a lowly resourced North-Eastern region of Zambia. The study applies Hermeneutic Phenomenology approach to generate and make sense of the data. It is the lived experiences of 2 invigilators and 66 students purposively selected that the study draws its insights from. Meaning within the generated data is elicited using the Chaos theory. Emerging from this study is a multiplicity of ingredients needed to effectively manage distance education examinations in a chaotic environment. The need for visionary leadership with a shared understanding of institutional purpose, the need for motivated staff with creativity and innovation and the need for effective communication are all vital ingredients needed to manage examinations. In conclusion, we now know that amidst chaos lay opportunities for innovation and creativity in terms of new strategies for managing distance education. To this extent, chaos should be treasured and not censured.

Keywords: Examinations, chaos theory, Distance Education, University of Zambia

Introduction
The centre stage of this study is within the Institute of Distance Education (IDE) at the University of Zambia (UNZA) which has been in existence for the past fifty (50) years since 1966. The University is configured as a dual mode institution, meaning regular and distance education programmes running parallel to each other while sharing resources (Moore & Kearsley, 2012). It should be noted here that while the Institute is responsible for organization, administration and coordination of distance learning courses, all tuition is given by members of academic staff of the various Schools of study. Members of staff of the Schools offering courses by distance teaching prepare all study materials, assignments and examination papers in accordance with the SENATE approved course outlines (Siaciwena 2006).

Over the years, the student population has been rising steadily from about 299 students in 1967/68 to 466 in 1977/78, to 731 in 1987/88 to 3, 803 in 2010/11 academic years. Most recently, the enrolment figures exponentially expanded from about 6000 to 8000 in 2011 and 2014 academic years respectively as indicated in figure 1. This upswing in the number of distance learners has necessitated the university management to institute a number of reforms or innovations to improve the capacity of IDE so that it can stand the pressure of serving the increased number of distance education students. Some of these innovations include the establishing of provincial centres where students sit for their exams without necessarily travelling to main campus in Lusaka (University of Zambia, 2009).
As a way of decentralising learner support services as a means to improving the quality of learner support across the country, ten (10) regional centres namely: Chipata, Choma, Kabwe, Kitwe, Livingstone, Lusaka, Mansa, Mongu, Kasama and Solwezi were created. Arising from the presidential realignment of regional borders in 2011 was the creation of an eleventh region called ‘Northeastern’ (pseudonym) whose regional Headquarter is Chinsali. It should be noted here that before the formation of ‘North-eastern’ otherwise referred to as Muchinga Province, students in this region were on the Student Record System (SRS) tagged to the Northern region whose headquarter is Kasama. Thus, before the formation of the North-Eastern region, students in that region sat for their examinations in Northern Province. It is in the North-Eastern region that this study is located, as indicated in figure 2.

As part of the Student Record Management System (SRS), all students are by default assigned by the system to sit for their examinations at the nearest regional centre. However, distance students are highly mobile making it challenging to predict with exactness the numbers of students per centre during preparations phase for examinations especially where students have opted not to update their physical home addresses. To mitigate the challenge of stray students in other centres, as a policy directive, examiners are mandated to enclose 5 exam question papers for centres where there are no documented students on the SRS while in centres with known student numbers, an additional 5 copies are enclosed.
Statement of the Problem

Whereas the decentralisation of examinations for distance education students in regional centres is a positive move, there still lies a challenge in non-updated student record system to inform the production of examination materials for UNZA. This situation has created challenges in the past in management of distance education examinations as numbers of students out-strip the available examination papers in most courses leading to undue pressure on staff and students. Considering that the North-Eastern Region has been in existence for five years after the Presidential decree of 2011, yet at the same time the University of Zambia's North-Eastern regional examination centre has been in operation for two (2) years, there has never been a formalised evaluation study instituted to understand the effectiveness of the centre. Given the challenge of non-updated Student Records and the lack of documented evidence on examination management in the newly created centre, it is not clear whether chaos does exist. If it does, how that chaos manifest itself and what strategies managers of examinations apply to manage chaotic situations.

Purpose of the study

The study aimed to interrogate UNZA's distance education examination management experiences of key staff and students and investigate the possible presence of chaos and strategies deployed to assure the quality of the qualifications offered by the University.

Research objectives

1. To investigate the possible presence of chaos in the management of distance education examinations at UNZA.
2. To establish the challenges associated with decentralised distance education examination management at UNZA.
3. To explore strategies applied to management of decentralised distance education examinations at UNZA.
4. To recommend measures from the lived experiences of stakeholders in the management of decentralised examinations at UNZA.

Theoretical Underpinnings of the Study

This study is informed by the theory of Chaos whose tenets are complexity, irregularity, uncertainty and anarchy (Kendirli, 2006). According to Gökmen (2009), the Chaos Theory is used to analyse nonlinear dynamic movements of aperiodic inconsistent systems. This theory analyses uncertain and constantly changing structures which are not foreseen within the system. According to another broad definition, Chaos states the presence of events whose process and results cannot be predictable (Ertürk 2012). In other words, uncertainty of reactions that may emerge against the effect created in the systems is defined as chaos (Altındağ & Kazdal 2014). It is from this premise that this paper applies the Chaos concept within educational settings, particularly dealing with the examination management of distance students, given the complexity, irregularity, nonlinearity, unpredictability, ambiguity and uncertainty attributes of distance education examination management possess as supported by Mehralizadeh and Hosseinzadeh’s (2007) conceptual framework. According to those authors, every school day is uncertain until it occurs at the same time, it is difficult to see the connection between management, change, teaching and learning. According to Reigeluth (2004), such an environment is better explained using the Chaos theory and distance education is embedded within.
Literature Review

The literature review was delimited to relevant research articles available via Google Search Engine focusing on Management of Distance Education Examinations. This was meant to contribute to the on-going discourse on improved quality of management of decentralised distance education examinations in lowly resourced communities.

Presence of chaos in distance education

In developing countries, the task of administering examination in distance learning programmes is exceptional in several respects due to many study centres that are often times centrally controlled, and which serve as examination centres. Just as the National Open University of Nigeria (NOUN) has twenty eight (28) Study Centres, UNZA has eleven (11) study centres across their respective countries. Therefore, with many students and study centres to contend with, effective administration of examination, which is held simultaneously across the study centres, is usually a chaotic activity (Ibara, 2008).

In addition, Hunte (2013) observes that course development department of the University of the West Indies Open Campus (UWIOC) experienced complexity, uncertainty while developing its online programme. These challenges included insufficient infrastructure and human resources, assorted experience in online situations, and distribution across geographically isolated sites. In order to address these complexities, UWIOC devised project management strategies especially tailor-made to online setting. The findings support the relationship between project management strategies and instructional design principles, and its potential to create an online community of learners. Further, Dabaj (2011) argues that the effectiveness of distance education is dependent on how interactive the process is and how it overcomes the complexity, irregularity and uncertainty linked communication barriers among the individuals involved. Communication barriers exist in distance education because of such reasons as the physical distance between members, the complexity of dealing with new media, having time constraints and restrictions, background knowledge of distance education, incompetence in skills of using technology, and the interactivity level of the process. Put all together, effective distance education process becomes almost chaotic. The complexity associated with these barriers differs across institutions, varying programs and in different delivery systems applied (Dabaj, 2011).

Challenges in distance education

Tait (2000) observes that in the area of Open and Distance Learning (ODL), there is rapid change and at present considerable confusion about the relative status of students, making management of their examination processes problematic. This could be attributed to a number of inherent challenges which Galusha (2001) refers to as barriers. This author observes that the barriers of distance education fall into the following categories: (i) cost, (ii) motivators, (iii) feedback and teacher contact, (iv) learner support services, (v) alienation, (vi) lack of experience and training. Further, due to the lack of information about their roles in distance education, there is faculty and organizational barriers (Galusha, 2001).

In addition, Perreault et al. (2002) argue that other challenges associated with distance education border on communication. For instance, technical barriers during communication can be experienced by learners and facilitators as a result of not having appropriate experience on the use of technology. In addition, some students may have semantic barriers in their communication by misunderstanding announcements. Therefore, it is important to eradicate communication barriers for effective distance education to take place (Perreault et al., 2002).
Management of Examinations in ODL

Mafa and Gudhlanga (2012) contend that ODL is valued highly for bringing education to people’s doorsteps, thus availing university education to populations who find it difficult and impossible to attend regular universities due to a number of restrictions (UNESCO, 2002). Nevertheless, where the institution offering ODL programmes is decentralised, as is the case at Zimbabwe Open University (ZOU), the distance between the National Centres and Regional Centres may be a source of problems in the management of examinations. In their considered view, challenges linked with management of examinations in ODL are threefold. These are: (i) Expenses in delivering examinations to regional centres, collecting answered scripts from regional centres, accommodation expense for markers based in the regions when they come for marking and processing of results, delivery of results to regional centres; (ii) Variations in regional centres in terms of suitability and accessibility of examinations venues, where regions depend on rented accommodation; and (iii) Heterogeneity of personnel tasked with the management of examination in the regional centres (Mafa & Gudhlanga, 2012).

In addition, Chaudhary and Dey (2013) observe that assessment is an essential part of the learning process. Over the years, there has been a paradigm shift in assessment in both face-to-face and ODL system. Content-based examination has shifted to performance-based examination. In this vein, assessment in the ODL system has adopted a new approach to provide better assessment judgments to its students and at the same time helping teachers and administrators. Therefore, individuals tasked with management of examinations are required to cope with the changing complex situations while administering ODL examinations (Chaudhary & Dey, 2013).

Good enough at the Zimbabwe Open University, challenges two and three highlighted by Mafa and Gudhlanga (2012) above are not an issue, since the regions make use of government complexes that are suitable and easily accessible. In addition, prior to each examination session, all staff tasked with examination management are oriented and reminded of the alertness, efficiency, diligence, required in the management of examinations so that quality is not watered down (Mafa & Gudhlanga, 2012).

Strategies deployed to manage examinations in ODL

During the examination preparation phase, one strategy deployed is in the setting of examination items where a team of experts in a particular study area and not an individual are mandated with that responsibility. This enables the production of high quality assessment items, which in turn produce better-informed students. The experts meet at a workshop where they set assessment items together. There is a lot of brainstorming and rigorous questioning until the team agrees that a question is suitable to be included in a particular exam. Items set are then deposited in examinations’ item bank. Hence high quality questions are set in the end. Once the examinations are set, they are then sent to the chairpersons of the respective departments for final selection and printing. After printing, chairpersons and programme leaders at the National Centre proof read the papers. After correcting any noted errors, the examinations are printed, treated as highly confidential and security material and kept in sealed envelopes at the National Centre, until examination period. The academic registrar is solely responsible for the safe keeping of all examination material (Mafa & Gudhlanga, 2012).

When it comes to writing of examinations, they are decentralised in regions. For ZOU, just like at UNZA, examination timetables are dispatched to regional centres at the beginning of each semester. Programme leaders and Programme coordinators are encouraged to scrutinise the timetables to ensure that all their courses are well timetabled. If there are any anomalies, they are brought to the attention of regional and faculty administrators who in turn liaise with the academic registry for corrections to be effected. Early publication of timetables facilitates application for leave by students since most of ZOU students hold fulltime employment (Mafa & Gudhlanga, 2012).
Furthermore, the dispatch, transportation, storage and invigilation of examinations are critical processes in the management of examinations. For instance at ZOU, the examination papers are dispatched to the various regions by ZOU vehicles a day before their commencement. Once at Regional Centres the examinations are kept under lock and key to avoid leakages. Their custodians are Regional Directors and Regional Administrators. On examination days, particular examinations are taken to the examination venues where students write under close supervision by invigilators. In addition, invigilation is the responsibility of fulltime academic staff members with the support of part-time invigilators. At the end of each examination session, scripts are cross-checked against examination registers before they are tied neatly and placed in canvas bags, which are padlocked. The keys to the padlocks are with the academic registry. This is to ensure that answer scripts are not tempered with in transit. The scripts are then transported to the National Centre by vehicles. When these scripts get to National centre, they are taken to their respective departments for marking (Mafa & Gudhlanga, 2012).

**Identified gaps in the literature reviewed**

Whereas the bulk of reviewed literature does provide a description of how examinations are prepared, dispatched to regional centres and administered to candidates, there is no mention of the amount of Chaos that come with such a task. Yet, it is clear from a few experiences of other institutions such as NOUN and ZOU that examination management task is often times intertwined with complexity, irregularity and uncertainty (Mafa & Gudhlanga, 2012). It is this limited exploration of examination management in lowly resourced communities, such as North-Eastern region in Zambia that this study explores to contribute to the quality assurance discourse in ODL.

**Methodology**

The epistemological and ontological viewpoint adopted in this article embraces the nature of reality to be subjective, socially constructed and only understood by examining the perceptions of the human actors. To this effect, reality is understood from multiple perspectives and it is holistic and contextual in form. It is assumed that meaning is embedded in people’s experiences.

Further, in this study, the axiological assumption stance taken considers the researchers’ values as a critical ingredient to the success of the study as values aid to determine what are recognized as facts and the interpretations thereof. To this end, the researchers are actively involved with that which is being researched since they happen to be practitioners of distance education within the University.

**Research paradigm**

In this research, the study design is driven by the qualitative worldview with a focus on Hermeneutic Phenomenology. Proponents of Hermeneutic Phenomenology approach argue that it is impossible and undesirable to set aside or bracket researchers’ experience and understandings. Halling (2008) observes that researchers need to come to an awareness of their pre-existing beliefs, which then makes it possible to examine and question them in light of new evidence. It is also sometimes referred to as constructivism because it emphasises the ability of the individual to construct meaning. The rationale behind the choice of the paradigm is guided by the research phenomenon under study ‘management of decentralised distance education examination’ which is a social construct. Since the phenomena under study is situated within the social science and not natural science, therefore, action and behaviour which are generated from within the human mind cannot be studied objectively by the researchers as advanced by Bryman (2008) and supported by Guba and Lincoln (2005).
In order to explore ‘management of decentralised distance education examination’ through the lenses of examination facilitators within a distance education context; the study adopted an interpretive research paradigm (Bryman, 2008). The central endeavour in the context of the interpretive research paradigm was to understand the subjectivity world of the staff while managing decentralised distance education examinations in a lowly resourced community.

In an interpretative study such as this one, theory (grand ideas) is emergent and must arise from particular situations, it should be ‘grounded’ on data generated by the research (Glaser & Strauss, 1967). Further, the interpretive nature of this study was depicted in terms of its emphasis on reflective journal, use of in-depth interviews, Document Reviews, Focused Group Discussions (FGD) and use of purposive sampling method (Denscombe, 2002).

**Research procedure**

The starting point was a Document Analysis (DA) focused on (i) Student Record Management System (SRS), (ii) Examination Attendance Register and (iii) expenditure budget for the North-Eastern Region for 2015/16 Academic year. Document Analysis was meant to establish the presence of and management strategies deployed in managing distance education examinations amidst chaos. This was followed by a Reflective Journal (RJ) approach of the two (2) members of staff who managed examinations in North-Eastern region who were purposively selected and tasked with the responsibility of detailing their lived experiences during a three (3) week examination period. The journal of experiences was structured as follows: (i) Date of examination session, (ii) Exam course, (iii) Lived experience, (iv) Lessons generated as shown in table 1.

Furthermore, the experiences of the two (2) examination facilitators (table 1) were complemented with the experiences of sixty-six (66) distance education students (table 2) who happen to have been at the examination centre in North-Eastern region. The students’ experiences were elicited through interview sessions.

The following were the research questions which guided the research process:

1. Does Chaos exist in the management of distance education examinations?
2. What challenges are associated with decentralised distance education?
3. What strategies are applied to manage decentralised distance education examinations?
4. What lessons can be drawn from the lived experiences of stakeholders in the management of decentralised examinations?

The sixty-six (66) students were engaged in personal semi-structured interviews as well as focused group discussions while at the examination centre before the close of a three-week examination period. This helped to elicit vital information as participants had clear and fresh memories of their lived experiences during the examination period.

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**Table 1: Example of Data capturing model for Examination Facilitators**

<table>
<thead>
<tr>
<th>Date</th>
<th>Exam Course</th>
<th>Lived Experience</th>
<th>Lessons Generated</th>
</tr>
</thead>
<tbody>
<tr>
<td>22/08/16</td>
<td>LIT 9550/LIT9554</td>
<td>Rescheduled to 2nd September, 2016 afternoon due to confusion created due to lack of clarity on new course codes</td>
<td></td>
</tr>
</tbody>
</table>
Francis Simui et al.

The code e.g. AA01 represents a pseudonym given to a participant, as the identity of all the participants remained anonymous throughout the study. The areas of concern included the Good Practices, Challenges encountered and their considered Recommendations. The experiences of all participants were then colour coded and clustered in emerging themes using an open source Qualitative Content Analysis (QCA) software as supported by Mayring (2014). The elicited information was cross-checked by inside informants to avoid the usual emic/etic related challenges. This means that interpretation of phenomena may be from the point of view of the stranger, or outsider (etic) and, therefore, may fail to grasp important in-group meanings (emic).

**Findings and Discussion**

The findings and discussion section is broadly segmented into various themes as follows: (i) challenges in managing Distance Education Examination; and (ii) Strategies for managing distance education in general.

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**Table 2: Example of Data capturing model for distance education students**

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Good Practice</th>
<th>Challenges Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case</td>
<td>Code</td>
<td>Themes</td>
</tr>
<tr>
<td>1</td>
<td>AA</td>
<td>AA01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>AB</td>
<td>AB02</td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>AC</td>
<td>AC03</td>
</tr>
</tbody>
</table>

The DE Learners’ voices on Examination Management in North-eastern Region, Zambia
education examinations. Emerging from the document Analysis of the Student Record System is a student distribution by regions for 2015/16 academic year in figure 3.

Figure 3 shows a red ring with 2 regions under spotlight namely: North-Eastern and Northern Regions. The North-Eastern regional centre with 124 students as reflected on the Student Record System (SRS) while the Northern Region had 554 on the SRS. In practice, the situation was different as the bulk of the students classified under Northern Region flocked for their examinations to the North-Eastern Region. Such a situation proved a challenge in the management of examinations as it was difficult to predict and plan for the needs of candidates in advance. As re-echoed by AH08 and AL12 who observed that Mpika centre had only a few names of candidates on attendance examination registers. “The challenge of not having students in one location contributed to examination papers clashes which made some of us apply for deferred exam”, AQ17 reported. This situation was attested by BM38 who reported having “4 courses clashing at once.” This then fits well within the Chaos theory given the resultant complexity, irregularity, unpredictability, ambiguity and uncertainty issues that emerged from managing the distance education examination as posited by Mehralizadeh and Hosseinzadeh (2007).

Challenges in managing distance education examinations in North-Eastern Zambia

The challenges were manifested in various ways such as missing examination papers; wrong course labels on examination tamper proof packages, under estimation of candidates as reflected in candidates’ population who outstripped the available examination papers in some courses, among others. For instance in LIT 3510 course, a wrong examination paper was enclosed. This could be attributed to examiner concerned packing examination materials without verification. BJ35 observed, “unavailability of LIT 3510 as per scheduled date and rescheduling to 9th September was very inconveniencing”. Lorenzen (2005) argues that a teacher is the most Chaotic element in a classroom because the teacher makes decisions that drive many of the reactions as was the case in the wrong packaging of examination materials by the examiner in LIT 3510 above. The effect of such a decision was harshly felt by a number of candidates, which left them disappointed for failing to write as promised on the examination time table resulting in additional costs on their part.

In addition, the CVE 4010 course had four (4) question papers enclosed in the examination envelope against the nine (9) students who showed up for the examination. To compound the situation
further, on this particular day, the district had no electricity to power-up the photocopying machines to enable the examination invigilators to replicate the examination paper. Even the only diesel powered photocopying machine available was 40km, away from the examination centre further complicated by the non-availability of transport. Other courses where invigilators faced a mis-match challenge in terms of numbers of examination papers enclosed out-stripped by the number of candidates included RES 3010. AD04 observed that “we were told to wait for our exam paper because few papers were enclosed”. AL12 attributed the observed challenge by AD04 to “lapses from the institution.”

The two experiences presented above on missing examination papers could be classified as crises situations. MacNeil and Topping (2007, p. 64) defined a crisis as an event that “causes severe emotional and social distress, which may occur at any time and without warning”.

Further, once the invigilators had settled and briefed candidates on the timetable, a day before the commencement of examinations in North-Eastern region, it became apparent that some papers not enclosed had expectant students present. For instance in LAN 4212 course, the examination paper was not distributed to regional centres as the examiner claimed ignorance on the need to have prepared for students sitting for exam in regional centres. To this extent, the paper was only emailed 45 minutes after 09:00hrs. The affected student could only start writing an hour later at 10:00hrs. This created tension and confusion among the affected candidates as well as staff managing the examinations as alluded to by Mehralizadeh and Hosseinzadeh (2007) in their discourse on reengineering education amidst chaos.

Another challenge was noted in PSG 4224 course which was not only timetabled but also not enclosed in the North-Eastern region, yet there was a student ready to sit for the same paper. This particular challenge was only brought to the attention of the invigilators a few minutes before the commencement of the afternoon examination session, a student informed invigilators that his course mates were writing the named paper at the National Headquarter and wondered why it was not the case for him at the North-Eastern regional examination centre. This challenge could be attributed to unverified examination timetable by the departmental head where the named course belonged.

Other challenges bordered on suspected malpractice cases. For instance, DEV 9550 Examination paper had to be replaced with a new paper just before the examination hour mark. The new replacement had to be emailed and later downloaded at last at the Examination centre. In addition, POL 3030 and POL 9010 were equally delivered a few hours before the examination scheduled time as replacement through a hired institutional vehicle across the 10 Regional examination centres nation-wide. The latter papers were delivered on the pretext that the earlier sent papers had leaked hence the need for replacements. CH59 retorted that there were “many incidences of examination leakages. Examination question papers should be produced and sent every day to ensure fairness”. To this extent, changing papers at very short notice was a good practice to assure the quality of the assessment process and maintain the credibility of the qualifications offered by UNZA as attested by BC20 who commended the University as follows: “job well done for changing exam papers country-wide at short notice”. However, such a measure had its resultant effects as expenses for transportation, emailing, downloading and printing kept on rising against the available meagre resources.

In addition, EDU 2011 examination paper had wrong instructions from the examiner: it compelled students to write their names on the question paper and turn it as part of the answer booklets when it was against the University examination regulations. As a university, anonymity is the norm when it comes to indicating the details of the candidates on the answer scripts. Instead, candidates are compelled to indicate only their computer numbers on the officially provided answer booklets and not the question papers. This too was a challenge as the invigilators found it had to reconcile the wrong instructions given by the examiner against the official University regulation on the matter among students during the examination session.
The challenge of not having an institutional vehicle for local transport was real as the nearest convenient lodging place available was 40km to and from the examination venue. This meant that within 15 days allocated for the entire examination period, 600km was covered locally excluding extra local errands and emergencies within the district. This then translated into a minimum distance of 700km covered, meaning twice more than the initially expected distance of 350 km. If then the invigilation staff had to hire a taxi daily, K200 equivalent of $20 US Dollars. This would have translated into K3,000.00 equivalent to $300 US Dollars, twice more than what was budgeted and approved.

Initially, the local invigilator (resident lecturer for North-Eastern region), was only assigned to serve as one of the invigilators for twelve (12) days, due to budget constraint. Given the unexpected challenge of downloading, printing and photocopying of a number of examination papers, requiring the presence of a reliable and accountable University staff while another staff took care of the rest of examination materials, it became vital to request for an approval from the administrators to extend the services of the resident lecturer for five (5) extra days. This meant adjusting the earlier planned budget significantly amidst meagre resources.

Strategies applied to manage distance education examinations in North-Eastern Zambia

Given a multitude of challenges encountered, the examination facilitators had to think outside the box and innovate and devise strategies to mitigate the highlighted challenges above. This is consistent with Schoenberg (2005) who observes that during times of uncertainty, institutions should have crisis leaders with adequate skills to decide what objectives need to be achieved and understand how every action they take would affect their organizations. Having had a first-hand insight on the challenges experienced by invigilators, the administrator approved the extension easily. This then meant that budget lines had to be varied by ensuring that both the transport logistics and a competent, reliable and accountable invigilator were maintained until the end of the examination period. The measure taken by the authority to approve the extension of the second supervisor is in tandem with Altun's (2001) admonition who argues that when education managers can pay attention to events and handle them with sensitivity, they can help prevent bigger problems from occurring (Altun, 2001).

Another strategy deployed included the use of a mobile phone and emailing facility to receive and send important examination information as well as personal laptops, printer and Internet facilities. Additional examination papers were delivered via email at short notice yet invigilators were still expected to have access to the Internet, printing and photocopying facilities in places where such resources are not readily available.

To overcome the challenge of transport, the invigilators resorted to using their personal family car which proved reliable especially during emergencies given that taxis were not in sight within the vicinity of the examination venue. The car had its own challenges as it kept on showing mechanical problems during the course of the examination period. The cost of repairing and maintaining the car was much more affordable compared to the avoided cost of hiring a taxi on commercial terms. The approach taken by the examination facilitators are within Finch’s (2004) considered view of managing chaotic complex situations. The need for openness in thinking, connectivity and emergent behavior are all critical aspects for effectively managing amidst chaos and complex situations. Further, Lorenzen (2005) argues that Chaotic and complex situations are fertile grounds for new insight into the design of tasks and helps in finding ways to overcome the challenges in the given task. Therefore, the presence of chaotic situations should be taken positively as therein lay opportunities to innovate and create quality strategies for managing distance education examinations.

As for the need to extend the involvement of the resident lecturer by 5 days given the budget constraint, budget lines were rationalised to serve some funds for this purpose. For instance,
whereas the budget catered for six (6) support staff to aid the two (2) invigilators, it was felt that four (4) support staff would suffice. This move helped in serving a K3,000.00 (equivalent of $300 USD), which was diverted to address the needs of the second invigilator who had not only volunteered his labour but also family car, Internet facility and a printer, with a new cartridge. The availability of a car, Internet and printing facilities enabled the invigilators to attend to emergencies, download and print sent examination papers as well. This helped to resolve challenges that required Internet access, printing and transport facilities where the locally available facilities could not help much.

As contested by Brown (2000), to effectively manage distance education, one should beware of linear and causal approaches which often times are simplified and do not address the real issues surrounding chaotic environments. In addition, one should be beware of overgeneralization or ‘one shoe fits all approaches’ attempting to serve as antidotes to challenges posed by complexity and ambiguity of chaotic situations when managing distance education examinations. Instead, it is critical that one pays attention to details; the smallest, apparently insignificant factor can turn out to be very important (Brown 2000).

**Recommendations**

Emerging from the discourse above are the following recommendations as informed by stakeholders; key among them were distance education students and staff:

There is need for a comprehensive verification mechanism to validate the accuracy and appropriateness of the content in examination papers and later on the packaging and labels used during the examination planning phase. The examination paper enclosed should correctly be reflected on the envelope labels and tamper proofs used as well.

The need for an updated, accessible and reliable Student Record Management System cannot be over emphasized given the need for accurate statistics to inform the planning process of the examinations. Once the statistical records are accurate, updated, accessible in real time, it should be much easier to plan and implement examinations while minimising the highlighted challenges to do with missing courses, non-accurate statistical records of student distribution across programmes, courses and regions.

Need for a minimum of 2 knowledgeable and dedicated invigilators who can be entrusted with an exam centre while being supported by part-time staff. The benefits are seen during moments of Chaos as the partnership of the 2 invigilators responsible for the North-Eastern region proved useful throughout the exam period as could be attested in volunteering personal assets such as laptops, printers and Internet facilities for the benefit of ensuring that examinations were effectively managed with minimal disruptions.

The need to budget for a dedicated vehicle for local errands, printing and Internet facilities as well as two reliable examination invigilators in examination centres should be encouraged when planning for examination processes. Such a measure will bring efficiency and effectiveness among the managers of examinations in decentralised centres as was attested by the facilitators and students in the North-Eastern region.

The need to encourage students to remain in contact with their peers on academic matters. This proved useful among a number of students who pitched-up for an examination which was omitted on the examination timetable yet included without the knowledge of the invigilators in North-Eastern region. This is consistent with Moore’s theory of transactional distance among learners (Moore & Kearsley 2012). Clearly, without such interaction, some candidates would have missed out their examination papers.

Further, draft examination timetables require thorough review from all key stakeholders and publicised widely before the examination is conducted. This would allow for inclusion of
missing courses, removal of unwanted courses and general editing of typing errors, which potentially could mislead both the candidates and staff managing examinations.

Furthermore, display of inconsistence in the regulations by the examiners creates psychological chaos in the minds of candidates especially when the invigilators do not agree with what the examiner could have compelled candidates to do. To this end, it would be critical to re-sensitize all staff on setting examination papers so that there is adherence to the University standards as approved by the Senate.

**Conclusion**

Whereas the administration of examinations for distance education at the University of Zambia is a rigorous exercise in terms of logistics, personnel and financial outlay, there are still a few needy areas that require further improvement, especially when dealing with new examination centres. This includes the need for a comprehensive validation process of the examination content and the need for management tools such a printers, computers, Internet facilities and dedicated transport among others in regional centres. One critical ingredient that is indispensable at planning stage of examinations is the need for an updated, accurate and accessible Student Record System with statistics disaggregated by programme, course, region and examination centre. Even after the examination planning phase is done well, what is also evident in managing decentralised examinations for distance education is a hard reality that one should be prepared to expect the unexpected and be quick to make decisions on the move especially when operating in an environment with low resources. When this is done correctly, Chaos is likely to be managed and where possible avoided. However, in an event chaos manifests itself during examination process; it should be treasured and not censured as it is a catalyst for innovation and creativity when taken positively.

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Academic Workload Planning for Open and Distance Learning (ODL) Universities: The Experience of National Open University of Nigeria (NOUN)

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Abstract
The quality of the programmes and courses in ODL depends on the academics that plan the programmes, develop the curriculum, manage courses and programmes and carry out administrative duties. It is observed that the academics often complain of work overload. It also appears there is a mix-up in integrating the mode of planning workload in the conventional universities into the open and distance education universities. This may be attributed to inadequate spread in the duties assigned, which if not checked could affect the quality of teaching and learning. This necessitated the study that was carried out to determine academic workload in NOUN. The findings revealed a gap between academic activities and adequate utilisation of time. Also, inadequate spread of activities affects the quality of the academic inputs. This led to the development of academic workload model to guide the spread of academic activities in open and distance learning.

Keywords: distance education; workload; model; academic activities

Introduction
Open and Distance Learning (ODL) has been widely accepted in the world over as a means of widening access to education. In describing open and distance learning, UNESCO (2002) said:

“The term open and distance learning reflects both the fact that all or most of the teaching is conducted by someone removed in time and space from the learner, and that the mission aims to include greater dimensions of openness and flexibility, whether in terms of access, curriculum or other elements of structure” (p. 8).

The context of open and distance learning is peculiar, especially in academic workload. Therefore, to meet the objectives of open and distance learning different planning models are required in the allocation of workload.

The quality and standards in open and distance learning are often questioned where there is high enrolment. Quality in this perspective is viewed from the angle of learning being able to meet the set standards such that the graduates from such learning will be able to perform effectively in their respective fields of study.

In open and distance learning the academics are the core in quality determination. The academics are the staff that are certified as subject matter experts in their respective fields of study. The academic staff plan the programmes, develop the curriculum, manage courses/programmes and carry out administrative duties. The extent to which these activities carried out by the academic staff to meet the set standards determines the quality of learning and knowledge gained.
The effectiveness and efficiency of the academics could be thwarted with the assigned workload. Workload is the specified duties assigned to an employee. The University of Exeter (2016) emphasized that

“Academic workload planning allows us to plan for an equitable and transparent spread of workloads. It means that workload is distributed strategically to maximize capacity and share departmental workload in ways that build on the strengths of all staff” (p. 1).

The total amount of duties assigned to an individual determines the level of effectiveness and efficiency in completion of such duties. Perks (2013) felt concerned when senior university managers say they do not have idea on how their staff utilize their official hours. This study is focused on eliciting a model that could be used in determining academic staff workload towards quality education in open and distance learning universities.

Statement of the Problem

The researcher observed that academic staff complain of high workload. This observation prompted further enquiry towards arithmetical knowledge of teacher student ratio. Officially, the university has its teacher-student ratio at 1:50. As at 2011, NOUN has a student enrolment of 38,431 with 188 full-time academic staff (NOUN, 2011), and in 2015 the student enrolment increased to 189,346 with full-time academic staff of 370 (NOUN, 2015). From the figures presented, it could be said that the teacher-student ratio as at 2011 was 1:204 and by 2015 it rose to 1:512. It is also worthy of note that the student enrolment comprises all students in academic certificates, diplomas, undergraduates, post-graduate diploma, masters’ and Ph.D. programmes.

It was also observed that there is no policy document on academic workload distribution for open and distance universities at both university and national levels. What is obtainable at the national level –which is provided by the National Universities Commission (NUC)– is for the conventional universities. NUC is the accrediting body for all Nigerian Universities, including NOUN. Again, there seems to be a mix-up during accreditation where the open and distance academic staff workload is viewed from the conventional mode. Lastly, there is dearth of literature and guides on the determination of academic staff workload in open and distance learning. These observations stimulated the need for a working framework that could be adopted in open and distance universities.

Research Questions

- What is the work schedule of academic staff in a distance learning university?
- What are the perceptions of academic staff regarding their workload?

Research Hypotheses

- There is no significant difference among the responses of the different levels of academic staff on the academic teaching services.
- There is no significant difference among the responses of the academic staff on their perception on academic workload.

Scope and Delimitation of the Study

The study focused on teaching, scholarship, research and service related activities carried out by the academic staff in National Open University of Nigeria.
Existing Workload Models

The researcher studied the application of the workload models in the University of South Wales Academic Workload Model (2014), the University of Queensland (2015), CQUUniversity of Australia (2016), The University of Melbourne (2014, 2015), James Cook University Australia (N.D.), Teesside University (N.D.), and the academic workload of the Republic of Rwanda (N.D.). All models have common guide as specified thus:

- An academic workload model must be fair and transparent.
- The model must be in line with the university vision and mission.
- Deans and Heads of Department to be responsible for the determination of staff workload and with the consent of the staff.
- Academic workload responsibilities are categorized thus:
  - Teaching and Related Duties: effective course coordination, development of courses, contributions towards teaching improvement, mentoring teaching and learning, etc.
  - Scholarship: Teaching-focused and Teaching Scholar (currency with existing technology, conference/seminar attendance relating to scholarship of teaching at local level, participation in professional development, innovation in teaching practice and delivery, sharing reflective teaching practice through presentations at seminars, conferences and workshops).
  - Research-Related Work.
  - Service-Related Work: serving on school or programme committee, contributions towards external body.
- To determine workload, the following are important:
  - List of all activities to be carried out.
  - Student credit hours.
  - Teacher-student ratio (classified according to faculty, therefore not same in faculties).
  - Class size and large enrolment class may require increase faculty time and effort depending on the pedagogy used.
  - Number of hours in a working year.
  - Number of hours in a working week (e.g. 8 hours per day multiplied by 5 working days per week will give 40 hours).
  - Number of weeks/hours of holidays and annual leaves. This will be deducted from the hours in a working year to get the actual number in a working year.
  - Number of hours used for lecture preparation.
  - Classification of activities into actual (such as scheduled teaching) and nominal hours (such as research and scholarly activity).
  - Hours for administrative duties.
  - Used crude approximations for activities such as lecture preparation and personal research.
  - Assumed arbitrary figures for teaching hour’s baseline per week, marking, examination setting, invigilation, student contact, personal administration, networking and general reading.

Although the structure did not fully integrate the activities of open and distance learning, it served as a guide in determining the variables that would be required in calculating workload in open and distance learning.
The limit in the various models is that there was no clear expression on how figures representing the class size, credit units, contact hours attached to credit units were developed. It appeared that the figures were developed through assumptions. The researcher attempted to clarify this in the proposed model.

**Academic Staff Workload in NOUN**

The National Open University of Nigeria (NOUN) was established in 2002 as the only single mode open and distance university in Nigeria and first of its kind in West Africa sub-region to provide access to those who seek quality education at the university level through flexible learning (NOUN, 2015). There are two categories of academic staff: full-time and part-time. The full-time academic staff in NOUN are responsible for the planning, development and delivery of all the courses being offered at the university. In addition, they are to undertake research activities and participate in University/Professional/community services (Federal Republic of Nigeria, 2002). The part-time are the facilitators/tutors.

The National Universities Commission (NUC) being the accrediting body has stipulated standards for student and academic staff workload. Although these standards were specifically designed for conventional universities, they are also currently used to access distance universities. Staff/Student Workload as Stipulated by NUC (2007):

1. For undergraduate programmes:
   - Every full-time student should be required to register for a minimum of 15 credit units per semester and a maximum of 24 credit units except for students on field experience.
   - A full-time Lecturer, on the other hand, should have a minimum teaching load of 8 credit units per semester.
   - Lecturer - student ratio shall be (table 1):

<table>
<thead>
<tr>
<th>S/N</th>
<th>Faculty</th>
<th>Lecturer-student Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Art</td>
<td>1:30</td>
</tr>
<tr>
<td>2</td>
<td>Administration</td>
<td>1:30</td>
</tr>
<tr>
<td>3</td>
<td>Education</td>
<td>1:30</td>
</tr>
<tr>
<td>4</td>
<td>Science</td>
<td>1:20</td>
</tr>
<tr>
<td>5</td>
<td>Engineering</td>
<td>1:15</td>
</tr>
<tr>
<td>6</td>
<td>Medicine</td>
<td>1:10</td>
</tr>
<tr>
<td>7</td>
<td>Veterinary Medicine</td>
<td>1:10</td>
</tr>
<tr>
<td>8</td>
<td>Pharmacy</td>
<td>1:10</td>
</tr>
<tr>
<td>9</td>
<td>Management Science</td>
<td>1:30</td>
</tr>
<tr>
<td>10</td>
<td>Agricultural Science</td>
<td>1:15</td>
</tr>
<tr>
<td>11</td>
<td>Environmental Science</td>
<td>1:15</td>
</tr>
<tr>
<td>12</td>
<td>Social Science</td>
<td>1:30</td>
</tr>
<tr>
<td>13</td>
<td>Law</td>
<td>1:30</td>
</tr>
</tbody>
</table>
2. For postgraduate programmes:

- For academic workload for students will be a minimum of 12 credits for students per semester; and staff should have a maximum of 9 hours per week for lectures, tutorials, and supervision of projects.
- The teacher-student ratio for post graduate diploma in education shall be 1:20 (NUC, 2011, p. 9)

3. NUC specified one credit unit to be equivalent to:

- One hour of lecture or tutorial per week per semester.
- Two hours of seminar.
- Three hours of laboratory or field work, clinical practice/practicum.
- 6 hours of teaching practice.
- One week of industrial attachment.

NUC provides guidelines for student and academic staff workload for all Nigeria universities to adhere to. NUC determined student workload by the number of credit unit’s student carries and determined the academic staff workload by teacher-student ratio and number of hours taught by a lecturer per semester. Going by the activities in the context of open and distance learning, NOUN finds it difficult to determine academic staff workload using NUC model since the academic activities in NOUN differs from what operates in the conventional mode.

**Literature Review**

Setting of standards help to direct staff activities towards the attainment of quality delivery. A staff that is sure of fair treatment and security seems to achieve more in his/her job performance. This could be traced to the need why the workload in New Zealand University was developed based on equity, transparency, reasonableness, safety and accountability to staff (Paewai, Meyer & Houston, 2007). However, there are different practices on workload allocation. On the average, there are similarities on the methods, which seem to work on a continuum. Consideration of disciplinary context is very useful in allocating academic workload (Barrett & Barrett, 2011). Skewed allocation of types of work that is not associated with promotion leads to lack of transparency that affects increase in workload. Academic staff tend to give more attention to work that are considered for promotion. This is supported by Kenny (2016), who found that it is difficult to achieve high number of quality publications without proper academic workload management.

It is worthwhile to develop academic workload such that quality academic publications could be encouraged. Academic staff that is suffering from work overload could either end up with few quality publications or substandard publications that could lead to falling standard in education. The standard of education is likely to fall where academic publications are often focused on promotion rather than improving on the profession and the general standard in teaching and learning specific skills.

Tight (2010) survey in United Kingdom showed that an increase in academic workload is attributed to administrative demand. Academic staff are not only saddled with academic workload of teaching or preparing to teach but they also carry out administrative duties such as attending to students complain and participating in committee activities. Where the administrative works are overwhelming, the academic work suffers due to stress that may have occurred from the work overload. Kausar (2010) study showed a positive relationship between academic workload and perceived stress. Heavy workloads are identified as stressor at work as
academics feel that they cannot deliver as much as they would like to. Academics attribute their heavy workload to the quality of administrative duties they are to undertake (Darabi, Macaskill & Reidy, 2016).

The number of students taught can also increase academic workload. The study of Dobele and Rundle-Thiele (2014) showed that academics that taught fewer students had more publications and were internally promoted, as compared to their counterparts who taught larger students. It was suggested that

“academic internal promotion processes need to be carefully managed at the institutional, school and departmental levels to ensure that academics remain committed to teaching. For example, academics teaching larger course sizes and more classes should be rewarded via internal promotion processes” (p. 271).

The reaction of academics to workload could lead to scepticism, anger, vindication, justice and balance. Workload is means of balancing role expectations in an equitable and transparent manner. The problematic issue is that management use workload models as management tools to monitor and control the work place (Boyd, 2014), but Dekeyser, Watson and Bare (2016) argued for comprehensive cross institutional scrutiny of models to yield exhaustive and comparable data towards improved outcome. There is increase in workload when the focus of professional development is on technology and presentation rather than on pedagogy. This adds complexity without understanding (Haggerty, 2015). Academics are better empowered to understand and manage their workloads through the implementation of targeted professional development.

Academics need more balanced power relationships to influence key processes which control their work to preserve the self-managed aspects of academic work and the intrinsic motivations driving their career (Kenny, 2017). However, there is no link between workload and performance management at the operational level (Graham, 2016).

**Method**

Descriptive survey design was used in the study. The population for the study comprised all the 370 full-time academic staff in NOUN as at 2015. Simple random sampling technique was used to select 30% of the population, which gave 71. The researcher used 30% to have a fair representative of the population, and developed a questionnaire that was used to elicit information from the respondents. The questionnaire was pilot tested on 20 academic staff that were not part of the selected sample. The pilot test was analysed with the use of Cronbach Alpha Statistical analysis and the reliability co-efficient was 0.7. Two professors of Educational Management did the face and the content validity of the instrument. Data were collected on the academic status, teaching activities and workload. The responses for teaching activities were classified as ‘Yes’ and ‘No’ with the scale of 2=Yes and 1=No; while the workload was classified as ‘Satisfactory’, ‘Unsatisfactory’ and ‘Don’t Know’ with the scale of 3=Satisfactory, 2=Unsatisfactory and 1=Don’t Know.

The research questions were analysed with the use of percentage and weighted mean, while Analysis of Variance (ANOVA) was used to analyse the hypotheses at alpha level of 0.05.

The model was derived from the theoretical and empirical findings from the study.
Findings

Answer to Research Questions

Research Question 1: What is the work schedule of academic staff in a distance learning university?

<table>
<thead>
<tr>
<th>Work Schedule</th>
<th>Responses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching activities done</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Programme development</td>
<td>55</td>
<td>16</td>
</tr>
<tr>
<td>Course development</td>
<td>71</td>
<td>0</td>
</tr>
<tr>
<td>Course material writing</td>
<td>71</td>
<td>0</td>
</tr>
<tr>
<td>Course review</td>
<td>71</td>
<td>0</td>
</tr>
<tr>
<td>Course coordination</td>
<td>71</td>
<td>0</td>
</tr>
<tr>
<td>Online Facilitation</td>
<td>61</td>
<td>10</td>
</tr>
<tr>
<td>Project supervision</td>
<td>70</td>
<td>1</td>
</tr>
<tr>
<td>Teaching practice/SIWES</td>
<td>66</td>
<td>5</td>
</tr>
<tr>
<td>Laboratory or field work, clinical practice/practicum</td>
<td>30</td>
<td>41</td>
</tr>
<tr>
<td>Mentoring others in ODL teaching</td>
<td>21</td>
<td>50</td>
</tr>
<tr>
<td>Assessment (Tutor Marked/Computer Marked Assignments and Examination)</td>
<td>71</td>
<td>0</td>
</tr>
<tr>
<td>Monitoring of examination</td>
<td>51</td>
<td>20</td>
</tr>
<tr>
<td>Participation in Conference Marking</td>
<td>71</td>
<td>0</td>
</tr>
<tr>
<td>Weighted Mean</td>
<td>60 (85%)</td>
<td>11 (15%)</td>
</tr>
</tbody>
</table>

N = 71

The weighted mean in Table 2 of 60 (85%) and 11 (15%) shows 85% of the activities could be said to be the most common activities in the institution and 15% may not be common activities or they are the activities that affect some group of academics. For instance, not all faculties are involved in laboratory/field work/clinical/practicum. Also, mentoring may be more pronounced with senior academics like the professors. At one point or the other, these are the activities the academics agreed to be teaching activities in the institution.
Table 3: Scholarship Activities in NOUN

<table>
<thead>
<tr>
<th>Scholarship: Teaching-focused and Teaching Scholar:</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Active participation in seminars, conferences at local and professional level</td>
<td>27</td>
</tr>
<tr>
<td>Participation in training on modern technology for teaching and learning in ODL</td>
<td>55</td>
</tr>
<tr>
<td>Being innovative in ODL teaching practice and delivery</td>
<td>11</td>
</tr>
<tr>
<td>Sharing teaching ODL teaching practice through workshops, seminar, and conferences</td>
<td>7</td>
</tr>
<tr>
<td>Research-Related Work – personal research work that will increase your chance for promotion</td>
<td>71</td>
</tr>
<tr>
<td>Weighted Mean</td>
<td>34 (48%)</td>
</tr>
</tbody>
</table>

N = 71

The figures in Table 3 indicate that the listed activities are held in NOUN hence there is a ‘yes’ response to all activities though in limited number. The weighted mean of 48% for ‘yes’ and 52% for ‘No’ indicate a need for the university to adequately spread the workload. It could be said that some activities overshadow others. It is also observed from Table 3 that there is 100% agreement on personal research. This could mean that academics give more attention to personal research. It could be said that this occurs because it serves as the major consideration for their promotion.

Table 4: Service Related Work in NOUN

<table>
<thead>
<tr>
<th>Service Related Work:</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Active participation in committees at departmental, faculty and university levels</td>
<td>71</td>
</tr>
<tr>
<td>Administrative services such as Dean/HOD/Chair of a committee, desk officer (project, examination, seminar, publications etc)</td>
<td>48</td>
</tr>
<tr>
<td>Professional consultancy to other institutions</td>
<td>11</td>
</tr>
<tr>
<td>Professional contribution to the society</td>
<td>24</td>
</tr>
<tr>
<td>Contributions to external professional bodies in your field of specialization</td>
<td>10</td>
</tr>
<tr>
<td>Weighted Mean</td>
<td>33 (46%)</td>
</tr>
</tbody>
</table>

N = 71

The figures in Table 4 show a weighted mean percentage of 46% for ‘yes’ and 54% for ‘No’. This implies that not all academic staff are aware of the various academic activities in NOUN. Generally, it could be said that the responses indicate the level of awareness of the different academic activities by the academic staff.

*Open Praxis*, vol. 9 issue 3, July–September 2017, pp. 313–333
The result in Table 5 shows that 57.7% were satisfied with the academic activities. This represents average satisfaction. It was only in project supervision that a very high percentage (100%) was recorded. Online facilitation, assessment and course review recorded low satisfaction of 7%, 17% and 22.5% respectively. This could mean that the current process of online facilitation, assessment and course review require attention and improvement towards achieving desirable quality standard.
The weighted mean in Table 6 shows 25.4% satisfaction. This implies a great shortfall from the required standard. It could also mean that scholarship activities do not receive much attention in the university.
The satisfactory level for service related work is 42.3% as shown in Table 7. This indicates the need to increase the level of service related activities, especially in professional consultancy to other institutions, which recorded 2.8%, contributions to external professional bodies in field of specialization (19.7%) and professional contribution to the society (21.1%).

From the weighted means in Tables 5, 6 and 7, it could be said that there is no balance in the academic activities required from the lecturers.

Table 8: Effect of Academic Workload in NOUN

<table>
<thead>
<tr>
<th>To what extent do you agree with the following statements?</th>
<th>SA</th>
<th>A</th>
<th>UD</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inability to meet timelines reduces the job effectiveness and efficiency</td>
<td>58</td>
<td>10</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Uncontrolled workload could lead to a reduction in the quality of service delivery</td>
<td>61</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Lecturers often repeat question items because of so many activities they need to attend to a time</td>
<td>58</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Most lecturers are unable to publish because of other urgent activities they need to respond to.</td>
<td>15</td>
<td>40</td>
<td>3</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Weighted Mean</td>
<td>48 (67%)</td>
<td>15 (21%)</td>
<td>2 (3%)</td>
<td>4 (6%)</td>
<td>2 (3%)</td>
</tr>
</tbody>
</table>

N = 71
Key: SA = Strongly Agree, A = Agree, UD = Undecided, D = Disagree, SD = Strongly Disagreed.

The level of effect of academic workload on the staff reads 67% (table 8). This indicates high effect which if not controlled could affect the other activities and the quality of teaching and learning in the institution.

Testing of Research Hypotheses

Ho1: There is no significant difference among the responses of the different levels of academic staff on the academic teaching services.

Table 9: Descriptive Statistics of Respondents on Teaching Service

<table>
<thead>
<tr>
<th>Lecturer Status</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturer Status</td>
<td>71</td>
<td>3.76</td>
<td>1.388</td>
</tr>
<tr>
<td>Teaching Service</td>
<td>71</td>
<td>38.70</td>
<td>3.751</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The mean and standard deviation scores in Table 9 show large deviation of responses from the mean. This could mean that the academic staff do not have equal knowledge of the required teaching services.

Table 10: ANOVA on the Responses of Academic Staff on Academic Services

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>930.851</td>
<td>5</td>
<td>186.170</td>
<td>224.353</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>53.937</td>
<td>65</td>
<td>0.830</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>984.789</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The figure in the Sig. column in Table 10 reads .000, which is less than 0.05, therefore it is significant. This implies that there is a significant difference among the responses given by the different academic status. To find out where the difference lies, a post hoc analysis was done as presented in Table 11.

Table 11: Multiple Comparisons on Teaching Service (Scheffé’s method)

<table>
<thead>
<tr>
<th>(I) Lecturer Status</th>
<th>(J) Lecturer Status</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Professor</td>
<td>Associate Professor</td>
<td>1.25</td>
<td>0.519</td>
<td>0.339</td>
<td>-0.53</td>
</tr>
<tr>
<td></td>
<td>Senior Lecturer</td>
<td>3.938*</td>
<td>0.467</td>
<td>0.000</td>
<td>2.34</td>
</tr>
<tr>
<td></td>
<td>Lecturer 1</td>
<td>7.000*</td>
<td>0.455</td>
<td>0.000</td>
<td>5.44</td>
</tr>
<tr>
<td></td>
<td>Lecturer II</td>
<td>10.000*</td>
<td>0.475</td>
<td>0.000</td>
<td>8.37</td>
</tr>
<tr>
<td></td>
<td>Assistant Lecturer</td>
<td>11.750*</td>
<td>0.519</td>
<td>0.000</td>
<td>9.97</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>Professor</td>
<td>-1.25</td>
<td>0.519</td>
<td>0.339</td>
<td>-3.03</td>
</tr>
<tr>
<td></td>
<td>Senior Lecturer</td>
<td>2.688*</td>
<td>0.394</td>
<td>0.000</td>
<td>1.33</td>
</tr>
<tr>
<td></td>
<td>Lecturer 1</td>
<td>5.750*</td>
<td>0.381</td>
<td>0.000</td>
<td>4.44</td>
</tr>
<tr>
<td></td>
<td>Lecturer II</td>
<td>8.750*</td>
<td>0.404</td>
<td>0.000</td>
<td>7.36</td>
</tr>
<tr>
<td></td>
<td>Assistant Lecturer</td>
<td>10.500*</td>
<td>0.455</td>
<td>0.000</td>
<td>8.94</td>
</tr>
<tr>
<td>Senior Lecturer</td>
<td>Professor</td>
<td>-3.938*</td>
<td>0.467</td>
<td>0.000</td>
<td>-5.54</td>
</tr>
<tr>
<td></td>
<td>Associate Professor</td>
<td>-2.688*</td>
<td>0.394</td>
<td>0.000</td>
<td>-4.04</td>
</tr>
<tr>
<td></td>
<td>Lecturer 1</td>
<td>3.062*</td>
<td>0.306</td>
<td>0.000</td>
<td>2.01</td>
</tr>
<tr>
<td></td>
<td>Lecturer II</td>
<td>6.062*</td>
<td>0.333</td>
<td>0.000</td>
<td>4.92</td>
</tr>
<tr>
<td></td>
<td>Assistant Lecturer</td>
<td>7.812*</td>
<td>0.394</td>
<td>0.000</td>
<td>6.46</td>
</tr>
</tbody>
</table>
From the analysis presented in Table 11, the difference lies between those in the professorial cadre and in the other cadre. This could mean that the workload of the professors and the other cadre are not same. For instance, in most cases, it is those at the professorial level that are made Deans, Heads of Department, serve as chair in most university committees and mentor the younger academics.

**Ho2:** There is no significant difference among the responses of the academics on their perception on academic workload.

### Table 12: Descriptive Statistics of Respondents on Academic Workload

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturer Status</td>
<td>71</td>
<td>3.76</td>
<td>1.388</td>
</tr>
<tr>
<td>Academic Workload</td>
<td>71</td>
<td>33.93</td>
<td>4.761</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The scores of the standard deviation on the academic workload are high (table 12), which indicates difference in the responses given by the different academic status on workload.

<table>
<thead>
<tr>
<th>Table 13: ANOVA on Academic Workload</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sum of Squares</strong></td>
</tr>
<tr>
<td>Between Groups</td>
</tr>
<tr>
<td>Within Groups</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

From the data in Table 13, Sig. is less than 0.05, therefore the null hypothesis is rejected. The result shows there is a significant difference in the responses given by the academics. To know where the difference lies, post hoc analysis was conducted with the result presented in Table 14.

<table>
<thead>
<tr>
<th>(I) Lecturer Status</th>
<th>(J) Lecturer Status</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Professor</td>
<td>Associate Professor</td>
<td>0.65</td>
<td>0.675</td>
<td>0.967</td>
<td>-1.67</td>
</tr>
<tr>
<td></td>
<td>Senior Lecturer</td>
<td>6.462*</td>
<td>0.606</td>
<td>0.000</td>
<td>4.38</td>
</tr>
<tr>
<td></td>
<td>Lecturer 1</td>
<td>9.850*</td>
<td>0.592</td>
<td>0.000</td>
<td>7.82</td>
</tr>
<tr>
<td></td>
<td>Lecturer II</td>
<td>13.329*</td>
<td>0.616</td>
<td>0.000</td>
<td>11.21</td>
</tr>
<tr>
<td></td>
<td>Assistant Lecturer</td>
<td>13.650*</td>
<td>0.675</td>
<td>0.000</td>
<td>11.33</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>Professor</td>
<td>-0.65</td>
<td>0.675</td>
<td>0.967</td>
<td>-2.97</td>
</tr>
<tr>
<td></td>
<td>Senior Lecturer</td>
<td>5.812*</td>
<td>0.512</td>
<td>0.000</td>
<td>4.05</td>
</tr>
<tr>
<td></td>
<td>Lecturer 1</td>
<td>9.200*</td>
<td>0.495</td>
<td>0.000</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>Lecturer II</td>
<td>12.679*</td>
<td>0.524</td>
<td>0.000</td>
<td>10.88</td>
</tr>
<tr>
<td></td>
<td>Assistant Lecturer</td>
<td>13.000*</td>
<td>0.592</td>
<td>0.000</td>
<td>10.97</td>
</tr>
<tr>
<td>Senior Lecturer</td>
<td>Professor</td>
<td>-6.462*</td>
<td>0.606</td>
<td>0.000</td>
<td>-8.54</td>
</tr>
<tr>
<td></td>
<td>Associate Professor</td>
<td>-5.812*</td>
<td>0.512</td>
<td>0.000</td>
<td>-7.57</td>
</tr>
<tr>
<td></td>
<td>Lecturer 1</td>
<td>3.388*</td>
<td>0.397</td>
<td>0.000</td>
<td>2.03</td>
</tr>
<tr>
<td></td>
<td>Lecturer II</td>
<td>6.866*</td>
<td>0.433</td>
<td>0.000</td>
<td>5.38</td>
</tr>
<tr>
<td></td>
<td>Assistant Lecturer</td>
<td>7.188*</td>
<td>0.512</td>
<td>0.000</td>
<td>5.43</td>
</tr>
</tbody>
</table>
There is no significant difference among Professors and Associate Professors (table 14). There is no significant difference between Lecturer II and Assistant Lecturers, either. This implies that the workload of the two highest cadres is similar, as well as the workload of the two lowest cadres. The difference is between the Professorial cadre and others.

**Discussion**

From the findings, the focus of the academic activities is more on course development, course material writing, course review and course coordination. These activities expressed the peculiarity of the academic activities in open and distance learning, which conform to the description of open and distance learning as given by UNESCO (2002). The course development deals with the curriculum and the knowledge in the developed curriculum is transferred to the students through the course materials and course review. The coordination takes care of the process of guiding and monitoring the quality of teaching and learning activities. These activities are activities that must be concluded before academic semesters can commence. It could therefore be said that academic staff are aware and involved in the basic open and distance learning activities.
It was observed that not all academic staff are involved in facilitation. On the other hand, most academic staff are either not aware or not involved in mentorship, either as mentees or mentors. This calls for attention. Good mentorship enhances quality teaching and learning in open and distance learning.

Scholarship activities need improvement. The academic staff seem to give more time to course development, course writing, assessment and course editing than scholarship and community services. This may be because of the emphasis the university has on course design and development as expressed by the Federal Republic of Nigeria (2002) in NOUN blueprint.

Although the academic staff are more involved in teaching activities (course design, course writing and coordination), most of them expressed dissatisfaction on the level of teaching activities in the institution. This was mostly attributed to too much administrative workload, which has adverse effect on the quality of teaching and learning in open distance learning. This supports Tight (2010), who found that increase in academic workload is attributed to administrative demand.

The findings reveal the need to address the management of academic workload. NUC (2007) stipulated the criteria for determining academic workload which include teaching, research and community services. There is the need to further determine the percentage that each of the components should have. In this study with consideration to the positive responses, 45.5% representing teaching activities, 25.8% scholarship and research activities and 28.8% community services. This supports the study of Kenny (2016), who found that it is difficult for academic staff to achieve high number of quality publications without proper academic workload management. Publication is the major criteria used for academic promotion. The 25.8% for scholarship and research activities is an indication that the staff do not have much time for research. To determine the acceptable percentage will require the level of contribution of each criterion—teaching, research and community service—to the overall goal. For instance, quality research is desirable to produce quality course material for the distance learners. The findings reveal that most academics are more interested in personal research that serves as a major determinant for their promotion with very little attention to scholarly work that would enhance their job performance and general contribution to the university. This corroborates the findings of Barrett and Barrett (2011) that the skewed allocation of types of work not strongly associated with promotion leads to lack of transparency that affect increase in workload. Attention is given more to what will help them earn promotion. This might also be one of the factors why mentorship and other community services receive less attention.

Based on the findings there is a need to have a workable workload model for the university. On this note, a model is therefore presented which could be adopted or adapted by NOUN and other open and distance learning institutions.

**Justification for a Workload Model in NOUN**

The summary of the findings in the study as presented below, justifies the need for a working model.

1. Academic staff is either not aware or not involved in some teaching activities.
2. Only about 48% of the academic staff actively takes part in scholarship teaching/activities.
3. Only about 46% academics actively take part in service related activities.
4. About 48% academics show level of satisfaction of teaching activities.
5. Too much workload reduces the quality of the academics’ job performance.
6. A difference exists in the workload of academic staff in the professorial level and others.
7. There is similarity in the workload of lecturer II and assistant lecturer.
**Recommended Model**

Based on the findings the following model is recommended.

**Step 1:** Study the institutional vision and mission.

**Step 2:** Study existing benchmark on workload as recommended by the national accrediting body. Relate the benchmark with the institutional vision and mission.

**Step 3:** State all activities to be carried out by academic staff in line with the benchmark and institutional demand.

**Step 4:** In line with step 1 and step 2, arrange the activities into major categories and assigned expected percentages of achievement to the Categories.

**Step 5:** List the activities in each category.

**Step 6:** Calculate the total number of official working hours per week, per semester and per academic year.

**Step 7:** Calculate the total number of hours for all annual leave including other official holidays such as public holidays declared by government.

**Step 8:** Calculate the total number of hours for breaks during working hours per week, per semester and per academic year.

**Step 9:** Add up step 7 and step 8 as per week, semester and academic year.

**Step 10:** Subtract step 9 from step 6 to get the actual working hours.

**Step 11:** Divide the hours in step 10 (the answer after subtraction) into categories in step 4 using the assigned percentages.

**Step 12:** Divide the hours in each category in step 11 with the number of activities in each category. This will help determine the minimum number of workload for each activity. It will also help to watch out for over concentration on certain activities to the detriment of others.

**Note:**

1. The percentage assigned to the category could be reversed depends on institutional judgement. For instance, a Dean or HOD will need more attention for university community service than teaching. In this instance, the community service will have higher percentage. Community service could either be within the institution or outside the institution.

2. There is flexibility in the hours assigned. What should be considered is the number of official working hours on which the staff earn salary. For instance, the official working hours in Nigeria mostly in the public sector is 8 hours per day per five working days. This is what the government pay for. There could be flexibility on how these hours are spread in a day. Any other assigned official activity outside the stipulated hours that does not earn extra money is regarded as excess workload.

3. Activities on which staff are paid extra amount of money should not be considered among the workload within the working hours. For example, in NOUN staff is paid for project supervision.

4. The amount of extra work given should be considered so as not to affect the workload within the working hours.

**Application of the model in NOUN Context**

**Step 1:** Study the institutional vision and mission.

**Vision:**

*To be regarded as the foremost university providing highly accessible and enhanced quality education anchored by social justice, equity, equality and national cohesion through a comprehensive reach that transcends all barriers*
Mission:

To provide functional cost effective flexible learning which add life-long value to quality education for all who seek knowledge.

Step 2: Study existing benchmark on workload as recommended by the national accrediting body. Relate the benchmark with the institutional vision and mission.

From the benchmark, the activities of the academics cover teaching, research and community service. Teaching=40%, research=40% and 20% for community service.

8 working hours per working day

Step 3: State all activities to be carried out by academic staff inline with the benchmark and institutional demand.

At the institutional level, key things to consider include social justice, equity, equality, national cohesion, flexible learning and quality education.

The activities are as shown in Tables 1, 2 and 3 in this document.

Step 4: In line with step1 and step 2, arrange the activities into major categories and assigned expected percentages of achievement to the Categories.

See the defined categories in Tables 1, 2, and 3.

Step 5: State the number of activities in each category.

- Teaching Activities = 13
- Scholarship and Research related work = 5
- Service Related work = 5

Step 6: Calculate the total number of official working hours per week, per semester and per academic year. (Note, only the days within the time frame of the semester are considered).

The 2016 academic calendar was used.
Academic year resume on 11th January 2016
Academic year ends 20th December 2016
Working hours per day = 8 hours
Number of working days in the academic year = 248 days
Official working hours in the academic year = 248 days x 8 hrs = 1984

Step 7: Calculate the total number of hours for all annual leave including other official holidays such as public holidays declared by government.

Annual leave = 30 days x 8 hrs = 240 hrs
Public holidays = 12 days x 8 hrs = 96 hrs

Step 8: Calculate the total number of hours for breaks during working hours per week, per semester and per academic year.

One hour of break per working day
Break hours in the academic year = 248 days x 1hr = 248 hours
Step 9: Add up step 7 and step 8 as per week, semester and academic year.

240 + 96 + 248 = 584 hrs

Step 10: Subtract step 9 from step 6 to get the actual working hours

Actual working hours: Step 6 (1984) - Step 9 (584) = 1400

Step 11: Divide the hours in step 10 (the answer after subtraction) into categories in step 4 using the assigned percentages.

- **Teaching Activities** = 40%
  
  \[
  \frac{40}{100} \times \frac{1400}{1} = 560 \text{ hours}
  \]

- **Scholarship and Research related work** = 40%
  
  \[
  \frac{40}{100} \times \frac{1400}{1} = 560 \text{ hours}
  \]

- **Service Related work** = 20%
  
  \[
  \frac{20}{100} \times \frac{1400}{1} = 280 \text{ hours}
  \]

Step 12: Divide the hours in each category in step 11 with the number of activities in each category. This will help determine the minimum number of workload for each activity. It will also help to watch out for over concentration on certain activities to the detriment of others. (Note, the institution is to determine the weight of the activities and apply as determine. In this model, the weight on the activities in each category is same).

- **Teaching Activities** = 13 activities
  
  \[
  \frac{560}{13} = 43 \text{ hours per activity per academic year}
  \]

- **Scholarship and Research related work** = 5 activities
  
  \[
  \frac{560}{5} = 112 \text{ hours per activity per academic year}
  \]

- **Service Related work** = 5 activities
  
  \[
  \frac{280}{5} = 56 \text{ hours per activity per academic year}
  \]

**Note:**

1. *The number of activities should be determined by the university/faculty*
2. *This model can be used at departmental level to share workload equitably.*
Recommendations

1. Each of the academic activities should be used for promotion. This will enhance the academic effectiveness in each of the activities identified.
2. The university need to come up with a model to guide the workload of staff.
3. The findings revealed high concentration on personal research to the detriment of other scholarly activities. To balance the activities, all activities should have points for promotion.
4. There should be adequate documentation and policies of academic workload and all academic staff should be aware of this to guide their performance in the various activities.
5. For quality in learning and teaching, the staff workload should be re-considered.

Conclusion

Quantitative determination of academic workload will enhance quality education. Through quantitative determination of academic workload all proposed activities that would lead to quality learning and teaching will be well covered.

A workable workload model in an institution makes self-assessment and evaluation of activities easy by being able to identify the areas of needs and to review the required resources that would help in meeting the identified needs. By application, there should be breakdown of the academic activities in each of the categories (teaching, scholarship and community service) with the stipulation of man-hour and other resources that would be required to successfully carry out each activity. There should be a balance in the involvement of academic staff in teaching activities, scholarship teaching/ activities, service related activities and research for the achievement of quality education. When this is adequately done, it will help to determine salaries and wages.

References


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Developing Self-Efficacy through a Massive Open Online Course on Study Skills

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Abstract
Self-efficacy is a strong predictor of academic performance, and an area of interest for higher education institutions. This paper reports on a massive open online course (MOOC) on study skills, aimed at increasing self-efficacy. Participants (n=32) were from Mexico and Colombia, with ages ranging from 21 to 45 years. At the beginning and the end of the MOOC, learners answered a survey that included the General Self-Efficacy Scale, items on specific study skills, and space for optional comments. Findings show statistically significant increases in general self-efficacy after completing the MOOC, as well as in the perceived self-efficacy related to five out of six study skills. Comments suggest that participants are aware of and value their own improvement. For students, MOOCs can represent low-risk, formative opportunities to widen their knowledge and increase their self-efficacy. For academic institutions, well-designed MOOCs on study skills provide a means to support students.

Keywords: Self-efficacy; study skills; massive open online courses; MOOCs; online learning

Introduction
Self-efficacy refers to people’s beliefs about their capabilities to produce expected outcomes (Bandura, 1994). It is a strong predictor of academic performance and learning (Aurah, 2013; Bartimote-Aufflick, Bridgeman, Walker, Sharma & Smith, 2015). It has also been positively correlated to student retention (Devonport & Lane, 2006; Street, 2010). Beliefs on self-efficacy influence how people feel, think, behave and motivate themselves (Bandura, 1994). Students with a high level of self-efficacy are confident in their own skills for success, self-motivate, regulate their learning, require minimal guidance, persist in the face of difficulties and tend to have high goal achievement. On the other hand, students with a low level of self-efficacy are insecure about their ability for success, report believing that intelligence is unchangeable, are vulnerable to procrastination and tend to have deficient academic results (Bandura, 2002; Komarraju & Nadler, 2013; Wäschle, Allgaier, Lachner, Fink & Nückles, 2014).

Self-efficacy tends to be domain-specific, and therefore, is best assessed in relation to specific skills (Wang & Baker, 2015). Self-efficacy in study-related skills can predict academic performance and pleasant learning-related emotions (e.g., Putwain, Sander & Larkin, 2013). It is an important aspect to consider in helping learners to reduce procrastination, be successful in their studies and persevere in the face of academic challenges. In line with this, recommendations to consider self-efficacy and ways to increase it have followed (Street, 2010; Wäschle et al., 2014; Wernersbach, Crowley, Bates & Rosenthal, 2014). In their review of 64 articles, Bartimote-Aufflick et al. (2015) identified strategies to promote students’ self-efficacy, such as facilitating opportunities to work with peers, helping learners...
identify their own misconceptions, capitalising on the affordances of technology, including multimedia, providing additional resources and activities for challenging concepts, and encouraging students to share their own personal experiences. These strategies match course design recommendations (eg, McGee & Reis, 2012) and what is generally considered ‘good’ teaching. It thus seems that well-designed and adequately-facilitated learning interventions have a role in enhancing self-efficacy.

Educators have long sought ways to conceptualise learning in an attempt to help students thrive in a constantly evolving society. Heutagogy suggests that learners are autonomous and self-determined. It emphasises the development of competencies (the ability to acquire knowledge and skills) and capabilities (confidence in one’s own competencies). A capable, self-determined individual will exhibit self-efficacy (see Blaschke, 2012).

Higher education institutions have designed and implemented different ways to support students in the development of their self-efficacy. A study with university participants measured their level of self-efficacy before and after an optional 14-week workshop on learning strategies and study techniques. Students (n=23) showed a minor but significant increase in their self-efficacy, while a control group (n=24) showed no improvement (Gargallo, Campos & Almerich, 2016). A report on college students taking a 7-week study skills course (n=126) and students enrolled in a general education course (n=111) showed similar results. The first group had a lower initial level of self-efficacy. They showed significantly greater improvements than comparison students, reaching equivalent levels or surpassing them at post-test. Focusing on self-efficacy in study skills courses appears to foster academic success (Wernersbach et al., 2014). This implies going beyond the content to address learners’ confidence in their own skills. For example, students’ beliefs that they can achieve their goals might be more important for their success than their knowledge of different note-taking techniques or reliable academic databases.

Universities have recently turned to massive open online courses (MOOCs) as a space to study learners’ self-efficacy (eg, Hood, Littlejohn & Milligan, 2015; Verzat, Jore, Toutain & Silberzahn, 2015). MOOCs are considered massive not necessarily because they have a large number of participants but because their technological infrastructure could support them (Stewart, 2013). They are online because they are delivered via the Internet. They are open because any person in the world with Internet access can participate free of charge, without having to meet any pre-requisites of knowledge or demographics (Anderson, 2013). They are courses because they represent coherent academic interventions with a defined set of learning outcomes (Youell, 2011), and usually have start and end dates. MOOCs have been widely used to test different approaches to learning and teaching (Sharples et al., 2014). They can benefit people with different demographic profiles (eg, location, gender, educational level and employment status) and motivations (Bayeck, 2016; Padilla Rodriguez, Estrada Rocha & Rodriguez Nieto, 2017). They seem to have the potential to enhance learner self-efficacy through a well-designed (though often ignored) use of videos, quizzes and discussion forums (Hodges, 2016). MOOCs can be studied on their own, or as part of a blended learning strategy, in which some MOOC resources are reused in or outside the classroom (Bruff, Fisher, McEwen & Smith, 2013).

In challenging educational contexts, MOOCs may represent a much-needed support option with the potential of delivery at a massive scale. For example, in Mexico, approximately 50% of university students drop out before graduation (OECD, 2010). Causes include struggling with the content (Dominguez Perez, Sandoval Caraveo, Cruz Cruz & Pulido Tellez, 2013) and deficient study skills (Torres Balcazar, Osuna Lever & Sida Vargas, 2011). Recommendations for the improvement of education through the use of technology (ANUIES, 2000) are still waiting to be fully implemented. The Mexican government has recognised the value of MOOCs as facilitators of access to learning materials (México Digital, 2015). Mexican higher education institutions are starting to explore this
Developing Self-Efficacy through a Massive Open Online Course on Study Skills

Type of intervention as a way to support struggling students. This paper reports on the first pilot of a Study Skills MOOC that was delivered jointly between the Autonomous University of Nuevo Leon (Mexico) and the University of Northampton (United Kingdom). The objective of the study was to assess participants’ self-efficacy before and after taking the MOOC, and thus to evaluate the suitability of the MOOC as a means of enhancing learners’ self-efficacy.

Study Skills MOOC

The Study Skills MOOC found its inspiration on the Study Skills for Academic Success (SSAS) MOOC, developed by the University of Northampton. The SSAS free online course was designed for everyone, but it focused on first-year university students. Specifically, it aimed to help participants transition to higher education, improve their study skills, develop their academic confidence, gain a greater understanding of what is expected of them as they study for a degree, develop their metacognition, and achieve better grades in their assignments.

While maintaining the spirit of the SSAS MOOC, the Study Skills MOOC was adapted to better suit the needs of a Latin American audience. It was delivered in Spanish on the Blackboard Open Education platform. Course topics were based on key academic challenges reported by first-year students at the Autonomous University of Nuevo Leon. These difficulties included the following study skills:

1. Managing time efficiently
2. Taking effective notes
3. Searching for reliable information
4. Understanding academic texts
5. Using APA format
6. Writing academically

The Study Skills MOOC, which was discipline-neutral and non-credit bearing, provided a structured space where students could practice and develop their academic skills over a period of six weeks. Each week participants viewed a lesson with several units. Each lesson matched one study skill and had explicit learning outcomes. Each unit included multimedia materials and a formative activity. Activities mostly relied on student engagement in discussion forums and followed the e-tivity framework (Salmon, 2002), which promotes active and participative online learning. These activities included the following key elements:

- ‘Spark’ – a resource, such as an image or a video, aimed at generating interest in the topic of the activity
- Learning objective – contributing to the achievement of the lesson’s overall learning outcome
- Task – with specific and clear instructions of what was expected from the learners
- Response – requiring participants to reflect and comment on others’ contributions

Some activities were based on multiple-choice questions with automated feedback. The final unit of each lesson included an overarching assignment that encouraged learners to practice that week’s study skill.

The design of the MOOC incorporated strategies aimed at fostering participants’ self-efficacy. Students were encouraged to reflect on their own experiences, identify their own mistakes, share their stories and define action plans for improvement. Additional (optional) content and exercises were included for participants who wished to explore specific topics in more depth (see Bartimote-Aufflick et al., 2015; Hodges, 2016; McGee & Reis, 2012). The complete storyboard of the Study
Skills MOOC, outlining the structure of the course and including links to materials and activities (in Spanish), is available at http://tinyurl.com/hemooc-guion.

Two staff facilitators and three student moderators provided support throughout the MOOC. Participants received weekly follow-up emails with summaries of discussions and tips on how to optimise their learning experience. A Twitter hashtag (#hemooc) enabled interactions beyond the boundaries of the MOOC platform. Facilitators tweeted regularly during the delivery of the MOOC. The recommended study time was three hours per week. Non-credit bearing certificates of participation were available for learners who completed each overarching assignment.

Methodology

Participants

The first pilot of the Study Skills MOOC was advertised on social media (Facebook & Twitter) and through word of mouth. Only 125 of the 323 people who signed up for the MOOC effectively started the course posting at least one message on the discussion forums. The sample of this study comprises 32 participants (14 female and 18 male), which is the total number of learners who completed the initial and final surveys. While this number might seem small, it represents 25.6% of the 125 MOOC participants who started the course. This is above the current MOOC completion average of 15% (Jordan, 2015).

Participants’ ages ranged from 21 to 45 years, with an average of 26.4. Eight were from Colombia, and 24, from Mexico. Most participants (n=23) were full-time undergraduate students; seven were full-time employees; one had a part-time job, and one was retired. Twenty-two had previous experience with online courses. Ten had previously studied online for academic credits. Nine had studied online as part of their job’s continuous professional development.

Instruments

An online survey assessed participants’ self-efficacy at the beginning and the end of the Study Skills MOOC. It included the Spanish version of the General Self-Efficacy Scale (Baessler & Schwarzer, 1996), which focuses on the global sense of a person’s confidence in their own ability to face a range of new or stressful situations. This instrument has been widely tested in Spanish-speaking countries, such as Mexico and Spain (Padilla, Acosta, Gomez, Guevara & González, 2006). It is considered a reliable and valid measure of the perception of self-efficacy. It has a Cronbach alpha of around 0.86. It consists of 10 items, with answer options corresponding to a four-point Likert scale.

Six additional items addressed self-efficacy related to the specific study skills the MOOC covered. Using a five-point Likert scale, participants were asked to rate their confidence in their own study skills: managing their time efficiently, taking effective notes, searching for reliable information, understanding academic texts, using APA format and writing academically. Space for optional comments was also available.

Procedure

Before the start of the MOOC, registered participants received an email with information about the research. This message was permanently available in the announcements section of the course. At the beginning of every survey, a brief explanation reminded participants of the purpose of the study, assured them that their answers would be anonymous and referred them to the researchers for questions and comments.
During the first and final lessons of the MOOC, participants were invited to answer the survey. The mean of the answers to the General Self-Efficacy Scale was calculated, as well as the means of the six items that addressed specific study skills. The nonparametric Wilcoxon signed-rank test (Shier, 2004) was conducted to check the significance of self-efficacy differences before and after the MOOC. Comments were analysed for salient themes and common patterns. Participants were assigned a generic ID (eg, P1, P2).

Results & Discussion

This pilot of the Study Skills MOOC yielded encouraging results. Participants reported increases in their self-efficacy. The General Self-Efficacy Scale showed an initial mean of 3.48 out of 4 (s.d. = 0.30) and a final one of 3.7 (s.d. = 0.38). While the difference is minimal, a Wilcoxon signed-rank test confirmed that it is statistically significant (z = -2.82, p=0.005). This finding is in line with previous studies (eg, Gargallo et al., 2016; Wernersbach et al., 2014), and suggests that MOOC participants improved their confidence in their own skills for success, self-motivation, learning regulation, endurance and goal achievement (Komarraju & Nadler, 2013; Wäschle et al., 2014). For comparison purposes, we calculated the mean of the initial general self-efficacy of MOOC participants who only answered the first survey (n=81). It was the similar to the one of completers, x̅ = 3.51, s.d. = 0.49.

The means of self-efficacy related to specific study skills (maximum value = 5) provided further information addressing the need to assess at task level (Wang & Baker, 2015). The differences between participants’ mean self-efficacy before and after the MOOC ranged from 0.46 to 0.87 points. They were all statistically significant, except self-efficacy related to searching for information (see Table 1).

<table>
<thead>
<tr>
<th>Self-Efficacy in Relation to...</th>
<th>Before the MOOC</th>
<th>After the MOOC</th>
<th>Wilcoxon Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organising time</td>
<td>x̅ = 3.38,</td>
<td>x̅ = 4.00,</td>
<td>Z = -2.40,</td>
</tr>
<tr>
<td></td>
<td>s.d. = 1.10</td>
<td>s.d. = 0.67</td>
<td>p = 0.016</td>
</tr>
<tr>
<td>Writing notes</td>
<td>x̅ = 3.41,</td>
<td>x̅ = 4.13,</td>
<td>Z = -2.73,</td>
</tr>
<tr>
<td></td>
<td>s.d. = 1.04</td>
<td>s.d. = 0.71</td>
<td>p = 0.006</td>
</tr>
<tr>
<td>Searching for information</td>
<td>x̅ = 3.88,</td>
<td>x̅ = 4.34,</td>
<td>Z = -1.86,</td>
</tr>
<tr>
<td></td>
<td>s.d. = 0.94</td>
<td>s.d. = 0.65</td>
<td>p = 0.059</td>
</tr>
<tr>
<td>Understanding academic texts</td>
<td>x̅ = 3.28,</td>
<td>x̅ = 3.94,</td>
<td>Z = -2.74,</td>
</tr>
<tr>
<td></td>
<td>s.d. = 0.92</td>
<td>s.d. = 0.80</td>
<td>p = 0.006</td>
</tr>
<tr>
<td>Using APA format</td>
<td>x̅ = 2.91,</td>
<td>x̅ = 3.78,</td>
<td>Z = -2.85,</td>
</tr>
<tr>
<td></td>
<td>s.d. = 1.00</td>
<td>s.d. = 0.83</td>
<td>p = 0.004</td>
</tr>
<tr>
<td>Writing academic texts</td>
<td>x̅ = 3.34,</td>
<td>x̅ = 4.06,</td>
<td>Z = -2.71,</td>
</tr>
<tr>
<td></td>
<td>s.d. = 0.75</td>
<td>s.d. = 0.80</td>
<td>p = 0.007</td>
</tr>
</tbody>
</table>

By the end of the MOOC, participants felt more confident in their own study skills, particularly in their use of the APA referencing format. These results show the potential for a MOOC on study skills to support university students in developing domain-specific self-efficacy, as suggested by Bartimote-Aufflick et al. (2015) and Hodges (2016).
Some participants provided optional comments in the open section at the end of the surveys, 18 in the initial application and 14 in the final one. Salient themes were identified. At the beginning of the MOOC, students focused on difficulties faced, for example:

- I don't trust my skills to use some study strategies. [P2]
- Whenever I deal with a topic, I need to read it -more or less- two times to understand it. [P27]

Respondents also described the strategies they used to address their challenges:

- Mental maps help me study. [P30]
- Sometimes I listen to classical music, as it helps me concentrate… [P9]

At the end of the MOOC, 12 out of the 14 comments focused on learning, either in general:

- This course was very useful for me; I learned a lot. [P1]
- I think my existing skills have been perfected. [P6]

Or specifically:

- Thanks to this course I have improved in several aspects, such as organising my time and using an adequate space for academic activities. I am also now able to use effective notes to understand texts more efficiently. Many questions I had on how to use citations and references were answered in this course…. [P18]
- I have learned about the search engine Google Scholar. [P32]

A change in the narratives is clear: The focus shifted from challenges to learning and acquired skills, suggesting participants’ awareness of their own improvement. As self-efficacy is a strong predictor of academic performance, its increase will likely translate into better academic results (Aurah, 2013; Bartimote-Aufflick et al., 2015; Komarraju & Nadler, 2013; Putwain et al., 2013; Wäschle et al., 2014), which could in turn enhance retention and progression.

Well-designed and facilitated MOOCs on study skills could represent an interesting opportunity in challenging educational contexts, such as Mexico, as they can offer not only delivery at scale but also a way to tackle common causes of attrition in universities (eg, Torres Balcazar et al., 2011) and promote student retention (Davenport & Lane, 2006; Street, 2010). Additionally, they address recommendations for the incorporation of technology in education (ANUIES, 2000; México Digital, 2015). They can be used on their own, embedded within a different programme of study or as part of a blended learning strategy (Bruff et al., 2013), offering a broad range of support possibilities for academic institutions. As was the case in this study, MOOCs can benefit different audiences, such as undergraduate students and full-time employees (Bayeck, 2016; Padilla Rodriguez et al., 2017).

**Conclusions**

Interventions to foster self-efficacy constitute an area of interest for higher education institutions. This paper adds to the literature by focusing on how students’ beliefs about their capabilities to produce expected outcomes can increase through a massive open online course on study skills. We highlight the potential of MOOCs as a means of increasing self-efficacy at scale, both in terms of general self-efficacy and in relation to specific study skills. For learners, MOOCs can represent a low-cost, low-risk, formative opportunity to widen their knowledge and improve their confidence in
their own abilities. MOOCs are a means through which colleges and universities can reach a global audience with a potentially high value learning opportunity.

The strong link between academic achievement and self-efficacy suggests that MOOCs, such as the one we report on in this article, can be a valuable resource to address attrition, enhance retention and improve students’ study skills. The associated benefits of well-designed MOOCs that foster self-efficacy are yet to be thoroughly assessed. Future research should focus on the impact of increased self-efficacy on different target audiences operating in different contexts. While the Study Skills MOOC was created originally with a traditional student population in mind, non-traditional learners, such as full-time employees and retired individuals, also joined. What are the benefits for the different audiences? In addition, we encourage other researchers to explore different ways in which the Study Skills MOOC or parts of it can be incorporated into the higher education curriculum.

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Developing Self-Efficacy through a Massive Open Online Course on Study Skills


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Open Access Research Via Collaborative Educational Blogging: A Case Study from Library & Information Science

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Abstract
This article charts the development of activities for online graduate students in library and information science. Project goals include helping students develop competencies in understanding open access publishing, synthesizing research in the field, and engaging in scholarly communication via collaborative educational blogging. Using a design experiment approach as a research strategy, focus is placed on the design of the collaborative blogging activity, open access research as a knowledge domain, and analyses of four iterations of the project. Findings from this iterative learning design suggest several benefits of implementing collaborative educational blogging activities in distance contexts.

Keywords: blogging; distance learning; higher education; open access; social media

Introduction
Graduate education in library and information science (LIS) has enjoyed early adoption of new information and communication technologies (ICTs) as a means and context for helping graduate students develop new competencies in the areas of scholarly communication, career development, and intellectual exchange. New ICTs are also, to a great extent, the objects of learning in and of themselves. With this in mind, graduate education in LIS works on many levels and students are called to learn about tools and technologies of information across many contexts, dimensions of use, and purposes.

This article charts the development of online activities for students to help them develop competencies in the areas of understanding open access research and scholarly communication via collaborative educational blogging. Although the curricular content area described originates in library and information science, the online activities reported on here are relevant to a wide variety of instructors –particularly those working with graduate students at a distance. As an article describing innovative practice in distance and e-learning, the concrete experiences described here address several challenges in online, higher education classrooms including the design of activities that:

1) Support peer to peer interaction and combat student isolation.
2) Create opportunities for distance students to develop competencies via active learning in the areas of open access publishing and scholarly exchange via blogging.
3) Enable lifelong learning beyond programs of study.
4) Connect course learning outcomes to program level learning outcomes and culminating experiences.
Open Access Research as Curricular Content Area in Library & Information Science

Open access research is defined as research and publication that is freely available and in the public sphere. There are two main models for Open Access (OA) publishing. One model exists within the for-profit publishing world whereby publishers make articles open access when authors pay them to do so or allow for author self-archiving of their articles in some manner. This way of organizing open access research is referred to as green OA. In this situation, the journals in which the open-access articles appear are essentially licensed material but someone has paid to make the article freely available. In contrast, there exist gold OA journals where all of the articles are freely available and no one is remunerated for publishing the articles.

The open-access movement poses challenges as well as opportunities for new library and information science professionals. For example, students that have an understanding of the open-access industry can more effectively navigate research practices with their future patrons and users in public, academic, and special libraries in addition to any other diverse information context they may find themselves working in. When information professionals know how to connect learners with research in the public domain, they are able to challenge structures that disadvantage users without access to traditionally licensed sources of reliable information.

It’s also been noted in several studies that articles published in Open Access journals are more heavily cited than those published by more traditional routes (Atchison & Bull, 2015; Hajjem, Harnad & Gingras, 2006; Harnad & Brody, 2004; Kurtz et al., 2005). Students can support their future programs of research by reading audiences widely and globally by strategic use of open access publishing practices. With this in mind, one goal of the learning design described here was to highlight gold OA via blogging to perpetuate not-for-profit publishing, promote its proliferation, and increase its rigor by making venues more visible and accessible to peer reviewers and scholars alike.

How are blogs used in library & information science?

Sarathi Mandal (2011) defines the word blog as “an online diary where one can post information (not only text but also audio, photographs, and videos) on a regular basis”. Sarathi Mandal outlines five different types of blogs including media blogs, device blogs, subject blogs, legal status blogs, and searching blogs. Katie Greenland (2013) published a significant literature review of blogging practices in the field of library and information science. She answers questions about the challenges librarian bloggers face as part of their writing activities. Her findings suggest that librarian bloggers experience issues with anonymity privacy ethics identity and presentation of self and the blurring of personal, public, private, and professional lives. Wilson and Yowell (2008) describe the use of blogging as a means of communicating disaster planning information for a Health Sciences Library. They see the Strength of blogs and the blog and format as a means of controlling the information flow related to disaster planning in their community. They argue that the strength of the blogging technology include a means of including text, links, searchability, and the ability to infuse post with images or photography.

Coulter and Draper (2006) explore the use of blogs as a means of communicating with graduate students in ways beyond formalized information literacy (IL) instruction. The authors include a literature review charting the use of blogs in education as well as in libraries serving other purposes. The research methodology included the creation of blogs tied to graduate information literacy courses, arguing in 2006 that blogs would become part of the future in library and information science. In the ten years since the Coulter and Draper article, blogging in about libraries and by information professionals remains a highly relevant practice. For this reason alone, it behooves
library and information science educators to train new librarians to communicate via new information and communication technologies and social media.

“...we believe that, with increased marketing and collaboration with teaching faculty (translating into increased motivational power), librarians can emulate their teaching colleagues’ success with educational blogs” (Coulter & Draper, 2006, p. 110)

**What is educational blogging?**

Blogs have been used across many educational contexts in several different ways with myriad goals. For example, Zinger and Sinclair (2013) identify several benefits of blogging in college-level courses including cross-curricular engagement, tools for publishing, writing practice, professional networking, collaborative activity, and promotive of student engagement and communication (p. 350). Crane (2007) describes how web 2.0 technologies are used in the classroom. She focuses on blogging in the subject area of language arts and outlines the main components of blogs as a writing genre for students. Importantly, Crane outlines several rationales for the use of blogs in the classroom which can be extended to higher education contexts in addition to the K-12 environment she describes. For example, she mentions the creation of community, peer interaction, contexts for peer and instructor feedback, support for more reserved students, encouragement for reading practices in general, and a generalized support for research activity that might extend beyond educational assignments. This article conveniently provides tips and suggestions for getting started on blogging projects for educational contexts.

Cobus (2009) explores issues of informal medical information communicated via blogs in a graduate course in public health. The researchers introduced a blogging assignment into a graduate course in which students were asked to search for medical information, reflect on it, and comment on blog postings offered by peers. By structuring the assignment in this way, students learned to filter and find credible sources of information and learned to evaluate informal as well as formal medical information. Importantly the blog assignment met goals related to helping students learn about social media as well as new information and communication technologies but combined this with curricular goals in the domain of the course.

“To create successful 2.0, assignments, the technology should be an enabler rather than the dominator” (Cobus, 2009, p. 29).

Another study (Bishop et al., 2014) implemented a blogging activity for graduate students and evaluated the students’ reactions to the blogging activity. These authors felt that the blogging added competencies beyond traditional graduate education with the acknowledgement that not all students will pursue careers in academic research. The authors also surveyed students to see the percent that were interested in pursuing their own individually-authored blogs (around 50% were interested in this). Recognition of the importance of competencies relating to networking and writing for dissemination and their relationship to goals for formal publication (via academic journals) were a strong part of the motivation to introduce a blogging activity.

Other work (Alqudsi-Ghabra & Al-Bahrani, 2012) compares activities that involve voluntary vs involuntary blogging on the part of library and information science graduate students studying in Kuwait. The authors refer to the involuntary blogs as course centered and the voluntary blogs as student-centered. The authors findings extend previous work by concluding that (among many dimensions of learning) the blogging activities contributed to critical thinking, provided opportunities...
for networking, allowed students to engage in public affairs, and supported students in developing competencies in new information and communication technologies.

Working in the field of library and information science education, Stephens (2016) created a blogging community for graduate students working in an online environment. This study is highly relevant in terms of gaining student perspectives on participation in an online blogging community and what this means for their programs of study. Via this survey study, Stephens’ findings suggest that “students have positive perceptions of the effectiveness and usefulness of student blogging communities” (p. 306).

**Collaborative educational blogging**

While individually-authored blogs have been investigated for their ability to facilitate collaboration among online groups (Stephens & Roberts, 2017), collaborative blogging activities are less studied. Along slightly different lines to previous work charting educational blogging, Xie, Ke and Sharma’s (2010) research studied peer interaction during team blogging activities. These authors found that collaborative educational blogging brings new dimensions to learning by facilitating reflective and higher order thinking (p. 461). They report in an earlier article that peer blogs and related comments provide “diverse perspectives and information so that they could gain a holistic indent view of the content” (p. 461). Researchers found that the questioning blog postings (as opposed to “monologuing” posts) resulted in conversations that achieved greater cognitive depth and breadth. These findings suggest that the aspect of questioning discourse seems important to team blogging designed to support learning in particular.

More recently, Kuo, Belland and Kuo (2017) designed a collaborative blogging activity for non-traditional, African American students enrolled in two instructional design courses. This survey study quantitatively studies relationships between blogging self-efficacy, sense of community, perceived collaborative learning, and perceived learning. Kuo et al. (2017) note the “the importance of collaborative learning and sense of community on perceived learning in blog-enhanced settings” (p. 47). Their findings also confirm the preference for community-based, collaborative learning on the part of African American, non-traditional students. Along these lines, they argue that blogging activities are particularly well-suited to providing the organizing structures for community learning with some suggestions for activity design.

**Research Strategy**

The collaborative educational blogging project described here follows earlier efforts described above by asking questions about the feasibility of implementing team blogging and the sustainability of collaborative blogs. Questions about how collaborative blogging can meet diverse pedagogical and curricular goals also inspired this design. Another motivating factor for creating team-based learning activities was to minimize the creation and abandonment of student blogs. “Zombie blogs,” created by students not interested in engaging in blog-authoring long-term, are one example of the lack of utility associated with personal blogs that enjoy activity for short periods of time. Along similar lines, there is a lack of professional usefulness associated with blog management systems where students do in fact author blogs but the availability (of blogs) beyond course assignments is either less visible, not easily shared publicly, or restricted altogether.

**Research questions**

With these challenges in mind, we pose two core research questions. The first is as follows:
Is it feasible to create a sustainable blog for LIS graduate students where student work can remain accessible over long periods of time?

In addition to issues of sustainability and responsiveness to transience of student participation in blogging, our goals included exposing LIS graduate students to a particular knowledge domain: open access journals, articles, and the processes of searching the open access literature. With this in mind, we sought to explore:

Can a collaborative team-authored blog meet curricular goals for LIS education? If so, what tools, structures, and organization of activity might we implement?

**A design experiment approach**

Considering the recent strengthening of the open access publishing model and growth of educational blogging, we wanted to see if these content and practice areas could be combined in an online instructional approach. To achieve this, we adopted a research strategy informed by Ann Brown’s design experiment approach. Initially introduced by Ann Brown (1992), design experiments involve the development, implementation, and evaluation of instructional activities while contextualizing interventions within localized sets of practices and contingencies. Work by The Design-based Research Collective (2003) and Dede, Nelson, Ketelhut, Clarke and Bowman (2004) has further articulated design-based research as those methods that attempt to “gain insight into how, when, and why innovations work in practice” (Dede et al., 2004, p. 159). Wang and Hannafin (2005) further define several characteristics of design-based research:

1) Often conducted within a single setting over a long time.

2) Iterative cycles of design, enactment, analysis, and redesign.

3) Contextually dependent interventions.

4) Document and connect outcomes with development process and the authentic setting.

5) Collaboration between practitioners and researchers.

6) Lead to the development of knowledge that can be used in practice and can inform practitioners and other designers (2005, p. 7).

Like Brown and other design-based researchers, the project attempts to understand an innovation (a LIS team blogging activity), and consider whether it supports learning in a distributed academic community. As an experiment in learning design, it is hoped that participation in collaborative blogs will foster new forms of (ongoing) interaction between faculty, students, new professionals, and community members at large. The iterative process of intervention-driven change inherent to the design experiment model has the potential to contribute to theory about learning and practical considerations about developing similar writing collaborations and engagement with the literature.

By taking a design experiment approach, the blogging project allowed for consideration of the process of infusing blogging practices into existing distance learning classrooms. Bound up in these efforts was the goal of creating sustainable contexts supportive of engagement with the scholarly literature and professional development for LIS graduate students. Lunsford and Bruce (2001) identify six attributes they suggest are characteristic of collective, virtual workspaces designed to support collaborative learning. They include shared inquiry (a common set of problems or issues), intentionality (a shared consciousness of the blog as a shared project),
active participation and contribution, access to shared resources (open access research), technologies, and boundary crossings (moments where gaps in geography, time, institutions, and disciplines may be bridged) (Lunsford & Bruce, 2001, p. 295). Along these lines, the design of a LIS collaborative blog was structured to include similar attributes to those described by Lunsford and Bruce.

**Setting**

The project involved extending blogging assignments to graduate students in six (distance) library and information science courses delivered in Canvas online course management software. Blogging activities involved students enrolled in four sections of a course related to designing services for diverse populations (course A) and two sections of a course in learning design to support various forms of literacy (course B). The first iteration involved both courses in fall 2015 and the second iteration involved those same courses in the spring 2016 semester. The third and fourth iterations involved one section of course A in fall 2016 and one section of course B in fall 2017. Students were distance graduate students in library and information science using a common course management system (Canvas) to access learning activities. Each course enrolled between 15 and 57 students. Students worked in teams of anywhere from 3 to 5 students.

**Organizing structures**

Much of the blogging and education literature describes project designs that encourage students to develop individually-authored blogs. Particularly in library & information science education, the emphasis has been (traditionally) on the competencies associated with the development and maintenance of the blog as a technology in and of itself with less emphasis on the content and sustainability of the blog over time. We felt there is a drawback to single-authored blogs for students in that they may have no desire to continue to blog over time and their blog may lose its relevance as a living object to demonstrate professional competency in both content and technology. Another drawback of individual blogging is the lack of social and cognitive interaction between students as they engage with the scholarly literature.

The blogging activities served several purposes as part of the overall learning design. For example, one goal was to support student competencies in engaging with new information and communication technologies such as social media. Another goal was for students to engage with the literature associated with the content domain of the course. Bound up in goals for professionalization was the idea that students should learn how to write in scholarly ways across many contexts, the blogosphere representing only one. Collaborative and group activity was also an important part of this design to improve student perceptions of social/cognitive presence, team building, and professional networking. Related to the idea of familiarizing students with the academic literature was the hope of exposing students to open access research.

We registered a URL and hosted a WordPress installation for the domain http://www.openaccessreader.com (see figure 1).
Several plugins were used to provide blogging-specific functionality for the website including linking of form-based posting, searching, tagging, and postings to social media sites such as Facebook and LinkedIn. We implemented a modified version of the “User Submitted Posts” plugin distributed on the WordPress website. This plugin generates a form hosted on the WordPress installation that allows users to submit posts for approval by an administrator.

Our modifications primed the plugin for students and researchers to submit an article retrieved from several course content-related open access journals to promote discussion. First, the submitters entered their names, provided the title of the article and linked to where the article is hosted. Additionally, submitters were encouraged to “tag” their submissions to allow other users of the website to find other similar articles and give browsers an impression of the discussion and content of the article. Relevant tags were journal names and subject designations. When a submission was received, it was reviewed by the faculty (administrator). If approved, the submission was published to the website. Two social media plugins were implemented to encourage users to spread and share their discussion. One allows users of the website to share submissions on LinkedIn; the other to share on Facebook.

**Four iterations of a blogging course assignment**

The project involved extending blogging assignments to graduate students in six (distance) library and information science courses (see figure 2). Blogging activities involved students enrolled in (four sections) of a course related to designing library services for diverse populations and another course in learning design to support various forms of literacy (two sections). Student groups of between 3 and 5 members were asked to collaboratively author one blog posting about an article relating to our course content. Only articles retrieved from a (gold) open access journal were appropriate for the assignment. In the first iteration of the assignment, students were sent appropriate open access articles for analysis and posting. In the second (and subsequent) iterations, student groups searched for and selected their own articles. Students in the second iteration (and beyond) were reminded to select only topical articles that are open access (freely available to anyone) and to search the blog to make sure their article had NOT been blogged about prior. Article choices were then sent to the professor for approval.
Each group contributed a collaboratively-authored 750-1000 word (approximate) response to the article chosen. Quite a bit of structure was provided to students in terms of possible topics and content to include in their postings. Suggested content included a request that postings contain some combination of the following:

1) Article synopsis and core research question(s).
2) Methods used to answer the research question.
3) Findings and conclusions.
4) Unanswered questions you have and what future research might address.
5) A thoughtful attempt to answer your own questions.

Student groups were also tasked with responding to a peer group’s posting by either extending their thoughts in a new direction or attempting to answer a question posed in the original post. These responses were in the range of 3 sentences in length. Groups were asked to skim the other group’s article prior to commenting. Finally, students were provided with a link related to the assessment of student blog postings published in The Chronicle of Higher Education (Sample, 2010).

Findings and Analysis

The project as design experiment sought to create a learning context that works on multiple levels, responds iteratively to the community of learners, and sustains its relevance in multiple dimensions over time.

A sustainable, collaborative, student-authored blog

Although blogging activities have become very popular in educational contexts, the time scale for engagement is usually limited to the semester over which the class plays out. In many courses, the blog is explored as a tool for dissemination of ideas but efforts are short-lived. Even though there is acknowledgment that blogging can assist students professionally, little effort is made to
support student activity over the long term. Particularly in library & information science education, the emphasis has been (traditionally) on the competencies associated with the development and maintenance of the blog as a technology in and of itself with less emphasis on the content and sustainability of the blog over time.

With this in mind, we tried to build-in or anticipate that the blog postings would exist beyond the timeline of the course. Therefore we built a blog where students played the role of contributor rather than sole author. We hoped students would insert blog URLs into their personal e-portfolios to demonstrate competencies associated with new information and communication technologies as well as their mastery of curricular content and understanding of open-access, scholarly literature. Blog-based writing was selected as a means of supporting their ability to engage in new forms of scholarly communication.

External challenges to the sustainability for a blog such as this lie in the necessity of maintaining domain licensing and subscriptions to content management software (in this case WordPress). Spam comments became a problem during the second and subsequent iterations. A captcha utility will be implemented in iteration five to prevent spam comments that must be waded through continually. For this study, these structures were implemented and maintained over four semesters and the plan is to continue maintaining them in the future. Since there is no expectation that students or their groups ever contribute to the blog in the future, there is less reliance on past writers to return to the site. Future courses incorporating collaborative blogging activities guarantee a continual source of content and, thus, the sustainability of the site. With commitment on the part of the faculty member, the blog and its content can exist in perpetuity.

Over the course of the study, there was some evidence of students pointing back to their contributions in e-portfolios (see figure 3) and via social media pingbacks.

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**Figure 3: Student pingbacks to their e-portfolio**
After the second iteration, we began highlighting student blog postings via LinkedIn (see figure 4). There was positive reception from LinkedIn connections to the student contributions.

Figure 4: Faculty share of a student group’s blog posting on LinkedIn

It is our plan to communicate with students and encourage them to update us on their future uses of their contributions. In support of this goal, we plan to model resource sharing and career management via social media (more strategically) in future courses.

Meeting curricular goals for online LIS education

Our study demonstrated that collaborative blogging activities can be easily sustained once structures and activity designs stabilize. What about the blog’s relationship to curricular goals? As mentioned before, much of the prior educational blogging literature describes project designs that encourage students to develop individually-authored blogs. We felt there is a drawback to single-authored blogs for students in that they may have no desire to continue to blog over time. Blogs may lose their relevance as living objects demonstrating students’ professional competencies in both content and technology if activity ceases on the blog.

With these challenges in mind, we placed students in the role of contributors to an ongoing scholarly blog designed to highlight open access research in the field of library and information science. The blog operates as a collaborative activity on two levels. First, the blog represents a collaboratively-authored artifact drawing readers’ attention to emerging, easily accessible research in the field of library and information science. Second, the blogging course assignments were written to prompt students to search for, analyze, and write about open access research in their field of study as a collaborative task. Student groups analyzed their own articles and posted group-authored reviews of their articles. As one student describes:

“As part of a group assignment, we review an article based on the themes of the class. Retrieved from an open access database, our group came across an interesting article on diversity of staff in a library” (Student reflection, 12/16/2017).

Groups then (also collaboratively) commented on the posts of peer groups. In one example, a group comments on how a review post spurred discussion of equality in library services:

“You conclusions started a dialogue in our group about the difference between an equal services framework, in which everyone should be treated equally regardless of difference, and equitable services framework, which tries to account for systematic disadvantages and seeks to uplift marginalized populations” (Collaboratively-authored response, 05/06/2017).
Another comment drew attention to the way blogs can support “issue-raising” among new members of the field:

“This is a perspective that our group has not read about or thought much about. But we all came to the general consensus that LIS research often does involve the use of surveys, to the point where it becoming less and less creative in a world that seems to be becoming more creative in approach. It was certainly refreshing to read your group’s article on this topic, as it is a very prevalent issue in the field, and in many other fields as well. We feel that there needs to be a change in the most influential researchers within different areas of LIS, and others will follow suit” (Collaboratively-authored response, 12/01/2016).

In the comment above, students explored two topics of contestation in the field. These activities are essential for new professionals as they establish themselves as practitioners as well as scholars. Along these lines, we were able to create an active learning event where students collaboratively worked on a curriculum-intensive task. The task exposed new information professionals to open access research in library & information science and created a context where students practiced identifying and searching for open access journals and articles related to course topics. Students wrote about the scholarly literature in a blog posting format, a highly relevant form of scholarly communication in their field. The course work products had ongoing relevance for inclusion in student e-portfolios or work collections.

**Conclusion**

Findings from this iterative learning design suggest several benefits of implementing collaborative educational blogging activities in distance context. First, students had the ability to build relationships by working together on searching the open access (OA) literature of the field and synthesizing it in a review format. The design also challenged students to engage in professionally-relevant practices of scholarly communication (blogging). As mentioned previously, students not only discussed their own work but collaboratively authored responses to other groups. Evidence of students using the blog postings as contributions to their e-portfolios (our online program’s culminating experience) demonstrated the relevance of the activity to their program of study and career preparation. The focus on open access research in the field is supportive of lifelong learning in that the ability to search and synthesize the OA literature is something students can take with them. These competencies will serve them regardless of whether they work in an organization that budgets for traditionally licensed materials or pursue a career where funding for traditional journal and database subscriptions is not available. Despite the benefits made visible by the project, the authors recognize that more work needs to be done to explore student perceptions of the activities. We can imagine that qualitative data collection of these perspectives would expand the project in fruitful directions. Finally, and not yet explored adequately, is the place the blog occupies in the professional community and what can be done to raise awareness of its existence and utility. Zinger and Sinclair (2013) observed that student blogs have the potential to support networking between students and researchers actively publishing in open access journals.

“Our health blog started out small with only the college community responding to our students but then we opened up the blog and our students were communicating with people from all over the world” (Zinger & Sinclair, 2013, p. 350).

With this goal in mind, we hope to do more to develop this site as a professional resource for communication among students and researchers actively publishing in open access journals.
References


Book review of *Revolution in Higher Education*


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**Introduction**

The growth of online teaching and learning has stimulated debate about the role of higher education for years. In *Revolution in Higher Education: How a small band of innovators will make college accessible and affordable* (2015), DeMillo critiques faculty practice and governance in the modern American collegiate institution. Ultimately, DeMillo is interested in whether higher education institutions can still maintain their social contract with constituents – and whether they can even identify who those constituents may be. He predicts that making college education accessible to many will require bypassing the current structure of higher education institutions themselves, as some have already started to do.

**Structure and content**

DeMillo is the director of the Center for 21st Century Universities at Georgia Tech. As such, he is not an uninterested party, and the book is an extended argument in favor of the innovators he has studied and among whose number he counts himself. Beginning with the “Magic Year” of 2012 (p. 11), DeMillo introduces his selected “band” of innovators as they begin disrupting the traditional model of classroom instruction. Herein he interviews and follows Daphne Koller and Andrew Ng as Coursera incubates; breakfasts with Sebastian Thrun as Udacity is launching; trades notes and phone calls with Arizona State University president Michael Crow as he expands his university’s mission online; strolls the empty lofts of Ben Nelson’s soon-to-open Minerva Project; and recounts the online birth and expansion of the MIT Open Courseware Project under Anant Agarwal. In 2012 and 2013, these projects were launching into public attention and at various levels of practical engagement, and all had common interest in the Massively Open Online Course.

Setting up the stories with ample suspense, DeMillo moves away from his case-study stars to provide the backstory that proves this band of innovators’ experiments both dramatic and, in DeMillo’s view, necessary. DeMillo argues that learning requires not just a teacher lecturing a class, after all, but engagement through the “levity, brevity, and repetition” (p. 64) that sparks chemical changes in neurons believed to establish learning (or at least brain-level change) (pp. 66-67). In-person instruction can achieve this ably, DeMillo notes: he is particularly complimentary of Bloom’s
Mastery Learning technique and its dramatic effectiveness when one-on-one tutoring is combined with a “feedback-corrective instruction-retest cycle” (p. 79). Technology, DeMillo notes, now makes this otherwise cost-ineffective method possible – if students and faculty are willing to move online.

Students are already online and ready to stay there, he surmises, but faculty and institutions are not – at least, not yet. This is a problem DeMillo explains in the second part of the book, “Rationale for a Revolution”, which explains the barriers not to online success but to the survival of the current system. College budgets are complex, tuition-driven, and laden with burdens of overwhelming labor costs and limited choices for income expansions, DeMillo explains. As state disinvestment continues, the only way for higher education to survive is to provide more services at lower costs – which will mean dramatic reductions in staffing. Chapters 7, 8, and 9 lay out the case for why the current ways that colleges organize and view themselves is inaccurate and, in DeMillo’s view, damaging. The desire for prestige and the protection of university brands has led colleges to expand beyond their own interests, and elitism has begun to be (wrongly) assumed to equal excellence (p. 165). Asserting that universities worldwide are infected with an elite-envy disease, DeMillo describes how the desire for prestige has driven colleges away from serving their local populations or contexts. While every community college ponders how it can increase its research output, DeMillo argues, students with no interest in their instructors’ publication rates pile up debt to pay for services they neither need nor want.

In the third part of the book, “Ramparts”, DeMillo blames administrators, faculty, and, in particular, institutions like the American Association of University Professors for this problem. DeMillo argues that faculty efforts to stymie innovation (under the guise of job protection) have made universities into lumbering, inept giants, unable to respond to the rapid exponential changes of the technology age. In addition, after pacing through recent controversial firings and free speech cases, DeMillo finds that tenure is both ineffective at protecting faculty from being mobbed by the groupthink of their peers and also effective at allowing institutionalists to rage against the encroachment of technology.

**Overall impression and relevance to the field of distance education and e-learning**

Arguments like these may draw more fire than the book’s ultimate conclusion: that something must change, and soon, in how higher education is administered. He suggests that colleges abandon the fruitless pursuit of further elite ranking and instead focus tightly on providing the best possible education to the most students within the context that each institution was built to serve. For seasoned higher education administrators and faculty members, this book will challenge many closely held assumptions about what defines a university. That discomfort is certainly intentional, and like DeMillo’s last book, this should provoke discussion. Unlike in his last book, however, in this book DeMillo takes more concrete positions on what the correct next steps might be – and may, in so doing, turn off many who have benefitted from conventions like tenure in the process.