
The Role of Online Learning in the Emergency Plans of Flagship Institutions

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Abstract

The study researched the websites of the 50 state flagship higher education institutions to investigate whether and how online or distance learning were included in the institutions' emergency plans as solutions to emergencies such as H1N1. All 50 institutions had identical directions to students and staff on how to handle the H1N1 flu, but two-thirds (n=34) did not include any reference to online learning as a way to continue coursework. One-third (n=16) did include suggestions to faculty to find alternative ways of delivering courses, using technology or specific tools to do so, but only one of these institutions actually mentioned online learning.

Introduction

At 6:10 a.m. on August 29, 2005, Hurricane Katrina hit the city of New Orleans as a Category 3 hurricane. Many Americans watched the news coverage as the hurricane's high winds and waters blew out hotel windows, tore the roof from the Louisiana Superdome, breached the levees, and flooded neighborhoods and businesses. As the storm dissipated and moved northwards, the toll in human life and loss of jobs and homes became gradually clearer.

The toll to higher education campuses would be severe. An early estimate found 27 colleges in the Gulf region facing physical losses of \$1.4 billion from Hurricanes Katrina and Rita (Mangan, 2005). That figure would climb as reports arrived of damages among Texas colleges. Colleges changed their missions and cut programs: Delgado Community College switched from liberal arts to job training and Tulane University eliminated 200 faculty, a dozen doctoral programs, and eight athletics teams (*The Chronicle of Higher Education*, 2006). But even in the early days after the disaster, institutions turned to the Internet, which had been originally designed to be redundant and resilient in a disaster, albeit for nuclear attack. Campuses activated off-campus websites to provide critical information about the future operations of the institution, the current locations of staff and students and their stories of loss and survival, and answers to their questions (Foster & Young, 2005).

In early September, the Electronic Campus of the Southern Regional Education Board and Sloan-C member institutions met to create a virtual institution in 21 days that would offer online courses to displaced students in first New Orleans, and then in Houston, after Hurricane Rita came ashore. The group received \$1.1 million from the Alfred P. Sloan Foundation to advertise and deliver the online courses. The initiative, called the Sloan Semester, requested assistance from higher education institutions nationwide to make online courses available to college students whose home institutions were facing months of recovery and reconstruction. A total of 153 institutions volunteered to offer 1,345 fully online courses. Of these, 800 courses offered by 135 institutions from 36 states enrolled Sloan Semester students. A total of 1,736 students applied to the Sloan Semester and 1,587 were admitted requiring the processing of more than 9,000 enrollments. Participating institutions forgave more than \$3.1 million in tuition and fees to assist students who had already paid their tuition or whose financial aid awards were

destroyed or under water. Sloan Semester students came from Xavier University (26.3%), Delgado Community College (24.6%), Loyola University (9.4%), and the University of New Orleans (7.9%). The remaining Sloan Semester students were spread across 26 hurricane-impacted campuses. Students would return to their home institutions at the end of the semester, although after one year, nearly 35,000 students had not re-enrolled in their home campuses.

The Sloan Semester was a unique example of how online learning can be used to address various emergencies. Several leaders of the effort shared their experiences at conferences (such as the American Distance Education Consortium and European Distance and E-Learning Network), workshops (“Online Learning in an Emergency” and “Academic Continuity and Emergency Management”) and in journal articles (Garn & Chaloux, 2010), citing lessons learned and to promote online learning as an essential tool in an institution’s plan to survive disasters. Five years after that hurricane season of 2005, the costliest and deadliest in the United States, this study asked a simple research question: Are higher education institutions planning to use online learning as a way to respond to future disasters? Were they thinking of using online learning in the event of an H1N1 flu outbreak, an earthquake, severe storm or floods, or other disaster that might befall the campus?

Review of Literature

Partly because the use of online learning as a response to disasters is still so new, no studies have looked into this issue. On the other hand, emergency preparedness has a longer history in higher education. Emergency preparedness or emergency management is a discipline, set of tools, and planning process used to respond to natural or human-made disasters. It was preceded by the term “civil defense,” used during and after the Cold War. The focus of emergency preparedness is to prepare for, mitigate, respond, and recover from a disaster. At the current time, the Department of Homeland Security and the Federal Emergency Management Agency (FEMA) are responsible for this function in the United States; other nations also have agencies that serve this function.

In higher education, disaster or emergency management has primarily focused on facilities and/or information technology resources. Haskett and Rohe (1990) provided early plans for recovery of campus computing resources, and Hsing, Peterson, and Chapel (2003) detailed the need for ensuring business continuity in higher education and Educause (2005) followed with its guide to business continuity planning for colleges and universities. Hsing et al. (2003) stressed the frequency of disasters in higher education, from earthquakes (Stanford University; California State University, Northridge), hurricanes (University of Miami), floods (University of North Dakota; Colorado State University; East Carolina University), windstorms (Syracuse University), power outages (Columbia University), fires (Michigan State University; Seton Hall University), and terrorist attacks (Pace University). Despite these occurrences, the authors maintain that “higher education . . . is not well prepared” (p. 53). Cavanaugh (2006) shared his experience as a university president experiencing six hurricanes and the need for “decisive, experienced leaders who can execute a comprehensive plan” (p. 49) and Lawrence and Shafer (2007) shared their experiences post-Katrina at Southeastern Louisiana University, which housed refugees from the New Orleans area. Rather than going it alone, Mann (2007) proposed a collaborative approach to crisis management, involving FEMA, the National Guard, local emergency personnel among others in the planning for disasters. However, as the Hurricanes were hitting the Gulf, only 77% of U.S. colleges had a disaster recovery plan, and only 60% of these addressed computer networks (Foster & Young, 2005). While this literature on emergency management in higher education is detailed, well-conceived, and thorough, very little mention is made of the academic side of the institution or the continuity of academic operations as soon after the disaster has passed as possible. These authors never mention that online learning could be helpful in getting the institution back on its feet and ensuring student learning.

However, online learning has become a tool for teaching others about disaster preparedness. Several universities and organizations (such as the United Nations University and Corporation for National and Community Service) offer online coursework on disaster planning and management and seven universities offer online bachelor’s degrees in the subject. This includes the development of Disaster-Central, which has created a web-based portal to provide distance learning to emergency managers and planners (Rubin, 2003). However, providing online coursework to address a workforce need is not the

same as an institution using online learning to provide on-going services to students during a disaster.

The lack of research into online learning as a tool for dealing with emergencies does not mean that it has not been used and written about. The Southern University at New Orleans (Omar, Liu, & Koong, 2008) became an online learning campus after the Hurricane season did its worst to the campus. Notably, mobile devices have been used to provide continuous education to its displaced students. The University of New Orleans offered a significant number of additional online courses than in previous semesters (Foster & Young, 2005). Empire State College created a virtual residency as war broke out in Lebanon, so faculty did not need to travel to the war zone but students could receive DVDs of faculty lectures (SchWeber, 2008). In a report on the experiences of faculty, college administrators, and students at New Orleans higher education institutions, Hartman and Lundberg (2009) focused on the need to support individuals through a disaster but also sustain academic work. Online education was promoted as the “vehicle for meeting both sets of needs” (p. 593). McLennan (2006) documented the efforts of Tulane University to develop its capacity to provide online courses. With its Blackboard, email, and help desk services down after Hurricane Katrina, Tulane moved quickly. From September 2, 2005 when the fall semester was cancelled to the beginning of a mini fall semester on October 24, 2005, Tulane’s University College worked with Blackboard to create an alternative platform, students created alternative emails, staff compiled manual lists of student emails, and faculty rebuilt their courses from scratch. A total of 11 online courses were modified to fit the new six-week schedule, but faculty continued to deal with administrative issues they were not prepared for. McLennan’s (2006) recommendations address many of these issues, including having an interruption of service agreement with the courseware software provider and training for faculty who may need to deal with administrative issues when on-campus help is unavailable.

The H1N1 flu is our most recent example of a potential disaster, and the news stories about universities responding by going online are instructive. Danielson (2009) reported that the University of South Florida would “hold classes online, via e-mail or a video service like Skype, in the event of an emergency” (¶2). *eCampus News* (2009) reported increased demand in web-based courses and Kolowich (2009) reported that the Virginia Community College System provided links to show professors and students “how to use Blackboard” (¶1). The Pennsylvania State System of Higher Education also stated that “distance education is a big piece of our planning” (Kolowich, 2009, ¶6). Wimba (a tool for online classes) was pushing its product as a way to “effectively communicate, deliver uninterrupted instruction and services, and organize meetings . . . [which is] central to the disaster preparedness . . . of educational institutions” (Wimba, 2009, ¶3).

The convergence of emergency preparedness and online learning as a response to various disasters means that, while the phenomenon is new, discovering how far it has penetrated into higher education may be instructive. It would mean, if online learning has become a widespread component of higher education institutions’ emergency preparedness plans or their responses to the current H1N1 crisis, that the value of online learning has become widely accepted. If it has not been adopted, have the lessons of the hurricane season of 2005 fallen on deaf ears?

Methodology

Sample

The sample was constructed of the 50 public flagship universities in the 50 states. “Flagship” universities are often the first or largest of the public institutions in a state, and most often contain the state in its name, as in “The University of [State]” or “[State] State University.” Where states might conceivably have two flagships, the one with the largest student enrollment was chosen, based on the most current enrollment figures located on a state or system website. This sample was chosen because these institutions are most likely to have emergency preparedness plans and to post these to their websites. If online learning has penetrated emergency preparedness thinking, it would likely be at institutions with the professional staff and resources to have developed extensive plans and such institutions are largely flagship institutions. Table 1 includes the list of flagship institutions included in the sample; all of these are research/doctoral institutions and their enrollments in 2009-2010 range from 42,099 students (University of Wisconsin) to 12,347 students (University of Vermont).

Table 1

List of Flagship Universities in Sample

University of Alabama, Tuscaloosa	University of Montana
University of Alaska	University of Nebraska, Lincoln
University of Arizona	University of Nevada, Reno
University of Arkansas	University of New Hampshire
University of California	Rutgers University (New Jersey)
University of Colorado, Boulder	University of New Mexico
University of Connecticut	State University of New York, Albany
University of Delaware	University of North Carolina
University of Florida	University of North Dakota
University of Georgia	Ohio State University
University of Hawaii	University of Oklahoma
University of Idaho	University of Oregon
University of Illinois	Pennsylvania State University
University of Indiana	University of Rhode Island
University of Iowa	University of South Carolina
University of Kansas	University of South Dakota
University of Kentucky	University of Tennessee, Knoxville
Louisiana State University	University of Texas, Austin
University of Maine, Orono	University of Utah
University of Maryland, College Park	University of Vermont
University of Massachusetts, Amherst	University of Virginia
University of Michigan, Ann Arbor	University of Washington, Seattle
University of Minnesota, Twin Cities	University of West Virginia
University of Mississippi	University of Wisconsin, Madison
University of Missouri, Columbia	University of Wyoming

Data Collection and Analysis

The timing of data collection was important. During the preparation for Fall 2009 classes, the H1N1 virus was regularly discussed on the evening news and in local newspapers. We wanted to see if emergency plans for this potential disaster reflected the lessons of Hurricane Katrina and incorporated online or distance learning in their plans. Thus, the sample was collected in late Fall 2009.

The first stage of data collection involved locating each flagship’s website. While many flagships also have branch campuses, the main campus website was used for this search. The second stage required locating the institution’s a) response to the H1N1 crisis and b) emergency preparedness plan. This was done by searching (using the website’s search function) by several terms: disaster preparedness, emergency management, continuity, and H1N1. The third step involved downloading and printing the institution’s emergency preparedness plan and directions for the treatment of the H1N1 epidemic. Two important caveats to this data collection procedure need to be mentioned. First, we decided to limit our search to approximately 15 minutes, reasoning that if students or faculty could not find directions on how to respond to the emergency quickly, they would likely stop the search. Second, we followed all links directing traffic from a main disaster preparedness or emergency management site and then followed the links from those secondary sites. However, we did not follow third-order links reasoning that individuals looking for this information would likely have given up by that point of their search. These two limits to the search process were employed in earlier research into institutions’ websites (Meyer, 2008a, 2008b; Wilson & Meyer, 2009) and we believe captures searcher behavior. However, this decision to limit our time and linking in the search for this information means that for some institutions, we may indicate a false negative result: there is a plan, but we could not find it within 15 minutes and/or three links from the search results page.

Once the plans and other web materials were collected, terms such as “technologies,” “online learning” or “online,” “distance learning” or “distance education” were scanned for in a) the institution’s

pronouncements on how to respond to the H1N1 flu or b) in emergency preparedness or disaster plans. If the plans mentioned online or distant learning or a related concept, that institution's plan was coded "yes" and if no mention was made it was coded "no." After several readings of the content related to the continuation of classes during an emergency, analysis of the content was completed in three steps: 1) identifying one or two-word phrases for each use, 2) combining similar uses into themes, and 3) placing each institution's approach into one theme. Therefore, final classifications represent the main approach to dealing with academic continuity during an emergency, so each institution would appear in only one classification. We followed Maxwell (1996) as a guide to comprehensive analysis of the data.

Analysis of the plans was conducted by one author, with the other author verifying 5% of the classifications made. This check on the reliability of coding was deemed sufficient for two reasons. First, the existence or non-existence of the terms online or distance learning in the plans was clear and could be easily verified and second, theme identification also became relatively straightforward and unambiguous.

Results

First, it is not surprising that every flagship addressed the H1N1 situation on their websites. Some provided many announcements and memos directed to students and their parents (n=50), faculty and staff (n=13), and the local community (n=3). In fact, the advice to students for avoiding getting the flu and avoiding its spread was very consistent, including how to identify symptoms (fever), what to do (wash hands, cough into one's sleeve), and ways to stop the spread (stay home). This is not surprising given that many institutions also referred to the Center for Disease Control and Prevention guidelines (CDC, 2009) and this advice is also found on the CDC website. Given this finding, we can feel relatively comfortable claiming that the message to students and staff about the H1N1 emergency was on each institution's website and the content of message was consistent across these institutions.

Second, we could not find disaster or emergency preparedness plans addressing academic continuity (or how to handle classes in an emergency) for 34 institutions. This should not be interpreted to mean that institutions had no emergency services; providing emergency notifications was universal across the institutions in the age after the shootings at Virginia Tech. These might include outdoor sirens, text messages, and web notices. They represent serious efforts to address emergency procedures in the event of a discrete event. But what about a truly catastrophic emergency – say a flood, hurricane, or earthquake – that has the potential for really disrupting the educational mission of the institution?

Among the 34 institutions were seven institutions for which an emergency plan for recovery of IT and business functions could be found and 27 institutions where the plan could not be found, even by searching on various terms. As mentioned previously, the second group may include false negatives, and the institutions have plans which could not be found within 15 minutes or three hyperlinks from the search results. Seven institutions address academic continuity by delegating the responsibility for developing responses to a disaster to units, be they operational units or academic departments, but no guidance or suggestions are given.

Of these 34 institutions, there were some remarkable plans or guides on the websites. Louisiana State University included an interesting powerpoint, "Lessons Learned from the Field Supporting Recent Emergencies, Minor to Catastrophic" which profiled several lessons from Hurricane Katrina, although the powerpoint deals with information technology and not academic continuity. Ohio State University posted a step-by-step guide to doing continuity planning that seemed worthwhile (although it did not deal with academic continuity), and the State University of New York had an extensive information technology disaster preparedness plan with many references to recovering from the attacks on the World Trade Center. But there were no mentions of academic continuity or the use of online or distance learning.

A total of 16 institutions did address the continuity of academic programs and the suggestions to do so were various. The sole mention of three institutions about academic continuity was remarkably non-directive, such as stressing finding "*alternate ways*" of delivering instruction without mentioning how or what could be used to make this happen, such as "Consider alternative content delivery systems" (University of Missouri), identify "alternative ways for students to receive class information

and lecture materials” (University of Nebraska), or “Please think about alternative ways to effectively manage your course(s)” (University of Rhode Island). It is not obvious what these suggestions mean or what faculty would do as a result of reading such suggestions.

Five institutions limited their remarks to mentioning specific *technologies and tools* (email, chat, online discussions, blogs, podcasts, social networking) as ways to address problems resulting from student absences from class or the faculty person’s illness (Maryland, Michigan, Minnesota, Montana, Wyoming). Three other institutions limited their suggestions for faculty to using the institution’s *course management system* or a course website (Arkansas, Nevada, North Carolina) without mentioning other tools. In a group by itself, the University of Vermont’s plan stresses identifying *distance education leaders* in each department and specifically delegates to faculty the responsibility for the continuity of courses in a disaster (the issue of delegating to faculty will be discussed later). Compare all of these suggestions to the University of Alabama, which alone of all of the 16 institutions specifically mentioned moving to deliver “coursework consistently via *on-line means*.”

Three institutions went well beyond the suggestion to “use email” or “post assignments to the course management system” and provided *extensive guidance* on what and how to make courses available in times of an emergency or other reason. The University of Washington (n.d.) can be commended for providing an extensive Academic Continuity Toolkit including a quiz to determine how prepared the faculty person is for an emergency. The quiz covers putting course materials online, establishing channels of communication and ways of conducting a class at a distance, and setting up remote access so one can work at home. The Toolkit suggests specific actions a faculty person may take and is relatively thorough, especially in comparison to the other institutions’ treatment of academic continuity (e.g., “use email”). The University of Wisconsin suggested moving essential courses to “social distance teaching mode,” a term also used in CDC communications (CDC, 2009); however, this “does not mean converting all classes to on-line instruction” (Underwood, Brower, & Berg, 2009, p. 2). The University also posted “Preparing Your Course for Social Distance Teaching,” including suggested policy statements for the syllabus and detailed options for putting content online and keeping in touch with students (University of Wisconsin, 2009). The differences between “on-line” and “social distance teaching” may seem modest to online educators, but it must have made sense at the University of Wisconsin. The University of Oregon published to the web “Strategies for Instructional Continuity” that included “rethinking your course in terms of what could be done in lieu of meeting face to face, and using instructional technology” or “going hybrid,” including conducting online discussions, posting reading material, and podcasting.

There are two things that are intriguing in the statements of these 16 institutions. First, they stay away from using “online” or “distance” learning *per se*, and stress the use of technologies that are used in many kinds of courses, including online, hybrid, and face-to-face courses that are web-enhanced.

Second, the statements are sensitive to faculty prerogative to select the best ways to teach their discipline. As one institution suggested, “You may want to consider moving more of your teaching to C-Tools [collaboration tools] to help them [students].” It is a tentative suggestion, modestly phrased. In fact, not one institution stated that -- as a matter of policy -- courses would continue but be delivered online in a disaster situation. There are intimations of this message (use email, post assignments on Blackboard), but nothing that declared that teaching courses online was how the institution would continue its academic mission in an emergency.

Discussion

Our study did not tap into the perceptions of faculty. But it is an important question to ask if faculty members are putting courses online in preparation for an H1N1 outbreak or other potential disaster? Or, if the responsibility for preparing their courses for an emergency were delegated to them as seven institutions indicated, how would they respond? Fortunately, *The Chronicle of Higher Education* hosted a discussion forum in September 2009 entitled, “H1N1 planning at the course/instructor level.” Posters mentioned greater use of Blackboard and online discussions, plus recording lectures and posting them for students to download. Or as one faculty person reflected on his experience in 2008 with the norovirus, the news of H1N1 outbreaks meant that “I began preparing to hold a special session online instead of face-to-potentially-contagious-face” (Benton, 2009, 18). While it is inaccurate to conclude much from postings from 24 different individuals (who may be faculty or other individuals involved in higher

education), it is intriguing that at least some faculty are already thinking about going online in a disaster, even if only one-third of our 50 flagship universities were tentatively suggesting technologies used in online learning as a solution.

This study allows us to conclude three things. First, only a third of the flagships had incorporated statements about academic continuity in the face of an emergency, largely urging technological solutions. Second, even when technological solutions were mentioned, they seemed to be in the form of suggestions that faculty could consider were they so inclined. Third, in no case did an institution state a policy that courses would continue to be delivered online in the event of an emergency, although the University of Alabama comes very close. We can only conclude, as did Hsing et al. (2003), that “higher education . . . is not well prepared” (p. 53). Disasters will continue to occur and technologies will likely help us cope with them. In fact, during the 2010 volcanic eruption of Mount Eyjafjallajökull in Iceland, a professor from California was caught in Ireland as clouds of volcanic dust halted air travel (Wilson, 2010). However, he was able to keep up with his students and classes using email and the support of individuals on his home campus. One can expect more stories like this, as online learning and related technologies come to the aid of higher education institutions hit by various disasters in the future. And there will be more disasters.

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