




Transitioning from Emergency Remote Learning to Deep Online Learning Experiences in Geography Education

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ABSTRACT

Recent events resulting from the Covid-19 pandemic precipitated a triage-like environment wherein experienced faculty were forced to convert courses rapidly to online venues. This unexpected circumstance forced educators to adopt different learning theories of which they were largely unaware. The results were predominantly unsatisfactory for both learner and educator. This paper provides perspectives to this unfortunate circumstance, describes positive and negative aspects of the experiences, presents best practices for deep online learning, and challenges geography educators to learn how instructional design for online courses can be leveraged. The goal is to provide a forum for online learning in geography education.

KEYWORDS

Online learning; instructional design; pandemic; Covid-19; geography instruction

Introduction

How is geography taught online? Can it be successfully taught online?

As a discipline, geography differs greatly both in content and in pedagogical techniques. Within higher education, some content, for example a world regional course, might be well-adapted to the lecture/recitation format of instruction. Some more advanced courses, such as political geography, might be more adaptable to the Socratic question and answer format spawning rich discussions. An advanced physical geography course, such as geomorphology, might best be taught *in situ* and include laboratory exercises (Ritter 2012). Planning might best involve the use of models of cities, either physical or digital. In short, geography displays a microcosm of the environments that all educators, in general, experience in face-to-face teaching. Thus, it also provides a proper forum for discussing how such a broad discipline can be effectively taught virtually (Rodrigue 2002) and, because of its interdisciplinary nature, geography can also serve as sounding board for online teaching techniques in other disciplines.

Background

Geography, in its many forms, has been taught online successfully for decades. Entire programs have been developed exclusively for the online format, specifically to open the target audience, thereby creating an accessible curriculum for students in a wide geographical area (Schultz 2013a; Schultz 2013b; Schultz et al. 2011). Pedagogies, andragogies, and

heutagogies were implemented specifically in geography and GIS programs to accommodate the varying audiences (Schultz 2006 and Schultz 2012; Dittmer 2010; Balram 2019) including the innovative teachings of DeMers (2008, 2010) using the virtual world “Second Life” as a platform for teaching GIS. Tools and technologies designed to engage students and spawn deep discussion around subject matter have been infused into online coursework (Schultz, Kerski, and Patterson 2008; Schultz et al. 2011; Buchanan-Dunlop 2007). More recently, open educational resources (OERs) have been employed to encourage student participation in the virtual environment (DiBiase 2010; Lemke and Ritter 2000; Ritter 2006; Dastrup 2020). Over the past ten years, massive open online courses (MOOCs) have been led specifically for driving new geographic content or technologies aimed at a myriad of disciplines (Robinson et al. 2015; Schultz 2014). Geography education online is neither new nor innovative but is well established as a means of providing rich geographical education to many students.

Yet, through the ages, some have embraced and advocated for online education in geography (Picciano 2017; Glasmeier 2012; Gober 1998; Jain and Getis 2003; Lynch et al. 2008; Conover and Miller 2014;), while others have dismissed online learning in general as ineffective or lacking in engagement for students (Protopsaltis and Baum 2019), primarily as a result of poor pedagogies or lack of online presence on the part of faculty. Protopsaltis and Baum (2019) contend, “... *online education has failed to reduce costs and improve outcomes for students... faculty, academic leaders, the public and employers continue to perceive online degrees less favorably than traditional degrees...*” A

particularly concerning claim in lieu of the currently raging pandemic prohibiting many institutions from delivering traditional classroom instruction.

Currently, more than one-third of college students take courses online, with no in-person component (Educationaldata.org, 2020). Half of these students are enrolled in exclusively online programs, while the remaining take at least one, but not all their courses, online (Educationaldata.org, 2020). This form of delivery is particularly prevalent in the for-profit sector. For-profit colleges enroll just 6 percent of all students, but 13 percent of students taking courses online and 24 percent of fully online students (Protopsaltis and Baum 2019). Fuentes (2020) notes that online education is attracting growing numbers due to its accessibility, inclusivity, affordability, flexibility, convenience, student-driven learning, and relevance. She continues that an online education provides the opportunity for diverse populations to receive a first-class education from esteemed institutions on a global scale (Fuentes 2020).

The pandemic and where it took us

The 2020 Covid-19 pandemic came midterm for most of academia, including K-12 education, which forced a rapid shift away from traditional face-to-face teaching in relatively compact spaces to off-site learning. This was done to protect both learners and educators from the contagious nature of the deadly virus. Of necessity, the priority was safety rather than learning experiences. Educators and administrators were forced to quickly move all the learning experiences into an online environment with little forethought for its practicality or effectiveness and virtually no time for planning. Unfortunately, creating effective learning environments, whether they be face-to-face, fully online, or blended, requires a substantial amount of forethought, planning and design. The rapid advance of the virus disrupted and essentially disabled often well-structured face-to-face learning environments that were quite familiar to both learner and educator and relied on established learning modalities. While these learning modalities were sometimes well thought out and designed, they relied on the social structures imposed by physical building space, seating arrangements, student-faculty interactions in limited time slots within those spaces, and after-class contact through office visits, laboratory settings, or personal mentoring experiences. The rapid shift from the structures and face-to-face contact did not permit time for proper design of a virtual learning environment that lacked such immediate proximity among learners and educators.

The result of this emergency was generally chaotic learning environments with educators hastily migrating their course content to an online environment via learning management systems (LMS). Faculty proceeded to record full lectures for student listening and viewing, posting assignments online and grading them digitally rather than by hand. In general, the focus of this emergency remote learning (ERL) scenario was a concentration on learner to

content interaction as opposed to the critical aspects of student-student and student-faculty interactions.

As of the publication of this paper, Cai et al. (2020) from the New York Times article dated July 29, 2020, reports that over 6,600 confirmed cases of Coronavirus-19 were tied to 270 US colleges and universities. The institutions from Texas, Georgia, and Florida led the way with some single institutions approaching 450 confirmed cases (Cai et al. 2020). Knowing that the pandemic is continuing to dampen hopes of teaching exclusively in classroom space anytime soon, virtual learning has hit the forefront in viable options for providing learning to students.

Discussion: What is remote learning and how is it different than online learning?

Well planned online learning experiences are distinct from courses offered online in response to a crisis or disaster (Hodges et al. 2020). Thus, at this stage, a definition of terminology is required to delineate the differences between the various types of learning currently taking place. Online learning is the well-designed, planned approach to storyboard and create deep virtual learning experiences with no physical interaction in a physical classroom environment, which includes a design phase potentially lasting several months in advance of offering the course. Hybrid learning is a combination in various percentages of on-ground versus online instruction, which offers flexibility to students between the two types of learning interaction. The authors posit that “blended learning” become the preferred term describing a combination of synchronous and asynchronous learning in a virtual environment, blending interactions such as live synchronous sessions with posted asynchronous discussions, assignments, and videos. What education has most recently experienced is referred to as “emergency remote learning” (ERL) (Means, Bakia, and Murphy 2014), or emergency remote teaching (ERT) as Hodges et al. (2020) suggests.

There is a temptation in lieu of the pandemic conditions, to compare and contrast online learning to face-to-face instruction (Hodges et al. 2020; Zimmerman 2020). Unfortunately, “online learning” will, and in many instances already has, become a politicized term that can take on any number of meanings depending on the argument someone wants to advance (Hodges et al. 2020).

Online learning carries with it the unfortunate stigma of being lower quality than face-to-face learning, despite research showing otherwise (Schultz 2006; Schultz 2012; Dittmer 2010; Balram 2019; Ulmer 2007). Hastily moved content to the online format by so many institutions could inadvertently create the misconception that online coursework equates with a weak option in comparison with classroom instruction. Essentially no educator in the times of a looming pandemic would have undertaken a design phase in advance of the instruction to leverage the potential accommodations, accessibility, and deep learning of the online format if indeed the planned design phase were to be carried out (Branch and Dousay 2015).

In contrast to the stigmas and misconceptions, online education has been studied for decades. Numerous research

studies, theories, models, standards, and evaluation criteria focus on quality online learning, online teaching, and online course design. While there is an increasing number of theories behind online and blended learning, most rely on some form of constructivist concept based on the formation of an effective learning community. Additionally, one underlying principle of online learning is that there are three requisite forms of interaction: learner to content, learner to learner, and learner to instructor. Research on interaction types by Bernard et al. 2009, presents compelling evidence that the presence of each of these types of interaction, when meaningfully integrated, increases the learning outcomes in distance learning environments. Further, peer-reviewed research indicates that effective online learning results from careful instructional design and planning, using a systematic model for design and development (Branch and Dousay 2015). The design process and the careful consideration of different design decisions have an impact on the quality of the instruction. It is this careful design process that will be absent in most cases in these times of emergency shifts (Hodges et al. 2020).

Recognizing the need for design of a course structure that could effectively guide a learner through the learning process in the absence of the face-to-face social structure, the US Department of Education funded the Maryland Online, Inc., through a \$5,09,177 FIPSE grant titled “Quality Matters: Inter-Institutional Quality Assurance in Online Learning” which ran from 2003 to 2006 and provided the underpinnings of a design process for the structural configuration of successful online and blended learning environments. The result of this work is a current organization whose sole purpose is to continue to assist those who teach online to design courses that meet the needs of the learners. The organization has produced rubrics with eight basic design standards: course overview and introduction, learning objectives (competencies), assessment and measurement, instructional materials, learning activities and learner interaction, course technology, learner support, and accessibility and usability (Quality Matters 2020). Additionally, one of the most comprehensive and compelling summaries of research on online learning is provided by Means, Bakia, and Murphy (2014), in which they identify nine dimensions describing intimate details of instructional design and the dedicated process of online course development. The nine dimensions are modality, pacing, student-instructor ratio, pedagogy, instructor role online, student role online, online communication synchrony, role of online assessments, and source of feedback (Means, Bakia, and Murphy 2014). Essentially, great thought and effort has gone into the compilation of best practices for the development and design of online learning experiences (Schultz 2017; Tanis 2020).

What are some effective practices in online learning that can take us from emergency remote learning to deep distance learning experiences?

Deep online learning does not come with an instructional manual that provides a step-by-step process for guaranteed

success. It comes from dedicated practice over many years of experiencing feedback from students as to what is successful and what does not provide learners with what they need to learn deeply. Forethought, planning, storyboarding, and structurally designing the learning experience are all part of the initial phases of creating a deep online learning experience. Those of us who teach have taught online know that it requires the pedagogy, andragogy, and heutagogy that differs significantly from that of teaching in a physical classroom. Educators primarily use the lecture and assessments format teaching in the classroom setting, although that differs amongst educators. Socratic methods are employed successfully to engage students and assist them in their content learning. In essence, the educator is taking center stage and providing content and wisdom to students who process it creating their knowledge base. The online environment leverages technological tools to shift the focus from the educator to that of the student. Such pedagogical styles as inquiry-based learning, problem-centered learning, and integrative learning can be employed to take the instructor off the stage and assign them the role of “facilitator”, guiding the student through their learning journey. Students must take responsibility for their learning as they are not simply provided with content but must discover it on their own with questions and problem-solving activities that define deep learning. An array of technology is employed not simply as technology for the sake of using technology, but rather as tools of instruction that work behind the scenes to create learner knowledge in such a way that accommodates their learning modality. Online instructors must become part educator, part facilitator, part guide, and part technology expert. To do this, professional development is needed so that educators can learn the pedagogies and technological tools coupled with the instructional design components to create that deep online learning experience.

Not only do educators require the training to introduce them to the instructional design and the technological tools, they must make the difficult transition of stepping aside as the “sage on the stage” and resolve to permit their students to structure their own learning experience, with the online educators acting as the “guide on the side”. That is particularly difficult for an educator who has taught in the classroom their entire career and has not employed technological tools and pedagogies conducive to the virtual environment. Shifting to that model over a few days as the pandemic has dictated is essentially an impossibility in that span of time.

The recommendation for professional development including the elements of appropriate technology, use of the necessary technological teaching tools, and a shift in pedagogy is a tall order to respond to in a short period of time to create a deep learning experience for their students. However, that is what educators are faced with as they transition into the second term with the presence of Covid-19 dictating the online learning setting.

The most effective practice in response to teaching in an online setting is directed at the student. Oftentimes, students can become isolated in a virtual environment and feel helpless when challenged in a class. They need support and they

need to feel as if the presence of a human is behind the computer screen. It has been our experience that online presence on behalf of the educator has no equal in comforting the student and preparing them for the learning experience. Students, knowing there is support and someone to consult should they struggle, can then concentrate on learning, feeling confident that their questions will be answered in a timely fashion so that their learning is uninterrupted. Communication is vital to students as to their progress, responding to their inquiries, and promoting confidence on the part of the learner that their efforts will be successful and that they will experience a deep level of concentrated learning in an online setting thus promoting the establishment of a robust learning community.

Conclusion

Admittedly, designing a course for success in an online environment involves substantially more planning than teaching in the traditional F2F environment. Everything must be carefully considered as there is little opportunity for “do overs” from one day to the next. The course website in the LMS needs to be navigable and easy to understand. Links need to work. Necessary information must all be deliverable within the course site. There will usually involve some form of tutorials for content and for the use of the LMS and associated tools. Additionally, all the support and accessibility information must be accounted for.

The good news is that the online teaching environment, the pedagogy, and the tools that support learning online, have all matured a great deal since the days of correspondence courses. As you will see in the papers dedicated to this topic included in subsequent issues, it is not only possible to create a successful learning environment online, it is possible that the learning environment can provide a more robust opportunity for learning than the F2F approach can, once the learner is taught to take possession of their learning rather than requiring the instructor to deliver material to a passive audience. A well-designed course environment is a necessary first step, but it is not the only step.

For online learning to be truly effective one must begin with a well-structured course and deliver it effectively. Part of the design will entail the three major interactions of learner-to-content, learner-to-learner, and learner-to-educator, but attitudes must be adjusted by both learner and instructor. The learner must be gradually introduced to an active, collaborative, and supportive learning community composed of both fellow learners and instructor(s). This is especially necessary because most learners have been primarily exposed to the traditional, lecture-driven, “sage on the stage”, passive model of learning and the pattern of passivity must be broken in favor of an active, “guide on the side” facilitation model.

The educator, accustomed to the adulation of being “on stage” as the subject matter expert, needs to release that power structure in favor of moving into the background and permitting the learner to take charge of their access to content. This requires an acknowledgement that anything the

educator knows is already encoded in some form online and in journals and books. The learner’s need to be guided to the meaning, rationality, objectivity, and validity of what is in the cloud. This is where the expertise of the educator becomes critical as they monitor discussions, provide ample and rapid feedback, and reward argument, critical thinking, and creativity to the learner online. It further provides the learner with a methodology to systematically analyze conflicting content critically and objectively. The upshot of this is that the educator truly is educating, rather than merely repeating what is already known. A result is a more satisfying experience for the educator, and a much more deeply educated learner who not only has a substantial supply of knowledge, but also knows how to learn more and gauge the quality and validity of what it is that they learn.

The articles that will follow this inaugural commentary in the special series on online geography education are designed to provide insights into successfully designed online and hybrid courses. You will see real-world examples of the concepts, approaches, and tools discussed here and how they can be leveraged to make online geography instruction, whether fully online or as hybrid courses, not just satisfying, but in many cases, a superior learning approach. They may well act as immediate lessons for the traditional lecturer making the transition to online learning, and as signposts for future generations of geography instructors.

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