The New Distance Learners: Providing Customized Online Research Assistance to Urban Students on the Go

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Abstract

This article provides an overview of the pedagogical theories surrounding distance learning while discussing the learning styles and characteristics of distance learners. The author describes how the use of social media and digital learning objects supports the pedagogical theory of connectivism. The author discusses how a mid–sized, urban university library uses social media tools, including YouTube and Twitter, to offer distance learning students the same level of research support as those studying on campus. She also examines other libraries that do the same. This method provides students with the opportunity to pick and choose online research support that is customized to their specific needs and timetable while still allowing for collaboration among peer learners.

Keywords: social media, distance learning, library research, YouTube, Twitter, connectivism, digital learning objects

Introduction

The rapid growth of distance learning (DL) in recent years can sometimes obscure the fact that DL, nonetheless, has a strong foundation in the educational field. Distance education programs can be found in academic environments, the corporate world, and not–for–profit organizations. An annual survey from the Babson Research Group shows that, in the fall of 2010, 31 percent of higher education students took at least one course online, compared to 28 percent in fall 2009 and 24 percent in fall 2008 (Allen & Seaman, 2011, p. 11). The growth of distance learning in higher education may be leveling off, but the necessity for varied online learning options will only increase.

As distance or off–campus learning becomes more ubiquitous, instructors are finding ways to connect with students on many different levels. Social media is becoming more common throughout higher education, both within and outside the classroom. Many professors are finding that Twitter offers a way to connect with their students on a more personal level (Wieder, 2011). Likewise, faculty members

are using online videos from services such as YouTube to engage with students during class. Teaching with social media prompts students to experience "greater engagement, greater interest, [and sees] students taking more control and responsibility for their education" (Blankenship, 2011, pg. 40).

Academic libraries are no different in their desire to reach students through social media. Students expect their libraries to offer the same access and connectivity they experience with their classroom instructors. Wichita State University Libraries have recently begun using a number of technology tools to offer distance learning students the same level of research support as those students studying on campus. Through the use of social media tools such as YouTube and Twitter, both on their own and embedded in course management systems, university libraries can offer support to students in an urban setting regardless of location. Social media tools offer the added bonus of encouraging peer–to–peer collaboration in a virtual environment.

Distance Learning Overview

Educational theorists have offered many descriptions of distance education over the past several decades in an attempt to establish a comprehensive definition. Keegan (1980) summarized six essential characteristics of distance education:

- separation of teacher and student;
- influence of an educational organization especially in the planning and preparation of learning materials;
- use of technical media;
- provision of two–way communication;
- possibility of occasional seminars; and
- participation in the most industrialized form of education. (p. 21)

Other definitions include the concept of institutionally based education and the sharing of learning experiences via data, voice, and video (Simonson, Smaldino, Albright, & Zvacek, 2012). Just as the definition of distance education is open to interpretation, the terminology can differ. Distance education can include the concepts of e–learning, off–campus studies, or online learning. For the purpose of consistency, this author will use the term distance learning (DL) in this article.

Learning Styles of Distance Learners

As Allen and Seamen (2011) point out, not all students participate in online learning. Those that do, however, exhibit unique characteristics and learning styles specific to this mode of learning. Some differences exist due to factors such as age and technological experience. Adult learners, for example, tend to initiate the learning process on their own and focus more on their specific, momentary learning needs. These learners characteristically have "little patience for irrelevant information or activities that do not lead them to their intended outcomes"

(Simonson et al., 2012, p. 221). On the other hand, younger learners, including traditional aged college students, require motivation and engagement in order to succeed and are more apt to learn from their peers.

When developing online instruction, the instructional designer should complete an analysis of the distance learners in order to evaluate differences among the students. For example, one may assume that younger students are more technologically savvy than adult learners, but this assumption should not override the need for an initial learner analysis. Likewise, the designer should assess learners' previous experiences and educational background. Research suggests that students' preliminary understanding of a topic not only influences "their learning performance, but also has great effects on their learning patterns" (Chen & Liu, 2011, p. 187). These findings support the need for the instructional designer to conduct the same level of learner analysis that he or she would for face–to–face instruction.

Despite demographic differences, parallels do tend to emerge among most distance learners. These similarities include a preference for self–directed, flexible learning and the desire for a customized learning experience (Simonson et al., 2012). According to Mason and Rennie (2006), self–directed learning "usually involves activities that the students carry out either individually or collaboratively" (p. 102). Self–directed learning preferences are particularly applicable in libraries because students often perform research on an as–needed basis, rather than according to a fixed schedule prescribed by their instructors.

Flexibility in online learning situations is especially ideal for adult students who are often balancing school with careers and families. Asynchronous learning activities allow students to take control of the learning process at a pace that suits their schedule. In their study of student learning patterns in Web–based instruction, Chen and Liu (2011) found that students preferred online instruction that is both flexible and personalized. The authors recommend three approaches for identifying students' learning, or "cognitive," styles: monitor students' navigation patterns with decision trees or other data mining techniques; identify preferred navigation patterns with interviews; and administer surveys to determine ways to personalize Web–based instruction (p. 189). Offering customized instruction in a variety of formats will help address differences in learners' technological backgrounds and previous knowledge of a subject.

Digital Learning Objects

The need for individualized instruction is clear, but how can distance educators cater to the desire for a customized learning experience for each of their students? One answer is to create tools, or "learning objects," that can be applied in various modules or courses. Wiley (2000) defines learning objects as "small (relative to the

size of an entire course) instructional components that can be reused a number of times in different learning contexts" (p. 3). Mestre et al. (2011) add that learning objects are often digital and Web–based (p. 237). One of the primary characteristics of a digital learning object is that it can be accessed by a number of people at the same time. The reusable nature of digital learning objects make them ideal for librarians needing to reach hundreds of students at one time, often with little time to devote to the creation of new instructional materials. Digital learning objects, such as PowerPoint or Prezi presentations, online instructional games and tutorials, research guides, podcasts, or surveys, can be used synchronously or asynchronously and are ideal for scaffolding student learning (Mestre et al., 2011).

Digital learning objects support just–in–time learning, a method of instruction "in the form of online modules specific to the topic" which are easily accessible at the very moment the learner requires instruction (Simonson et al., 2012, p. 196). Designers can create information literacy modules to, for instance, address learners with various levels of prior knowledge on a topic. This allows students to focus on specific concepts they are struggling with and bypass the concepts with which they are already familiar (Farkas, 2011). Likewise, tutorials and instructional modules can support multimodal learners by integrating different formats, such as video and text.

Educators can also produce digital learning objects to help increase peer collaboration and foster critical thinking among students. Wikis, blogs, and threaded discussions in discussion boards can all help cultivate a sense of community among students and provide them with opportunities to comment on one another's work (Mestre et al., 2011). Instructors can facilitate critical thinking and open a dialogue by having students provide constructive feedback on their classmates' work.

Distance Education Learning Theories

Understanding students' unique learning traits is an important step in designing instruction for distance learners. One must also understand the pedagogical theories that support these learning styles in order to design and provide the most effective instruction. Educators have commonly subscribed to one of two distinct learning theories that have primarily dominated the DL landscape: constructivism and cognitivism. Despite the dominance of these two theories, advances in educational philosophy and emerging technologies have led to the introduction of new pedagogies that can be applied to DL.

Constructivism

Constructivism is based on the theory that learning is participant–centered and reliant on an individual's previous experiences. In this pedagogical theory, teachers

relinquish some of their authority and control of learning and transfer it to their students through techniques such as peer–tutoring (Jonassen, Howland, Moore, & Marra, 2003). This type of learning is highly collaborative, and constructivists believe that meaningful learning environments come into being when students "explore subject matter in a broader context …by sharing experiences and interacting" (Anderson, Annand, & Wark, 2005, para. 9). Autonomous learning rarely occurs, while peer–to–peer learning is encouraged and expected. This type of learning is often present in higher education, since it is an environment that encourages building social networks and engaging in a "'conversational' approach to the education process" (Anderson et al., 2005, para. 12). Participation in online learning communities may be a comfort to learners who are not happy in the isolated environment of DL classrooms.

Cognitivism

The cognitivist learning theory is characterized by individualized, self–paced learning. Keegan (1990) and Holmberg (1989) argue that adult distance learners crave autonomy. Like–minded theorists agree that DL is characterized by "learner independence and personal responsibility for educational outcomes and processes" (Anderson et al., 2005, p. 225). While this pedagogical theory does allow for some interaction between learner and teacher, there is little to no peer–to–peer interaction. Part of the reason this theory works so well for DL is that it presents learning as context sensitive, which reflects adult distance learners' preference for instruction related to a specific need. Younger distance learners, however, may miss the social connections they have fostered in their everyday life and crave interaction with their peers in educational environments.

Connectivism

More recently, however, theorists are asserting that distance educators do not have to subscribe strictly to either constructivism or cognitivism (Anderson, Poelhuber, & McKerlich, 2010; Siemens, 2004; Downes, 2006). Instead, a new pedagogical theory is emerging that blends the two older models. This theory, called connectivism, reflects the nature of today's social and digital environment. Siemens (2004), one of the principal advocates of the connectivist learning theory, asserts that connectivism presents learning as a series of connections within a learning network. Connectivist learning is based on "conversation and interaction, on sharing, creation and participation, on learning not as a separate activity, but rather, as embedded in meaningful activities" (Downes, 2006, para. 1). Connectivist theorists believe that education can be self–paced and offer autonomy but still provide opportunities for interaction between instructors and students and among learners. This educational model, which has emerged in the last decade, reflects the fact that society is becoming more social and less internalized; theorists believe that learning environments should reflect these societal changes (Siemens, 2004). With the

connectivist theory, educators can design instruction that supports both self–directed, flexible learning and peer collaboration:

> The connectivist model of education can still be self–paced but with the use of social software tools, students can create and enhance connections with other learners, teacher, content, learning networks, and machines….Varied kinds of resources (files, bookmarks, tweets, blogs, homework) are contributed, commented, tagged, shared, and remixed by students and other contributors. (Anderson et al., 2010, p. 4)

This type of learning occurs in short bursts and is driven by the needs and interests of the learner. These characteristics make the connectivist theory suitable for distance learners who prefer self–paced modes of learning, while simultaneously offering plenty of opportunities for peer–to–peer engagement and knowledge sharing.

Connectivism is successful in the DL environment because of the unique tools available to help facilitate learning that are not always present in a traditional classroom. Emerging technologies (many of which came to fruition during Web 2.0) can assist DL instructional designers in creating opportunities for "new types of learning communities that allow learners around the globe to study at their own pace, yet engage in meaningful interactions with others" (Anderson et al., 2005). Specifically, social media tools such as video sharing, blogs, Twitter, and podcasts can foster these connections among students while still allowing for autonomy and just–in–time learning. In coming sections this paper will discuss specific digital learning objects that utilize social media tools.

Urban Distance Learners

While DL has retained many of its traditional characteristics, advances in pedagogical theory and the tools available to facilitate learning have led to a slight shift in the definition of a "distance learner." Early DL focused on external studies and correspondence courses; modern DL, on the other hand, has advanced so that the boundaries of distance education are becoming more indistinct (Spector, 2009). Technology has evolved, creating more opportunities for collaborative learning and virtual communities, regardless of physical proximity. Even as far back as the 1970's, Hopper predicted a blurring of the distinction between on–campus and off–campus students (as cited in Keegan, 1980, p. 18). To assign students to one group or the other assumes that each group has their own specific needs that must be met. While this is true to an extent, one could argue that while students may attend class on–campus, they complete much of their studying away from the university. This is particularly germane to students in an urban environment; many students that live in apartments or houses come to the main university campus to attend their classes and then promptly leave campus for other activities.

In this respect, the library must treat the majority of their student clientele as "distance" learners, regardless of where or how they actually attend class. The American Library Association recognizes this redefinition of distance learners in their *Standards for Distance Learning Library Services* (2008):

> Main campus online users are typically enrolled there, or employed there, and are using online library resources from their dorms or offices, in their apartments, in their nearby family homes, or anywhere they can get Internet access for their laptop computers or other portable devices. These individuals function very much like distance learners and faculty in their online use of library resources and require some of the same kinds of interactions with library personnel.

By creating online tools to assist students in their research, libraries will ensure they are providing quality assistance at any time or any location.

University and Library Profile

Wichita State University (WSU) is a large, four–year, primarily nonresidential university and a member of the Coalition of Urban Serving Universities. The university has a student population of just over 15,000 in a metro area with more than 650,000 residents. Most of the undergraduate students are commuters, with 92% living off campus. Of these students, many work full–time and are on campus only to attend classes. WSU has a fairly significant nontraditional student population, with 32% of undergraduates age 25 or older ("Wichita State University College Portrait," n.d.). WSU has a main campus location as well as three additional satellite campuses located throughout the city.

In the 2011–2012 academic year, WSU offered more than 1,000 evening classes to accommodate students with busy work schedules or other nontraditional requirements. Additionally, the University offers many telecourses (streaming video courses with only occasional on–campus or synchronous online meetings), a large number of hybrid in–person/online classes, and several hundred online–only classes each year. While WSU still offers most courses in a traditional classroom, in 2007 the University submitted a DL proposal to the Higher Learning Commission to begin developing more online classes. According to the proposal, the primary reason for this was to increase opportunities for students unable to pursue degrees on campus, whether by choice or necessity. University administrators recognized that

> many citizens face employment, family, and other responsibilities that make it difficult to take advantage of on–campus programs. In addition, younger students have expectations for the availability of sophisticated technology. Expansion into full online degrees in specified disciplines is expected to meet the needs of these students and to improve their access to higher education. (Wichita State University, 2007, pp. 5–6)

Likewise, WSU's *Distance Education Strategic Plan* (2011) further underscores the need for DL opportunities to support WSU's urban–serving research mission, which

"requires an e–learning strategy that is predominately locally focused and designed to increase flexibility of opportunity and learning approach in order to meet the needs of our students" (p. 2).

The WSU Libraries—comprised of the main building, Ablah Library, and two smaller subject libraries on the main campus—have greatly increased the number of electronic resources available to patrons in order to support the University's efforts to increase DL offerings. In addition to library resources such as research databases and eBooks, the Libraries offer a number of other services and tools available to students remotely. Instant messaging reference services, online research guides, and instructional handouts are all available whether on campus or off. WSU librarians have also begun using social media tools to provide assistance to improve students' research and information literacy skills. Twitter feeds, both through the library's main account and from individual librarians, can provide a fast and easy way to connect with students and provide research assistance. YouTube videos are easily embedded in course management systems to supplement or take the place of face–to–face library instruction. Students can watch the videos when needed and share the content with others in their classes.

Online Research Support

Due in part to the nature of student attendance at urban universities, librarians often struggle to provide research support in a timely manner. Rather than waiting for students to approach them in the library, librarians can follow the model of hybrid, or blended, learning, which combines both online and face–to–face teaching. One of the key features of blended learning is that students can access course material and resources from many different locations, synchronously and asynchronously. While a course might meet in person, librarians can provide online research tools that are accessible to students 24/7 from on or off campus. This accessibility is desirable and supports self–directed learning: "research purports to show that blended learning is more effective and students learn more and enjoy it more than either face–to–face or online teaching alone" because the learning experience is "more tailored and more individualistic, whilst at the same time allowing greater reach and distributed delivery" (Mason & Rennie, 2006, p. 13). Course management systems are among the most convenient tools for providing online research support integrated into a pre–determined learning environment.

Course Management Systems

The course management system (CMS) used at WSU is Blackboard. The latest release of Blackboard, version 9, includes a number of tools for engaging students, including wikis, blogs, and discussion boards. While these offer a great start for adding a social element to DL, creating personalized learning objects allows for further customization to promote student understanding (Simonson et al., 2012).

Librarians are in a prime position to assist faculty members with promoting student learning by creating their own research–based learning objects. As with content produced by teaching faculty, library–produced digital learning objects are most useful when targeted to a specific purpose. As Farkas (2011) points out, "many learning objects are not designed for specific classes or in collaboration with faculty teaching in the relevant areas; also, many sit on library websites instead of online classrooms and so are never found by students they would benefit" (p. 32). Integrating digital learning objects into a CMS is essential for increasing the exposure of these materials and reaching students at their point of need.

WSU Libraries aggregate instructional materials on their websites as many academic libraries do, but in an added push, librarians embed relevant materials into Blackboard as well. Designing digital learning objects that incorporate Web 2.0 tools "greatly enhances the ability of librarians to interactively engage students in learning activities designed to introduce, provide practice in, and eventually demonstrate mastery of information literacy skills" (Mestre et al., 2011, p. 240). Embedding these digital learning objects in Blackboard allows students to choose tools related to specific concepts they may be struggling with in the same environment in which they are already accessing their course materials.

WSU Libraries attempts to integrate librarians into specific Blackboard courses to provide personal and targeted assistance, but this is not always possible. Having a compilation of instructional videos, Twitter feeds, research guides, and other tools available allows faculty to pick and choose the items that they believe will be most useful for their courses. YouTube makes it very easy to copy and paste an embed code, so that extensive html knowledge is not a requirement for video sharing.

Social Media

As stated earlier, social media and social networking sites complement the connectivist model of learning. Web 2.0 learning objects fulfill the requirement of just–in–time availability, and still offer opportunities for peer sharing. Anderson et al. (2010) found that most students are interested in the incorporation of social technologies into their DL programs. Of the social software available, students were most interested in the use of video sharing sites, such as YouTube, and social networking sites like Twitter, mostly because of their previous experience with the tools (Anderson et al., 2010). Social networks, which are built on the premise of collaboration and sharing, are ideal for the connectivist theory because their "interdependence results in effective knowledge flow, enabling the personal understanding of the state of activities organizationally" (Siemens, 2004, para. 6). Librarians can create tools that fit these requirements while at the same time promoting media literacy by offering training and instruction on how to use social networks.

Twitter. While WSU Libraries does use Facebook, the tool is primarily used for marketing purposes. The same is true for the Library Twitter account. In order to have full control of the content pushed to students, this author began using her own personal Twitter account to provide research support, especially when embedding content. This method was used most successfully in an upper level Communication class on social media. Students were required to use social media tools throughout the semester, including setting up their own Twitter accounts and tweeting content regularly. The embedded librarian for the class (this author) and the faculty member set up a hashtag for the course (#wsusm) and tagged all tweets regarding the course with the hashtag. This allowed for all involved to maintain their own Twitter accounts while still interacting with one another. Library–related tweets included news about new library books on social media, links to relevant websites related to course content (see *Figure 1*), and announcements about technology events going on in the library and on campus.
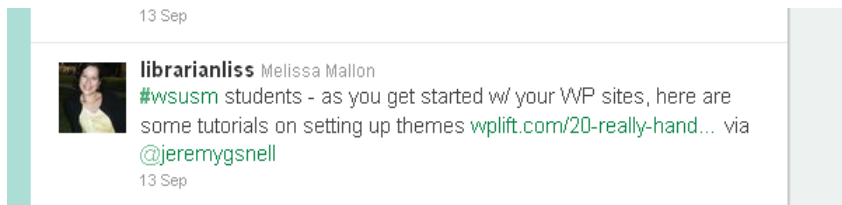

Figure 1. Embedded librarian's tweet for Social Media class.

Students also, on occasion, addressed research questions to the embedded librarian through Twitter. Providing research assistance and relevant resources via Twitter has several benefits. For one thing, it allows for both the librarian and the students to monitor the flow of information on their own timeline. Additionally, it fosters a collaboration and connection throughout the semester that is hard to replicate without seeing the students in–person on a regular basis. Librarians' Twitter feeds can be embedded into a CMS, online research guides, or a library's website to offer multiple points of access.

YouTube. Academic libraries are increasingly using video–sharing sites such as YouTube or Vimeo to support information literacy programs (Click & Petit, 2010). In an era of increasing responsibility and additional time constraints, many librarians are using online instructional tutorials and videos to supplement in–person library instruction or even replace it all together (Adebonojo, 2011). As with many DL learning objects, these videos can stand alone or be part of a larger module or course. Stand alone instructional videos, in particular, allow for students to control the sequence of learning. In a study of learning styles and the use of online tutorials, Bolliger and Supanakorn (2011) found that most students appreciated the flexibility and convenience of online tutorials, preferences echoed by many distance learners. The majority of students also responded that "the tutorials helped them spend less time in learning the material and completing the assignment" (Bolliger & Supanakorn, 2011, p. 477).

Hosting the videos on YouTube rather than on a library server increases the opportunities for students to share or tag videos and collaboratively participate in the research process. Short, focused videos provide just–in–time learning while the option for peer collaboration and sharing makes this form of Web 2.0 media ideal for the connectivist model of learning.

Wake Forest University's Z. Smith Reynolds Library provides a "toolkit" of short videos that teach concrete skills. The library created the toolkit to support students who are used to "media environments [specializing] in short messages and multimedia, with news dispatched in sound bites and snippets of stories" (Pressley, 2008, p. 19). WSU Libraries' purpose for creating the YouTube videos is similar: to provide a convenient, highly customizable suite of short videos covering information literacy concepts and research–related skills. At present, two librarians, including this author, are creating and editing instructional videos. The videos cover a range of topics from using specific databases to accessing Course Reserve material online to finding books in the library's catalog. Most videos are general enough to use for many different purposes, but a select few are targeted to specific courses. One video, for example, teaches students in an Accounting class how to find financial statements for a course assignment. Students watched the video when they were ready to start their assignment, and a discussion board was set up in Blackboard so that students could post questions. The librarian monitored the discussion board by posting answers and tips, but students were also encouraged to respond to their classmates' posts.

WSU Libraries has only recently begun providing instructional tutorials hosted on YouTube and has yet to conduct an in–depth learner analysis. However, as with any step of the instructional design process, evaluation of the product and analysis of learners' needs remain of paramount concern. Both Pressley (2008) and Adebonojo (2011) found, for example, that while students prefer video tutorials, they also appreciate having access to a text summary (for skimming purposes and in case of technological difficulties while viewing the video). Providing text alongside the video is an easy way to support multiple learning styles while also adhering to disability requirements regarding the presence of closed captioning.

Additionally, despite the demonstrated benefits of using social media to provide reference assistance, librarians should take care not to mandate social connection, but to "create compelling but not compulsory activities, so that both social and independent learners can be accommodated" (Anderson et al., 2010). As mentioned earlier, not all DL students will be open to collaboration with peers and may prefer the autonomy of self–directed learning.

Conclusion

Today's urban students are constantly on the go, regardless of whether or not they attend class on campus, online, or both. Adults are returning to universities, and many must achieve a delicate balance between their education, jobs, and families. Academic libraries would be remiss to focus their distance services only on students that are truly "far away." Rather, libraries should offer significant online support and resources around the clock for students who choose to study away from the library.

As Mestre et al. (2011) point out, integrating technology into courses "allows students to create their own learning experiences" (p. 250). Librarians are in a unique position to provide research assistance to distance students through the creative use of online learning objects. By designing a suite of resources that address a range of learning preferences and experience levels, librarians can enable students to create a highly customized research experience. Through the creation of digital learning objects that follow the connectivist approach, librarians can provide both synchronous and asynchronous learning experiences. Taking advantage of social media tools, including video sharing and Twitter feeds, creates a collaborative learning environment where knowledge flows from librarian to student and from student to student.

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