Building from Content to Community: [Re]Thinking the Transition to Online Teaching and Learning

A CTE White Paper

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"New technologies are always used to do old tasks —
until some driving force causes them to be used in new ways."
- Marshall McLuhan

Introduction

The delivery of courses online is nearly as old as the web itself, but as with any innovation some faculty members have been early adopters while others have watched the development with both interest and skepticism. As publishing and managing content on the web has become easier, and as the delivery of online courses has become increasingly more popular, more faculty members have begun exploring ways to offer their courses online. In our work with faculty members interested in teaching online, we have experienced the common perspective that moving a course online is primarily about designing and sequencing course content. While quality course content is a significant factor, we also believe that recent changes on the web - toward a more social and interconnected space - have necessitated the rethinking of what it means to make the transition to online teaching and learning. The unprecedented changes occurring on the web are disrupting the normal practice of teaching and learning and raising questions in the minds of faculty as to whether their own practices should change. In this white paper, we will examine the implications of the social web for learning online and explore a model for instructional practice that has been vetted by research and has proved successful in our own work.

The Web and the Changing Landscape of Learning

We live in an era where the vast storehouse of human knowledge is readily available and easily accessible - quite literally at our fingertips. Using devices from laptops to mobile phones, we can connect to the Internet from anywhere and in moments search for and find information that not only helps us answer questions, solve problems and complete tasks, but also entertains, inspires and confounds us. At the same time, the web has become a place where anyone with a computer and a connection to the Internet can readily publish text, images, audio and video. The web has become a space where human knowledge is stored, reshaped, accessed and redistributed. Information is abundant and knowledge has been set free.

This state of affairs is unprecedented in human history.

We are all engaged in gaining a better understanding of the implications this has for traditional conceptions of education. Additionally, for the purposes of this white paper, we are specifically interested in considering how these changes bring into sharper relief the need to [re]conceptualize what online teaching might mean. Our view is that teaching online is in many ways fundamentally different from teaching face-to-face.

Let us illustrate how the web is changing how and where learning takes place through some examples that have evolved in recent years.

In India, a joint venture of the Indian Institutes of Technology and Indian Institute of Science - representing eight schools in total - have launched the National Programme on Technology Enhanced Learning (NPTEL). Part of this program has focused on providing open access to full video recordings of course-based lectures. These recordings are hosted on NPTEL's YouTube channel and are openly viewable by anyone. NPTEL has posted content in the form of topical play lists that represent complete lecture materials for individual courses. There are currently ninety-five (95)

courses listed. Many of the videos focus primarily on science and engineering topics, with a total of over 3560 videos uploaded. One purpose of this content is to provide open access to science and engineering course materials to India's vast population, many of whom have limited access to advanced educational opportunities. It is common for individual lecture videos, many of which have been up for less than one year, to have 30,000+ page views. No degrees or certificates are awarded by NEPTEL for engaging with the course materials, yet with over 506,000 visitors accessing the NPTEL channel in the 15 months it has been available, it illustrates that many are interested in using these learning materials.

The Massachusetts Institute of Technology (MIT) has been engaged in their OpenCourseWare (OCW) project for over seven years. The OCW is a web-based publication that contains course content for nearly every undergraduate and graduate subject taught at MIT. Syllabi, lecture notes, readings, exams and videos are available for free, and no registration is required to access content. However, OCW is not a credit-bearing or degree-granting initiative, nor does it provide access to MIT faculty. Many of the courses have been translated into Chinese, Spanish, Portuguese, Thai and Persian. MIT OpenCourseWare averages 1 million visits each month; translations receive 500,000 more. With over 73 million visits to date by 52 million unique visitors from virtually every country, it is rather obvious that OCW is serving a need among a diverse population of educators and learners from all over the world.

Academic Earth is an organization that acts as a clearinghouse for thousands of video lectures from the world's top scholars, all openly accessible and free. An excerpt from the organization's web site reads:

> *"As more and more high quality educational content becomes available online for free, we ask ourselves, what are the real barriers to achieving a world class education? At Academic Earth, we are working to identify these barriers and find innovative ways to use technology to increase the ease of learning. We are building a user-friendly educational ecosystem that will give internet users around the world the ability to easily find, interact with, and learn from full video courses and lectures from the world's leading scholars."*

Currently, Academic Earth houses over 1500 videos from MIT, Stanford, Berkeley, Harvard, Princeton, and Yale all of which have been published under a Creative Commons license at the host institution. Again, while these materials are loosely arranged into "courses" they are non-credit bearing, but nevertheless they are part of a growing trend of openly available courseware on the web.

The OpenCourseWare Consortium is a collaborative effort involving over 200 institutions of higher education from around the world that are working to create a broad collection of open educational content. The stated mission of OCWC is to "advance education and empower people worldwide through open courseware." A mirror organization at the community college level is the Community College Consortium of Open Education Resources. At both of these consortia, courses and materials are available for free and can be adapted for reuse under an open license. Through this shared and open model, the consortia endeavor to broaden the open courseware concept and encourage the ongoing development of high quality course design and educational content through the use of its materials.

This placement of content online has been occurring at an ever-expanding rate for nearly a decade. As underscored by the above examples, content alone does not make a course, nor an education. Anyone can access the courses in MIT's OCW program, but obviously a degree from MIT not only reflects the access to content, but crucially includes, the access and interactions that occur when skilled faculty in the field facilitate that education.

In other words, access to information does not lead to knowledge. Everyone has access to high quality learning content. Teaching online therefore means more than serving up content. Faculty are critical, in that they are the drivers of quality course design, content mastery, and the skilled facilitation of learning.

These changes are serving to disrupt teaching as we previously knew it, and are occurring at the very time that many academic programs are beginning to explore the addition of online courses to their traditional offerings. As universities and their faculty members continue to make sense of these changes, the above examples begin to paint a picture of the ways in which

the web is changing the access to and availability of quality educational content. Several features begin to emerge and dot the horizon of this new learning landscape:

- Open course materials available on the web have created unprecedented learning opportunities for people on a global scale.
- The tools and resources to support self-directed online exploration of a wide range of academic subjects are widely available.
- Informal web-based learning opportunities organized as "courses," are becoming increasingly abundant.
- This widespread online availability of course materials does not preclude the ultimate importance of quality online teaching.

Within this context of openly accessible and abundant learning content on the web, it becomes very clear that online teaching is not only about sound course design and high quality learning content, but increasingly it is about the skilled facilitation of learning by faculty who understand how to interact with and engage students in this new learning landscape. From our perspective, this transition is far from seamless.

Historically, higher education has been based on a model of scarce resources. Knowledge, in the form of scholars and the works they produced, were housed in centers of learning known as universities. The internet is fundamentally changing that model. We now live in an era where anyone has unprecedented access to information and knowledge. The internet has afforded individuals the opportunity to connect and communicate at almost no cost in ways that were unthinkable a generation ago. We are beginning to rethink what education means in new ways. Terry Anderson (2007, p. 54) noted:

> *"Education, however, is not only about access to content. The greatest affordance of the Web for education use is the profound and multifaceted increase in communication and interaction capabilities."*

We believe that the practice of teaching online requires a shift toward practices that facilitate learning in web-based environments. Our experience suggests that these shifts are not always transparent to those wishing to make the transition to teaching courses online.

In what follows, this white paper will endeavor to provide a brief overview of the state of online learning within the U.S., offer a research-based framework for guiding faculty in the translation and application of key instructional practices to the online environment, and offer discussion of key questions and issues for faculty / departments / schools as they consider developing online courses and programs.

Education is not the filling of a pail,
but the lighting of a fire.
- William Butler Yeats

State of Online Learning Nationally

In the twenty years since a small institution called the University of Phoenix began offering online courses, the size and scope of online education has exploded worldwide. Today, the University of Phoenix has an enrollment of more than 345,300 students, with a significant percentage pursuing their courses online.

For-profit institutions dominated online education initially, but that dominance is fading as non-profit institutions of higher education move into the online market. Eduventures, a higher education research and consulting firm, reported in 2007 that the typical advantages held by traditional institutions, such as name recognition and geographic dominance, influenced students' decisions about where to go to college, even in the online market (Carnevale, 2007).

Nearly four million students nationally were taking at least one online course during the fall 2007 term - a 12 percent increase over the number reported the previous year and a 66 percent growth in three years (Allen and Seaman, 2008). At the regional level, the Commission on Colleges of the Southern Association of Colleges and Schools has now added accreditation standards for online courses (COC-SACS, 2006). Student demand for online courses nationally is increasingly generating competition between institutions (Allen and Seaman, 2008). Online education nationally has matured in the past decade from pilot programs to a mainstream method for delivering courses of instruction at many institutions.

Credit: adesigna

As institutions of higher learning have begun to provide instruction over the internet, three separate and distinct methods of delivering instruction have emerged, so let us start with some basic definitions. **Face-to-face instruction** remains the predominate mode of instructional delivery at most institutions, though it is common for these classes to be web enhanced with from 0 to 29 percent of instruction delivered online. In the past decade, it has become common nationally for institutions to have courses and even entire programs which are delivered as totally **online courses**, where at least 80 percent of the course content, activities, discussions, and assessments occur online, either synchronously or asynchronously. If national trends are any indication, the demand for totally online delivery of instruction is expected to increase. In between face-to-face instruction and totally online instruction, we have **hybrid or blended courses** where between 30 to 79 percent of the instruction is delivered online (Allen and Seaman, 2008). As stated earlier, this white paper will focus on assisting faculty who wish to transition to totally online delivery of teaching and learning.

In the sixth annual Sloan Consortium report on the state of online learning in U.S. higher education, Allen and Seaman (2008) reported that online learning in America has continued to grow at rates that far exceed the growth of higher education itself.

- Over 3.9 million students were taking at least one online course during the fall 2007 term; a 12 percent increase over the number reported the previous year.
- The 12.9 percent growth rate for online enrollments far exceeds the 1.2 percent growth of the overall higher education student population.
- Over twenty percent of all U.S. higher education students were taking at least one online course in the fall of 2007.

Nationally, over 80% of these nearly 4 million online students are undergraduates. Many of these undergraduates are working adults trying to balance home, work and academic lives. Doctoral institutions have reportedly lagged other forms of higher education in adopting online delivery, primarily because online delivery was not previously seen as implicit with the core mission of the institutions or its student population. However, 55% of doctoral/research institutions now report that online delivery is critical to the long term strategy of the institution (Allan and Seaman, 2008). This reflects changes in student demand as well as recruitment challenges. The SLOAN report found that the recent economic downturn was having a positive effect on online demand and enrollment across all forms of higher education. It also found that online education was growing across all disciplines and not restricted to any particular discipline. Interestingly, the student demand for online education does not translate into students seeking universities across the world. The most recent study found that the trend for students to take online courses from local institutions remained consistent. Eighty-five percent of online students live within 50 miles of their institution of higher education (Allen and Seaman, 2008).

A survey of 8,500 faculty nationally found that student need was the primary factor in the decision to move to online delivery of education. Faculty cited meeting student access needs and meeting needs of particular students as the two top reasons for providing online education (NASULGC, 2008).

The growth in online education is occurring at the K-12 level as well. Michigan was the first state to require an online learning experience for high school graduation. The rationale noted in Michigan was that:

> *"Completing a meaningful online learning experience in grades 6-12 with a specific emphasis at the high school level, will allow students to become familiar with a key means of increasing their own learning skills and knowledge. It will also*

> *prepare them for the demands that they will encounter in higher education, the workplace, and in personal life-long learning. While students informally develop technology skills and gain experience through their media-rich lives, an online learning experience will require them to complete assignments, meet deadlines, learn appropriate online behavior, and effectively collaborate with others in an instructional setting (Michigan Department of Education, 2007)."*

The Florida legislature recently passed a new law that takes effect Fall 2009 requiring every district in the state to set up an online school for kindergarten through eighth-grade students (Weber, 2008; Florida Department of Education, 2008). Virtual Virginia Advanced Placement School reported that it offered online course to over 3,000 high school students in Virginia (Abramson, 2008), and these numbers will grow. Reinforcing this point, the International Association for K-12 Online Learning reported (iNACOL, 2008):

- 44 states have significant supplemental [K-12] online learning programs, or significant full-time programs (in which students take most or all of their courses online), or both. Of the states that do not have either of these options, several have begun planning for online learning development. In addition to the spread of online learning programs to most states across the country, the majority of existing online programs show considerable growth in the number of students they are serving.
- 34 states offer state-led programs or initiatives that are designed, in most cases, to work with existing school districts to supplement course offerings for students.
- As of January 2007, there were 173 virtual charter schools serving 92,235 students in 18 states.
- 57% of public secondary schools in the U.S. provide access to students for online learning.
- 72% of school districts with distance education programs planned to expand online offerings in the coming year.

Given the technological changes in K-12 education and the move to increase online learning in elementary and secondary levels, we may expect that our future students will be well versed in online learning and will expect online courses as options for their study. As Susan Patrick, President, North American Council for Online Learning (NACOL) noted (Watson, 2006):

> *"After all, the young people of this "Millennial" generation grew up with the Internet and thrive in a multimedia, highly communicative environment. Learning online is natural to them—as much as retrieving and creating information on the Internet, blogging, communicating on cell phones, downloading files to iPods and instant messaging. Online learning and virtual schools are providing 21st century education and more opportunities for today's students."*

The digital revolution is far more significant than the invention of writing or even of printing.

- Douglas Engelbart

Teaching Online – What is Different?

Higher education faculty in general are beginning to explore online delivery of their courses and a natural question for them is how does one translate what they are currently doing as they transition their course online?

In reviewing the literature, many suggest that the while the content and the learning outcomes are the same, the manner in which that content is delivered and the interactions with students are quite different. Ko and Rosen (2008) suggest that developing an online course starts at the same place where one develops a face-to-face course. One sets the goals for the course, describes the specific learning objectives, defines the tasks necessary to meet those objectives, and then creates applicable assignments around these tasks. The fundamentals are the same, the technique is very different. So in many ways, the design of an online course mirrors the design of a face-to-face course. Both have clear learning objectives. Assessment of learning is critical in both. Yet the fundamental practices for delivering the instruction and facilitating learner interaction are quite different.

What is different in our view flows from our observation that the web has become social. Online courses require the social presence of the faculty in order for the course to be effective. Several studies have reinforced the importance of the faculty's social presence in an online learning environment (Tu, 2000; Richardson and Swan, 2003; Rovai and Barnum, 2003; Palloff and Pratt, 2007). Social presence supports the notion that students see the faculty (and each other) as "real" people in their online class.

This social presence of students leads to our second difference. Students need to form a learning community in order for the course to be effective. While faculty traditionally work to create a learning community in face-to-face classes, a common mistake in translating educational work online is to see the process as individualistic. Earlier in this decade, nearly 80 percent of elearning was designed for solo work, which in effect made it little different from correspondence courses (Galvin, 2001). Research has shown that learning:

> *"is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions improves thinking and deepens understanding" (Chickering and Gamson, 1987, p. 1).*

Finally, active engaged learning activities are required for the course to be effective. This was illustrated in a study in which Chickering and Gamson (1987) synthesized fifty years of research and developed seven principles that they viewed as core to effective teaching:

1. Good Practice Encourages Student-Faculty Contact
2. Good Practice Encourages Cooperation among Students
3. Good Practice Encourages Active Learning
4. Good Practice Gives Prompt Feedback
5. Good Practice Emphasizes Time on Task
6. Good Practice Communicates High Expectations
7. Good Practice Respects Diverse Talents and Ways of Learning

Good teaching online is no different than good teaching face-to-face, in that effective teaching incorporates each of these practices. Chickering and Ehrmann (1996) expanded on these principles to illustrate that technology can be a lever to implementing these principles. The Task Force on Quality in Distance Education for the University System of Ohio has also adopted these seven principles as foundational to e-learning (Ohio Learning Network, 2003).

Therefore, to explore how faculty would translate their face-to-face experience to online teaching, it is helpful to see how these principles translate in an online environment (TLT Group, 2004; Graham et al, 2001). In what follows, we outline a series of vignettes, supporting material and links to online tools meant to articulate how the seven principles can be applied as a means of supporting the transition to online teaching and learning.

Good Practice Encourages Student-Faculty Contact

Scenario:

Chickering and Gamson noted that "frequent student-faculty contact in and out of classes is the most important factor in student motivation and involvement." Professor Jane Algood is teaching online for the first time, and is looking for ways to build a sense of community with her class, made up of graduate students scattered across several states. She is worried that her students will not get to know her, nor she them. So as an initial activity during the first week of the class, she has her students build homepages in their learning management system, and she models this in her own online profile.

In her profile, she not only provides the typical biographical information, but also a picture, a link to her departmental web page, and a short description of her current research (and why this research is important).

She also in the first week uses an audio program to allow her and her students to record and post short audio clips describing why her course is of interest to each of them.

She comments on each student's homepage, drawing connections between her work and life

and those of her students. She also records replies to the student audio posts. During text-based discussions in the first weeks, she is able to draw back on these comments to personalize and individualize remarks made to specific students.

Over the course of the semester, she continues to look for opportunities that allow her and her students to have a voice in a totally online environment. She uses a synchronous web conferencing application for "office hours", and short video screencasts to answer student questions. In these ways, she becomes very real to her students, and finds that likewise, she is getting to know them at a deeper level than she originally suspected. The students – having heard Jane "speak" – see her as a warm and approachable faculty member, even though they never physically meet her. Her use of web based communication tools has allowed her to bridge the distance between her and her students.

The first of the seven principles is 'encouraging faculty-student contact.' Chickering and Gamson studied decades of educational research and noted that "faculty concern helps students get through rough times and keep on working. Knowing a few faculty members well enhances students' intellectual commitment and encourages them to think about their own values and future plans" (p. 1).

In the past decade, the internet has evolved from a destination where one went searching to a social medium where two-way interaction is common. Therefore, faculty and students in online classes now have multiple means for establishing, maintaining, and reinforcing contact and communication. Learning management systems such as Blackboard, Angel, or Moodle provide multiple connection and communication opportunities such as announcements, email, discussion forums, and synchronous voice or text chat. In addition to these applications in the various learning management systems, there are also numerous web applications that provide faculty and students with convenient and easy access to the means by which each can connect and communicate with the other. Examples would include Google applications, wikis, blogs, and Skype.

Arbaugh (2001) noted that the online teaching environment "can in fact reduce the traditional social distance between instructor and student" and that instructor immediacy behaviors did enhance student satisfaction. Arbaugh listed such instructor behaviors as providing personal examples, demonstrating a sense of humor, showing comfort with the online experience, and encouraging expression of ideas and discussion.

Tool Box

- Audacity – Audio file recorder
- Blackboard Profile Page
- Blogs
- Learning Management System (Blackboard, Angel, Desire2Learn, Moodle)
- Online Chat
- Skype
- Wiki

This is consistent with the need for a "social presence" reported by Stacey and Fountain (2001).

As we have noted before, several studies have reinforced the importance of the faculty's social presence in an online learning environment (Tu, 2000; Richardson and Swan, 2003; Rovai and Barnum, 2003; Palloff and Pratt, 2007). Whereas face-to-face communication has the most social presence and text on a page has the least, online courses fall in between. It takes conscious thought and action for students to see the faculty (and each other) as "real" people in their online class. Palloff and Pratt note:

> *There is one important element, however, that sets online distance learning apart from the traditional classroom setting: Key to the learning processes are the interactions among students themselves, the interactions between faculty and students, and the collaboration in learning that results from these interactions (p. 4).*

Student-faculty contact does not just occur but instead is the result of active participation and interaction by the faculty with her or his online students. Mupinga, Nora and Yaw (2006) noted that frequent communication with the instructor puts the online students at ease to know they are not missing anything or that they are not alone in cyberspace. Interaction with online instructors has been correlated with

increased learning. Students with the highest levels of interaction with the instructor also had the highest levels of learning, according to Frederickson et al. (2000). The perceived presence of faculty in online classes is therefore critical.

Good Practice Encourages Cooperation among Students

Scenario:

The social nature of the web provides rich opportunities for collaboration. Professor Rob Sommerson wanted to take advantage of the rich resources that were abundantly available on the web, but he did not want to overwhelm his online students with information overload. He wanted his students to explore and share resources between themselves in ways that made the synthesis of information more efficient for both him and his students. Rob saw his students not as passive recipients of knowledge but as fellow researchers who he wanted to develop as critical users of the web. "My student-researchers and I tried something a little different to kick off our semester. Instead of the standard syllabus that requires everybody to read a few articles to discuss, we decided instead to organize ourselves so that we could try to really read a good chunk of the literature on a single topic each week. It follows the logic that all of us are smarter than any of us."

So Rob had each of his students find five different articles each week to read and post summaries on a **wiki**, a collaboratively edited website. Students also linked to their articles in a **social bookmarking** site tagged with the week's topical category. Student discussions and assessments were based on the summaries, leading students to depend on each other's summaries. As the course progressed, one student voluntarily began adding a summarizing note that brought out common themes from across the articles. Others in the class edited this note and developed a weekly note guide to the article research. The end result was a rich resource every week of background literature to supplement the textbook and add relevance to the course.

Rob was very satisfied with the results. He noted that he had never been able before to develop such deep **discussion board** conversations based on the literature. "I count it as a huge success, and I would highly recommend it to any other faculty out there looking to spark an engaging conversation with your students." (Based on Wesch, 2009)

A common mistake in translating educational work online is to see the process as individualistic. Earlier in this decade, nearly 80 percent of elearning was designed for solo work, which in effect made it little different from correspondence courses (Galvin, 2001). Chickering and Gamson's review of research showed that learning:

> *"is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions improves thinking and deepens understanding" (p. 1).*

Clark and Mayer (2003) suggest that one way to build cooperation among students is to design assignments online that require collaboration among learners. By placing students in groups that optimize interaction, one can structure group assignments around specific learning objectives.

Tool Box

- Delicious.Com
- Discussion Board
- Google Docs
- Learning Management System (Blackboard, Angel, Desire2Learn, Moodle)
- SlideShare
- Social Bookmarking
- Wiki
- YouTube

Discussion forums are a good starting point for student-student contact. Graham et al (2003) suggested that discussions be required in online classes and that a portion of their grade depend on participation. Online discussions require a bit of a balancing act by faculty. Students want their faculty present in discussions, but

too great a presence has been shown to stifle student conversation. As with classroom learning, the best discussions are those facilitated by faculty direction but conducted by the students themselves.

Credit: D'Arcy Norman

Learning management systems like Blackboard, Angel, and Moodle provide for both class-wide and group discussion forums. The web offers numerous other options, such as collaborative writing through Google Docs or wikis. Faculty can model and encourage commenting on student-generated content in blogs, social networking sites, or content sites such as SlideShare and YouTube. Peer review not only encourages cooperation among students, but develops deeper critical thinking practices and metacognition. Building in peer review can also reduce the time faculty spend in critiquing student work, as the level of submitted work tends to be higher when previously screened by peers. The web of course offers opportunities for global review as well, which also has improved the level of student work (Wang et al, 2005).

The New Media Consortium in its 2009 Horizon Report sited collaboration webs as a near-term emerging trend. It goes on to state that online collaboration applications make:

> *"…it easy for people to share interests and ideas, work on joint projects, and easily monitor collective progress. All of these are needs common to student work, research, collaborative teaching, writing and authoring, development of grant proposals, and more. Using them, groups can collaborate on projects online, anywhere there is internet access…faculty can evaluate student work as it progresses, leaving detailed comments right in the documents if desired in almost real time. Students can work with other students in distant locations, or with faculty as they engage in fieldwork."*

The evolving web now has free tools that allow one to quickly assemble a space for collaboration. Encouraging the social presence of students in online courses reinforces this collaboration, which in turn builds community and enhances learning.

Good Practice Encourages Active Learning

Scenario:

Rather than passively reading text or listening to a lecture, learning is enhanced when the student is actively involved in the process. Professor Allie Johansen had used Think-Pair-Share activities in her face-to-face lectures to bring active learning to her students, and she is now moving her class online. She liked how these active learning techniques got students involved in analyzing and thinking deeper about issues, as opposed to simply regurgitating facts. So during the first week, Allie had her class set up **Skype** buddies for web conferencing. Each week, she would pose an issue and require the students to discuss this in with their buddy before commenting in the discussion board. She found that the online discussions quickly became deeper and more nuanced, precisely because her students had reflected on the issue together before posting individually in the online forums.

Her students liked the ability to talk among themselves, so she expanded the concept to weekly group discussions that were coordinated and recorded by her students. The archived group discussions were posted as **podcasts** so that students and colleagues outside the group could

also tap in to what those in the group were thinking. Allie joined one group each week for these discussions, and she was able to invite colleagues to also participate.

Interestingly, Allie found that her students began expanding their buddy network to draw in other students whose knowledge they respected. Through these online **asynchronous** and **synchronous discussions**, Allie added a richness to her class that excited her students and motivated them to dig even deeper in their personal learning.

Chickering and Gamson stated that learning:

> *"is not a spectator sport. Students do not learn much just sitting in classes listening to teachers, memorizing pre-packaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves" (p. 1).*

The same is true of online learning – students do not learn much individually from reading a text or viewing a powerpoint and then taking a test.

The vast resources of the web offer opportunities for new types of assignments, where students are guided in researching topics and sharing the resources they find. Blogging and wikis offer excellent mechanisms to facilitate this active learning. Rather than passive recipients of knowledge, students can be encouraged to be active developers of knowledge. The use of co-constructed knowledge and meaning – through interaction, collaboration, and reflection – can lead to deeper learning outcomes (Palloff and Pratt, 2007; Garrison, Anderson and Archer, 2000).

Graham et al (2003) suggested having students make presentations online:

> *"Students learn valuable skills from presenting their projects and are often motivated to perform at a higher level. Students also learn a great deal from seeing and discussing their peers' work.*
>
> *While formal synchronous presentations may not be practical online, instructors can still provide opportunities for projects to be shared and discussed asynchronously. Of the online courses we evaluated, only one required students to present their work to the class. In this course, students presented case study solutions via the class Web site. The other students critiqued the solution and made further comments about the case. After all students had responded, the case presenter updated and reposted his or her solution, including new insights or conclusions gained from classmates. Only at the end of all presentations did the instructor provide an overall reaction to the cases and specifically comment about issues the class identified or failed to identify. In this way, students learned from one another as well as from the instructor."*

Tool Box

- Asynchronous Learning
- Blogs
- iMovie
- Learning Management System (Blackboard, Angel, Desire2Learn, Moodle)
- Online Chat
- Podcasts
- Skype
- Synchronous chats / Web Conferencing
- TechSmith Jing
- Wiki

Just a decade ago, it took sophisticated software and expertise to place a video online. Now, tools such as iMovie and TechSmith's Jing give both students and faculty affordable and easy means to create online presentations themselves. The New Media Consortium labeled this the "Grassroots Video" movement (NMC, 2009):

> *"Virtually anyone can capture, edit, and share short video clips, using inexpensive equipment (such as a cell phone) and free or nearly free software. Video sharing sites continue to grow at some of the most prodigious rates on the internet; it is very common now to find news clips, tutorials, and informative videos listed alongside the music videos and the raft of personal content that dominated these sites when they first appeared. What used to be difficult and expensive, and often*

> *required special servers and content distribution networks, now has become something anyone can do easily for almost nothing. Hosting services handle encoding, infrastructure, searching, and more, leaving only the content for the producer to worry about. Custom branding has allowed institutions to even have their own special presence within these networks, and will fuel rapid growth among learning-focused organizations who want their content to be where the viewers are."*

In the past, the students came to the faculty for knowledge. In today's collaborative web, knowledge can be co-created and shared by the students. Placing the students as active drivers of their own learning potentially increases deeper learning and enhanced participation.

Good Practice Gives Prompt Feedback

Scenario:

The web has solved the time delay issue in many classes of turning around homework or questions with timely responses. Rather than waiting until a class meeting, faculty can use a variety of tools to provide feedback. Professor Bob Heinlein finds that the quick feedback loops enable him to focus his lessons more effectively.

Before moving in to a weekly module, Bob posts an **online poll** to determine the extent to which his class has prior knowledge of the subject. As students complete the poll, they instantly see how they compare to their classmates. Bob is able to use the data to streamline some sections he planned to cover while expanding others he felt were foundational and not well understood by his students.

Bob and his students all subscribe to an **instant message service** on the web tied to a popular **social networking site**. At a class, students can see if Bob is "In" or not and drop him a note or question. Bob is able to respond by text or suggest the student "call" him using **Skype**. If several students hit him with similar issues, he records a quick screencast tutorial response using **Jing** and posts it on his class website. Bob has found that he typically needs to make two kinds of responses. Some of his feedback is informational, but equally important is his acknowledgement and positive strokes feedback.

Some of his students recommend using a **microblogging** service for more immediate feedback and exchange of information and questions. Bob finds that these tools enable him to quickly share thoughts and resources, and in modeling this behavior, he grows this practice among his students. As he interacts routinely with his students across several social media sites, he sees his students connecting not only with him but with some of his colleagues they find through his sites.

Students need help determining what they know and what they do not know. Bob effectively uses web tools to provide timely and frequent feedback, guiding his students in their learning journey. Bob's students see him as someone who truly cares for them and their success.

As Chickering and Gamson noted:

> *"Knowing what you know and don't know focuses learning. Students need appropriate feedback on performance to benefit from courses. In getting started, students need help in assessing existing knowledge and competence. In classes, students need frequent opportunities to perform and receive suggestions for improvement. At various points during college, and at the end, students need chances to reflect on what they have learned, what they still need to know, and how to assess themselves" (p. 1).*

Feedback that is clear, specific, and timely motivates students to improve. Conversely, the absence of prompt, useful feedback reduces interest in learning (Desrochers, 2005).

The online environment provides multiple mechanisms for feedback. Learning management systems like Blackboard, Angel, or Moodle provide for the posting and review of grades. Assignments can be marked up and returned electronically. Formative practice tests can be taken multiple times with immediate feedback. Email and discussion forums offer opportunities for feedback as well. Office hours can be conducted online through web conferencing or chat rooms.

Tool Box

- Instant Messaging
- Learning Management System (Blackboard, Angel, Desire2Learn, Moodle)
- Microblogging (Twitter, Yammer)
- Online Polling (Zoho Polls, PollDaddy)
- Skype
- Social Networking (Facebook)
- TechSmith Jing

"Prompt feedback" can mean different things to faculty and students. Mupinga, Nora and Yaw (2006) found that seventy-nine percent of the students they surveyed expected the assignments they submit to be graded "immediately," and if that was not possible, "at least [in] two business days," but not later than the "following week."

The 2007 National Survey of Student Engagement noted that only 53% of students thought that they had received prompt feedback (NSSE, 2007). This survey of nearly 300,000 students nationally was not specific to online courses, but the interesting fact is that faculty surveyed thought they had provided prompt feedback nearly 90% of the time. Given these perception differences, it is important to drive expectations by explicitly stating timeframes for feedback. Faculty should note their use or non-use of instant messaging, social networks like Facebook, as well as turnaround times for email and graded assignments. Letting students know that a faculty member will be away at a conference alleviates concerns that could arise over that time period.

The absence of body language in online classes highlights the need for alternative forms of feedback in both directions – faculty to student and student to faculty. Use of social media sites enables faculty and students to connect and communicate in more timely ways, overcoming the barriers of time and space.

Good Practice Emphasizes Time on Task

Scenario:

Chickering and Gamson noted that there is no substitute for time on task. Time management of online work can sometimes be a weakness in some students. When Professor Leigh Adams taught her first online class, she decided that online learning meant maximum flexibility for her students. She therefore laid out a series of assignments and expectations for her course, but she did not establish any deadlines.

Twelve weeks into the course, Leigh knew that she was in trouble. Most students had delayed starting their work and most had only completed a few assignments. Now that she was in the closing weeks of the course, students were suddenly barraging her with either poorly written papers or requests for incompletes. Leigh began to panic because she found that she did not have adequate time to provide detailed feedback to each of her students, and she felt rushed to just provide some type of grade to the students.

Leigh learned her lesson. The next semester, she established in her online class a series of deadlines each week to control the flow of the class, keep all members together on the subject of the week, and ensure that both she and her students devoted adequate time on the topic for that week. She set up staggered deadlines so that course readings and journaling/commenting occurred before written work was submitted.

More importantly, she shifted the time management responsibility on to the students. She had the students keep an online learning log in a personal learning **wiki**, where students utilized rubrics to self-evaluate their progress and level of effort. She was able to intervene when she saw students were not adequately spending time on the subject matter that it required.

The students did not really lose any flexibility, because they could determine when in the week they worked, as long as their outputs were posted by due dates. Leigh also found that retention in her class improved, as students found the structure and the tools they needed to be successful. As one student noted, "I really worked harder in this course than in my other courses on campus, but I got so much more out of this course. I am telling my friends to take Ms. Adams' course!"

"Time plus energy equals learning. There is no substitute for time on task. Learning to use one's time well is critical for students and professionals

> *alike. Students need help in learning effective time management. Allocating realistic amounts of time means effective learning for students and effective teaching for faculty. How an institution defines time expectations for students, faculty, administrators, and other professional staff can establish the basis for high performance for all" (1987, pp. 1-2).*

Chickering and Gamson's comments hold equally well in online classes. A misconception that some students have is that online classes have no deadlines. Faculty that allow this are setting themselves and their students up for failure. Breaking the class into discrete modules and having deadlines for work helps mold the students into a learning community that is always together on the same topics. Deadlines help students achieve the tasks necessary to meet the learning objectives in a systematic way. As Graham et al (2003) noted, "regularly-distributed deadlines encourage students to spend time on tasks and help students with busy schedules avoid procrastination. They also provide a context for regular contact with the instructor and peers."

The concept of setting deadlines is not new in teaching, and yet our work with faculty suggest that this misconception exists about deadlines online. Deadlines are equally important online, but they also need to be consciously structured around time management issues. For instance, with 24/7 availability of the course, does it make sense to have written assignments due at the same time as discussion comments? Should commenting be structured so that reflection and replying are factored in? If students are scattered over multiple time zones, how does one communicate "when" an assignment is due?

Tool Box

- Learning Log
- Rubric
- Wiki

Time on task is also an issue for faculty teaching online. The Teaching and Learning with Technology Group polled faculty and collected their ideas regarding online teaching using the Seven Principles (TLT Group, 2004). In the section on Time on Task, faculty noted that students reported that online instruction took longer than equivalent instruction in face-to-face classes. This was backed up by a study by Spector (2005), but significantly, while students invested slightly more time in online courses, it was the faculty, all of whom were experienced online teachers, who invested considerably more time in their online courses. Cavanaugh (2005) noted similar findings in his study of online teaching but had an alternative viewpoint. He concluded:

> *"There are many advantages to teaching online. It provides flexibility to the instructors schedule and is a rewarding format for faculty with a keen interest in the application of technology in their teaching. Although the time demands here were large, teaching online was significantly less burdensome then these numbers suggest. The reason for this is because the work was largely performed at the convenience of the instructor. Even so, this analysis did not address the large front-end cost of developing an online course, or any additional grading time that may be required for an online course. All of these issues should be considered carefully by an instructor or an administrator thinking about developing/offering an online course."*

Faculty transitioning their course online must therefore consider their own time on task issues. The redesign of the course, the mapping of assignments and assessments to learning outcomes, and the development of the learning process all require considerable investment of time up front. This is an investment, as the online course that is developed can be used with some enhancement in subsequent semesters.

Students can bring their own misconceptions about the level of effort needed online to their courses. Just because a course is available 24/7 does not mean that a student can necessarily sign up for 20 hours of online courses and hold down a full-time job. Helping students understand the time on task requirements of the course up front will facilitate the successful completion of your course by your students.

Good Practice Communicates High Expectations

Scenario:

Sam Walton once remarked that "High expectations are the key to everything" and his comment holds true in online classes. Anne Gardner wants her students to be successful learners and participants in her online classes. Rather than just providing the typical syllabus, overview of the class, list of educational outcomes, and brief description of weekly units, she goes the next level.

In the first week of her online class, she administers a **knowledge survey** so that the students can see with her where they are starting and where they need to go. Using the results, she uses a **wiki** to collaboratively map out with her students the course, thereby providing a road map for meeting the course outcomes. A side benefit of the results of the knowledge survey is the ability to create learning teams that have differing depths of experience.

For both discussions and assignments, Anne provides a **rubric** which sets standards for student work which is exemplary, meets the criteria, generally meets the criteria and does not meet the criteria. She emphasizes that students will be expected to do a great deal of reading and participate in meaningful **online discussions** about the readings, address questions, and challenge or support other student or instructor postings with their own ideas which are supported by research and citations.

Anne is a firm believer in teaching by example. She provides an overview of the discussion forum environment and writes her own posts to serve as examples of what is expected of all class participants. Her posts and responses articulate her ideas, the text in her postings has been spell checked, and her statements are supported by citations, complete with the URL and date of access. She makes it clear that successful participation in discussion forums requires regular login, reading, reflection, research and meaningful contributions to the conversation.

At the midpoint and again at the end of the course, she surveys the students to ensure they are staying on track towards the learning objectives. The knowledge survey serves as both a formative and summative assessment tool for her own teaching, and reinforces to the students the learning gains they were making in her class.

Anne's high expectations provide solid grounding for her students who are new to the online environment and provide them with approaches and a work ethic that will help them throughout all their online classes.

Chickering and Gamson noted that faculty should expect:

> *"more and you will get it. High Expectations are important for everyone - for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated. Expecting students to perform well becomes a self-fulfilling prophecy when teachers and institutions hold high expectations of them and make extra efforts"*

Graham et al (2003) had three good suggestions for communicating high expectations in online classes. First, they suggested giving challenging assignments. They noted that in one study, the instructor assigned tasks requiring students to apply theories to real-world situations rather than remember facts or concepts. This case-based approach involved real-world problems with authentic data gathered from real-world situations.

A second way in which they suggested communicating high expectations was to provide examples or models for students to follow, along with comments explaining why the examples are good. A good example is providing examples of the types of interactions one expects from the discussion forum. One faculty member gave an example of an exemplary posting along with two other examples of what not to do, highlighting trends from the past that this faculty wanted students to avoid.

Third, they noted that publicly praising exemplary work in itself communicates high expectations.

Other techniques are effective at communicating expectations. A Knowledge Survey is a method of evaluating the delivery of a course through gathering feedback from the learners on the level of the knowledge they acquired after the completion of the instruction. It usually consists of a series of questions that cover the full content of the course. The surveys

evaluate student learning and content mastery at all levels: from basic knowledge and comprehension through higher levels of thinking. Knowledge surveys can serve as both formative and summative assessment tools. They are effective in helping students learn, faculty improve their delivery, and departments explore new approaches to teaching.

Tool Box

- Discussion Forum
- Knowledge Survey
- Rubric
- Wiki

The key feature of Knowledge Surveys is that students do NOT answer the questions. Instead, they say whether they COULD answer the question and with what degree of confidence. For example, a typical multiple choice answer could be of the following form:

- I know the topic quite well.
- I know the at least 50% of the topic partially, and I know where I can find more information about it. Within 20 minutes, I am confident I can find the complete answer.
- I am not confident I can answer the question.

Delores Knipp used online knowledge surveys at the beginning and end of her physics course and reported (Knipp, 2001):

> *"Besides providing insight into how to focus instructional efforts, this knowledge survey acted as a course road-map for the students and me. The survey served as a vehicle to convey to students the conceptual knowledge they should possess at the end of the course. At the end of the course the survey gave my students a qualitative measure of their knowledge gain over the semester. I presented a summary of the results to the class at the end of the semester. Additionally, I was able to verify that student impressions of their knowledge level were borne out by the final exam results."*

Rubrics are also an excellent way to communicate high expectations (TLT Group, 2004). By providing both the anticipated end result and measures for minimum, good, and exemplary performance, faculty give online students the tools they need to meet expectations.

High expectations apply to processes as well as end products like homework, discussions, or projects. Faculty should implicitly state expectations about attendance (time requirements per week or module), professionalism in communication, and netiquette.

Setting and managing expectations is always important in any class. Online, it is important to set the expectations on quality and quantity of work, degree of interaction, levels of communication, and learning outcomes. Set expectations high and your online students will rise to meet the challenge!

Good Practice Respects Diverse Talents and Ways of Learning

Scenario:

Professor Jim Cavett does not believe "lectures" work for his online political theory class. He wants his students to experience politics, not read about it. So he has broad guidelines in the projects he assigns. Students are tasked to contact and interview local politicians. Before doing that, however, students use a **wiki** to develop common questions that each will use in their interviews. Jim gives the students wide latitude in how they present their materials back to the class. Some students provide a text-based report, others use **podcasting**, and still others develop a **video**.

Jim models this for his students by providing his instructional material in multiple formats. His powerpoints are narrated and text-only transcripts are provided for those visually impaired. He uses **screencasts** to demonstrate search techniques for his students, but allows them to develop the topics and resources they use for their projects.

Jim believes in the power of collaboration, so he has his students complete a Myers-Brigg Personality Inventory during the first week of class so that he can suggest team groupings that build on the strengths of different personalities. He also surveys their technical skills to add capabilities to his student teams in terms of video and audio production. His student teams are thus equipped to approach local politicians and develop projects that they find relevant. Several of Jim's class

projects have ended up impacting local initiatives, creating engaged students who now understand how theory is applied at the local level.

Chickering and Gamon noted that students "bring different talents and styles of learning to college. Brilliant students in the seminar room may be all thumbs in the lab or art studio. Students rich in hands-on experience may not do so well with theory. Students need the opportunity to show their talents and learn in ways that work for them. Then they can be pushed to learning in new ways that do not come so easily" (p. 2).

The web with its capacity for individual publishing and multimedia production freely available to both students and faculty offers amazing new options for learning. Learning objectives can be assessed in multiple ways. Asynchronous formats give flexibility to students who learn at different rates.

Yet, this plethora of options and diversity can be unsettling to students used to the standard lecture format of instruction. Body language is missing. Feedback, while in some cases faster than the next class period, is nevertheless missing in cases where one-to-one feedback was provided inside the classroom. This suggests that faculty need to provide an orientation to their students on "how" learning will proceed in their particular class.

Mupinga, Nora and Yaw (2006) did not identify a particular learning style to be predominant with the online undergraduate students they surveyed. However, about half of the students (46 percent) surveyed were introverts, sensors, and judgers based on their Myers-Brigg Inventory[1] . They suggested that this was not surprising because introverts need space and time alone, making the Web learning environment ideal. However, they were somewhat surprised to find that 36 percent of their online students expected to work in teams with on-campus students. This seems to suggest that students are taking online courses for convenience of the delivery method and not necessarily because of their learning styles.

Tool Box

- Myers-Brigg Personality Inventory
- Podcast
- Screencast
- Wiki
- YouTube Video

Online Teaching Skills and Practices

It becomes apparent after reviewing the Seven Principles above that moving instruction from the classroom to an online environment requires effort. It is easy to put content online but the effort comes in crafting work flow and activities to guide the learning process and produce the learning outcomes one wants. Simply videocasting a class lecture does not make a class online, nor does simply posting lecture notes online (Lemire, 2008). While time consuming, Lemire believed that online teaching was more research-friendly, in that one could time shift one's teaching and research schedule. He saw online teaching is a complement to on-campus teaching and not a replacement.

Rethinking one's instructional practices for an online environment has led some faculty to new creative ways of instructing face-to-face (Ko and Rossen, 2008). Because of the global reach and connectiveness of the web, faculty have valued the new connections they and their students have made with a global audience. Faculty additionally enjoyed the ability to flex their time more effectively when teaching online. While the hours invested per week were about the same, Ko and Rossen found that faculty could do those hours at their convenience, day or night, weekday or weekend.

Based on their own experience as learners and their experience as teachers, faculty have developed skills and practices to guide learning in their face-to-face classes. Expectations are deeply rooted as to how teachers teach and students respond. Those expectations for online teaching and learning are still

[1] According to the Myers-Brigg Type Inventory, an introvert preferred time to reflect, have thought-oriented interactions, and have more substantial interactions. Sensors liked information that was concrete and tangible. For them, the meaning was in the data. The judging function indicated that they are thoughtful and observant.

developing, as are the new skill sets and practices faculty will use teaching online.

Fenton and Watkins (2006) suggested that faculty fluent in delivering instruction online possessed the knowledge, skills, and attitudes that encompass all aspects of teaching online, including administrative, design, facilitation, evaluation, and technology from pre-course planning to post-course wrap up. They facilitated effective online communication to establish a sense of community among all course participants and foster information sharing and open dialogue. They used the online environment to accommodate differing learning styles and intelligence types, incorporating multimedia to help students connect to and find meaning in the course content and relate their learning to the world beyond the online classroom. Faculty used a variety of teaching strategies to actively engage and motivate a diverse student population to participate in the learning process, resulting in deeper understanding. They understood the need to assess student performance using a variety of assessment strategies to ascertain that the essential skills and knowledge being taught were actually being learned. Finally, Fenton and Watkins found that online course instructional design focused on delivering a quality learning experience that included consideration of design principles such as content organization, layout, and use of color and graphic elements.

A survey of over five hundred online faculty by Kim and Bonk (2006) reinforced that pedagogical skills were more important than technological ones.

In reviewing the literature, three themes begin to emerge. First, it requires effort to build a learning community in an online class, but that effort is critical (Palloff and Pratt, 2007; Clark and Mayer, 2003; Richardson and Swan, 2003; Ko and Rossen, 2008; Graham et al, 2001). Second, the virtual medium in which engagement occurs can happen across multiple websites, from learning management systems to microblogging sites to blogs and wikis. The engagement requires true interaction rather than the more passive action/reaction of "read this and then take a quiz." Yet, this engagement is critical (Ko and Rossen, 2008; Palloff and Pratt, 2007; Kim and Bonk, 2006; Richardson and Newby, 2006; Chickering and Ehrmann, 1996). Finally, the social presence of both students and faculty is an important component of online learning (Tu, 2000; Richardson and Swan, 2003; Rovai and Barnum, 2003; Palloff and Pratt, 2007).

The creative individual has the capacity to free himself from the web of social pressures in which the rest of us are caught. He is capable of questioning the assumptions that the rest of us accept.

- John W. Gardner

Palloff and Pratt (2007) suggest that community is the central feature of online courses. They noted that the interaction and presence of the people in a community, coupled with processes that are reflective, constructivist, and social, and guided by articulated purpose, leads to the types of outcomes one desires in education – co-created knowledge, increased self-direction and transformed self-learning.

Palloff and Pratt (2007) go on to suggest that community is developed online by:

- Active interaction involving both course content and personal communication
- Collaborative learning evidenced by comments directed primarily student to student rather than student to faculty
- Socially constructed meaning evidenced by questioning, reflection and agreement
- Sharing of resources among students
- Expressions of support and encouragement exchanged between students as well as from faculty, including willingness to critically evaluate the work of others

For community to develop, faculty and students have to sense the presence of each other and build trust. Palloff and Pratt suggest that the keys to creating a successful learning community revolve around "honesty, responsiveness, relevance, respect, openness, and empowerment" (p. 22).

Building this community starts in the first week of an online course. One of the authors has used online ice breakers during the first week to humanize the individuals in the community, illustrating both the similarities of the members and their individual uniquenesses. E-Tivities by Gilly Salmon (2001) has a variety of activities that can be used online to build community. Additional suggestions from practitioners

are exchanged in a social networking site run by and for faculty – College 2.0.

Engagement within the virtual medium is a second theme that appears often in the literature. Richardson and Newby (2006) analyzed whether online students cognitively engaged with their online courses. They were examining the extent to which students minimally motivated and engaged with a class versus deeply motivated and engaged. Each motivation carried with it different learning strategies and approaches that were more engaging. Their analysis revealed statistical significance for several learning strategies. Younger students and those taking online courses for the first time tended to display shallow motivations. As students gain more online experience, they begin to make connections across courses, content and networks. Their motivations and cognitive processing occurs at a deeper level.

Their findings suggest that as students gain additional experience with online courses, their focus shifts from grades to learning. As facilitators of the learning journey, faculty can guide this shift so that students take more responsibility for their own learning in online learning environments. Interventions should therefore be designed into courses that allow students to progress in this shift at a quicker pace, such as introductory materials for approaches to online learning. Helping students get engaged with both the materials and each other early on can help drive learning and retention.

The third theme, social presence, has already been discussed, but its importance cannot be overstated. If faculty are not perceived by students as active members of the learning community, engagement will drop, with students perceiving the online tasks as simply busy work. In this networked and virtual world, students still strongly desire to interact and know their professor as a real human being.

Yet, they expect this interaction to occur on their virtual turf. Old practices that worked in physical classrooms need to be rethought. These new practices need to achieve the same end results of building community, engaging students, and being present that occur in classes on campus. Mishra and Koehler (2006) noted the interplay between content knowledge, pedagogical knowledge, and technological knowledge to suggest that for each discipline, faculty will need to weave all three knowledge components into an integrated approach to be effective teaching in this new environment. The practices online are based on the same principles we have always used but are also fundamentally different due to the social web. The old hierarchal rules do not hold up in a 24/7 environment in which other experts are available besides the professor. Faculty should be seen by their students as comfortable, approachable, and active online.

Concluding Remarks

This white paper has provided a national context in which online learning is rapidly expanding, and has provided a research-based approach to translating good teaching practices in ways that support meaningful online learning. Faculty teaching online will need new skills to effectively guide student learning and meet the same learning objectives in an environment in which they may never physically see their students. Yet, they will have amazing opportunities never afforded faculty before to tap into a global collective and an information rich environment. Teaching in such an environment will not only provide new educational opportunities; it may also better help our students prepare for their future work in a globally networked world.

Faculty transitioning to online teaching will need to carefully consider the time requirements associated with working and learning in the completely online environment. Our experience suggests that teaching online can take considerably more time than traditional face-to-face courses. One significant time requirement is the up-front work required to redesign their course to take advantage of the unique opportunities afforded by new web-based learning environments. New learning activities will need to be crafted that achieve the same learning objectives previously done face-to-face. Faculty members who have developed skills in facilitating learning in a face-to-face context may need additional time to hone analogous skills in the completely online environment. This may often include new instructional practices that are closely connected with meaningful use of technology tools that can enhance the learning of specific subject matter (Mishra & Koehler, 2006). While classroom time is freed up, other time commitments will take its place, such as

facilitating online interactions, supporting the development of social presence and building community. Clearly, the freedom to engage 24/7 is a double-edged sword.

It is also important to note that faculty often learned to teach by putting into practice the methods that they themselves experienced in their own education. For many of us, this has not commonly included significant experience taking online courses. An excellent way for faculty to learn more about effective online teaching and adjust their own practice is to actually take an online course themselves. Online teaching for many is the first attempt to teach in ways that they have never experienced, so seeking out opportunities to gain this experience is a potentially meaningful way of informing one's own practice.

Higher education faculty have a rich tradition of providing quality instruction on campuses all over the world. Numerous studies have validated that online learning is equal to traditional methods of delivering education (WCET, 2007). Engaging faculty in [re]thinking the translation of their courses and practice to the online environment will help ensure that high quality teaching and learning can be achieved regardless of instructional context. We hope that this paper has served as a meaningful starting point for those seeking to realize that expectation.

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