Volume 3 Number 2 2006

DISTANCE LEARNING

... For Educators, Trainers, and Leaders

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PURPOSE

Distance Learning, an official publication of the United States Distance Learning Association (USDLA), is sponsored by the USDLA, by the Fischler School of Education and Human Services at Nova Southeastern University, and by Information Age Publishing. Distance Learning is published four times a year for leaders, practitioners, and decision makers in the fields of distance learning, e-learning, telecommunications, and related areas. It is a professional magazine with information for those who provide instruction to all types of learners, of all ages, using telecommunications technologies of all types. Articles are written by practitioners for practitioners with the intent of providing usable information and ideas for readers. Articles are accepted from authors with interesting and important information about the effective practice of distance teaching and learning.

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The United States Distance Learning (USDLA) is the professional organization for those involved in distance teaching and learning. USDLA is committed to being the leading distance learning association in the United States. USDLA serves the needs of the distance learning community by providing advocacy, information, networking and opportunity. www.usdla.org

The Fischler School of Education and Human Services (FSEHS) of Nova Southeastern University is dedicated to the enhancement and continuing support of teachers, administrators, trainers and others working in related helping professions throughout the world. The school fulfills its commitment to the advancement of education by serving as a resource for practitioners and by supporting them in their professional self development. The school offers alternative delivery systems that are adaptable to practitioners' work schedules and locations. School programs anticipate and reflect the needs of practitioners to become more effective in their current positions, to fill emerging roles in the education and related fields, and to be prepared to accept changing responsibilities within their own organizations.
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Distance Learning … for Educators, Trainers, and Leaders is undergoing a series of changes that will be explained in an upcoming issue.

MANUSCRIPT PREPARATION GUIDELINES

Distance Learning is for leaders, practitioners, and decision makers in the fields of distance learning, e-learning, telecommunications, and related areas. It is a professional magazine with applicable information for those involved with providing instruction of all kinds of learners, of all ages, using telecommunications technologies of all types. Stories are written by practitioners for practitioners with the intent of providing usable information and ideas. Articles are accepted from authors with interesting and important information about the effective practice of distance teaching and learning. No page costs are charged authors, nor are stipends paid. Two copies of the issue with the author's article will be provided. Reprints will also be available.

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Distance Education
Definition and Glossary of Terms,
(Second Edition)

by Lee Ayers Schlosser, Southern Oregon University
and Michael Simonson, Nova Southeastern University

Distance Education has become a major topic of interest in the field of educational communications and technology. In response to this interest, the Association for Educational Communications and Technology (AECT) published the first edition of Distance Education: Definition and Glossary of Terms in 2002.

The second edition of this monograph was begun in 2005. While the definition of distance education was changed only slightly, the glossary of terms was updated significantly under the supervision of Joann Flick and members of AECT's Division of Distance Learning. The definition of distance education and much of the supporting narrative offered in this edition of Distance Education: Definition and Glossary of Terms is based on Teaching and Learning at a Distance: Foundations of Distance Education, 3rd. edition (2006). This information is used with permission.

CONTENTS: Acknowledgments. Preface. Defining Distance Education. Emerging Definitions. A Brief History of Distance Education. Theory and Distance Education. Summary. Glossary of Terms. References. Additional Readings.

Instructional Media Selection for Distance Learning
A Learning Environment Approach

Jolly T. Holden and Philip J.-L. Westfall

INTRODUCTION

Educators and trainers are increasingly challenged within their respective organizations to provide for the efficient distribution of instructional content using instructional media. The appropriate selection of instructional media to support distance learning is not intuitive and does not occur as a matter of personal preference. On the contrary, instructional media selection is a systematic sequence of qualitative processes based on sound instructional design principles. Although media selection is often mentioned when studying the discipline of instructional technology or instructional systems design (ISD), it is sometimes overlooked when applying the selection process in a distance learning environment. It is our intent, therefore, for this guide to highlight the essentials of good media selection. We hope to present an instructionally sound and systematic approach to selecting the most appropriate media for the delivery of content at a distance.

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Media selection is an integral part of the ISD process. In that role, media selection ensures that a specific distributed instructional medium can support the attainment of the desired learning objectives.

Distance learning has existed in the United States for more than 120 years. Not surprisingly though, many in the profession considered it a new phenomenon due largely to the emergence of the Internet. The resulting explosion in online learning was quickly embraced throughout the education and training communities encompassing K-12, higher education, and the corporate and government sectors.

Just as new technologies have given rise to new distance learning applications and new distance learning environments, so have they given rise to new terms that basically refer to the same thing. Some of the more popular terms are *e-learning*, *online learning*, and *Web-based training*. The mid-1990s saw the coining of the term *advanced distributed learning*, which was quickly adopted by many organizations. Even in the higher education community, where *distance education* was born, there have been revisions to the definition, to include the science of *distance teaching* and the resultant product, *distance learning*.

The definition of distance education in the academic community, however, has gained general consensus through its presence in leading course texts and peer-reviewed journals on the subject. As defined by the *Quarterly Review of Distance Education*, distance education is "institutionally based formal education where the learning group is separated and where interactive communications systems are used to connect instructors, learners, and resources." Alternatively, America's largest professional distance learning organization, the United States Distance Learning Association, has adopted the term distance learning, and defines it as "the acquisition of knowledge and skills through mediated information and instruction."

After the birth of the USDLA in 1989, the Los Alamos National Laboratory organized and sponsored the First Annual Conference on Distance Learning. This conference brought together the leading distance learning professionals from throughout the United States. In attendance were representatives from higher education, K-12, state and local governments, and the federal government. One of the major objectives of the conference was to agree on a universally accepted definition of distance learning. The definition that emerged was elegant in its simplicity: distance learning was defined as "structured learning that takes place without the physical presence of the instructor."

In the years that followed the Los Alamos conference, the distance learning landscape was changed dramatically with the development of the browser and the subsequent application of the Web to online learning. What emerged from this evolution of distance learning was a new set of terms born out of the online learning environment: *Web-based instruction*, *Web-based learning*, *Web-based training*, *online learning*, and the most prominent new term, *e-learning*.

Unlike *distance learning* or *distance education*, however, the term *e-learning* includes the use of instructional media technologies in its definition, hence the "e" for *electronic*. Not surprisingly, the term *e-learning* evolved not from an application, but from the emergence of the business terms "e-commerce" and "e-mail."

Even though the term e-learning was defined by the American Society for Training & Developmen*t* (ASTD) as the "delivery of content via the Internet, intranet-extranet, audio and videotape, satellite broadcast, interactive TV, and CD-ROM," the marketplace has generally accepted it as applying only to the Internet. As a result, even this term has taken on different meanings, depending on the organization defining it, and has been variously defined as:

- The educational content, learning services, and delivery solutions that support and enable network-based learning that is either asynchronous or synchronous (IDC).
- Internet-enabled learning (Society for Applied Learning Technology, SALT).
- Instructional content or learning experiences delivered or enabled by electronic technology (A Vision for e-Learning for America's Workforce: Report of the Commission on Technology & Adult Learning, 2001).

Given the numerous definitions of what appears to be essentially the same construct, what are the necessary and sufficient elements of *distance learning*? On a practical level, for an activity to be considered to be distance learning it should include—at minimum—the following:

- Physical distance between the student and the teacher—the most obvious element;
- An organization that provides the content—in contrast to purely self-directed learning;
- Part of a curriculum—learning must have an objective and therefore must have structure; and
- Measurement of learning—without which no learning can be observed to have taken place.

We should note that our having left out *interaction* in our definition above is intentional. Whereas interaction is usually desirable for *good* distance learning, we are only considering the *categorical*—not the *evaluative*—sense of distance learning.

Generally speaking then, distance learning refers to all forms of learning at a distance, encompassing the full spectrum of instructional media—including nonelectronic media—whereas *e-learning* generally refers to those learning activities that employ "electronic" technologies, and distance education refers specifically to learn-ing activities within a K-12, higher education, or professional continuing education environment where interaction is an integral component.

INSTRUCTIONAL MEDIA FOR DISTANCE LEARNING

The selection of appropriate instructional media is an essential element of the instructional design process. Utilizing a systematic approach to media selection ensures that appropriate instructional media are employed to support desired learning objectives. Consequently, the process of media selection is one of identifying the most appropriate medium or set of media for a specific instructional endeavor. Media selection analysis must evaluate general and specific criteria, including instructional, student, and cost aspects for each delivery technology (or instructional medium) in order to ensure that the most appropriate media are selected for specific education or training objective.

SYNCHRONOUS VERSUS ASYNCHRONOUS LEARNING ENVIRONMENTS

A synchronous learning environment supports live, two-way oral and visual communications between the instructor and the student. This exchange of information facilitates the transfer of knowledge from instructor to the student and can be achieved by (1) the use of audio response systems that support oral communications only; (2) the use of interactive keypad devices that support both the exchange of data and voice, or (3) the use of videoconferencing technologies. Synchronous learning also incorporates these elements:

- Provides for dialectic learning environment with a high level of interactivity;
- Encourages spontaneity of responses;
- Allows for optimal pacing for best learning retention;

- Allows for immediate reinforcement of ideas;
- Controls length of instruction when completion time is a constraint; and
- Is constrained by time but not place.

An asynchronous learning environment is when communication between the instructor and the student is not real-time. A typical example of asynchronous instruction in a distance learning environment is the use of text materials (print or electronic), discussion boards where students respond to questions from the instructor or other students. Asynchronous learning also incorporates these elements:

- Provides for more opportunity for reflective thought;
- Not constrained by time or place;
- Delays reinforcement of ideas;
- Provides for flexibility in delivery of content; and
- May have higher attrition rate and may extend time for completion.

ENABLING TECHNOLOGIES SUPPORTING SYNCHRONOUS AND ASYNCHRONOUS LEARNING ENVIRONMENTS

For the purpose of this guide, the uses of discussion boards and chat rooms are not considered as instructional media delivery options, but instead are viewed as only enabling technologies used to support other instructional media in a blended learning solution.

SYMMETRICAL VERSUS ASYMMETRICAL LEARNING ENVIRONMENTS

In distance learning, considering symmetry of the learning environment is almost as important as considering its synchrony. If not taken into account, it may lead the course designer to make less-than-optimal choices in media.

Asymmetrical learning or interaction is when the flow if information is predominantly in a single direction such as in a lecture, textbook, or computer-based instruction. Conversely, in a conferencing, collaboration, or brainstorming environment, the information flow is symmetrical; that is to say, the information flow is evenly distributed between learners and instructors. A close relationship exists between symmetry and interactivity. The more the interaction, the greater the need for a symmetrical delivery system, whether synchronous or asynchronous.

TAXONOMY OF DISTANCE LEARNING MEDIA

The Taxonomy of Distance Learning Instructional Media Table (Table 1) is designed to assist in determining the most appropriate media for a specific distance learning application. The taxonomy is focused primarily on a dichotomous learning environment—the initial selection criteria being either synchronous or asynchronous, and will aid the instructional designer or subject matter expert (SME) in determining the most appropriate media to be selected

The instructional designer may choose a combination of media to meet the desired learning objectives. For example, delivery of content can be accomplished using one asymmetrical medium (e.g., satellite or print), but the interactive aspect can be accomplished using a symmetrical medium (e.g., audio conferencing or e-mail). Why is it important for the designer to consider symmetry? Using symmetrical delivery systems (normally involving lower bandwidth or shared bandwidth) for asymmetrical applications either reduces capacity for transmission outbound from the instructor or wastes capacity inbound from the student—inefficiency that under certain circumstances could be costly. The

Table 1
Taxonomy of Distance Learning Instructional Media

	Synchronous	Asynchronous
Visual only (includes graphics)		• Correspondence (print) • Recorded video
Aural only	• Audio conferencing	• Recorded audio
Visual and aural	• Instructional television • Satellite e-learning • Video teleconferencing • Synchronous Web-based instruction • Audiographics	• Recorded video • Computer-based instruction • Asynchronous Web-based instruction • Instructional television

High

	• Video conferencing • Audio conferencing • Internet-based
• Print • Tape/DVD/CD-ROM • Satellite • ITFS	

Symmetry

Low   *Interaction*   High

Figure 1.   Symmetry of interactivity and instructional media.

same is true for using an asymmetrical technology for a symmetrical application—the costly inefficiencies under these circumstances would be apparent (Figure 1).

INSTRUCTIONAL MEDIA DELIVERY FOR DISTANCE LEARNING

An analysis of available technologies must include a thorough examination of the advantages and limitations that each present within the learning environment. Considerations must be given to instructional objectives, development and deployment of instructional strategies, level and type of interaction between the instructor and the student, display of visual images, video and audio, responsiveness to changes in course content, efficiency of the delivery system, and total system cost.

Table 2 provides an explanation of the available media that can support the distribution of content for distance learning.

STRENGTHS AND WEAKNESSES OF INSTRUCTIONAL DELIVERY MEDIA

The aforementioned instructional media can support the delivery of instructional content as stand-alone media, or integrated to create a blended learning

Table 2
Instructional Media Delivery Options for Distance Learning

Delivery Technology	Description
Asynchronous Web-based instruction (WBI)	On-demand, online-based instruction stored on a server and accessed across a distributed electronic network. It can be delivered over the Internet or private local-area network (LANs) or wide-area networks (WANs) where the content is displayed utilizing a Web browser. Student access is asynchronous, self-paced, and does not provide for synchronous interaction between the instructor and the remote student. High-resolution images and video may be limited due to available bandwidth.
Audio conferencing	An audio-only environment in which students in different locations use telephones or audio conferencing equipment to communicate with each other in real time. Supports a synchronous interactive environment between the instructor, remote students, and multiple sites but does not support visual images and graphics, and often supplemented by electronic or printed handouts. Can be integrated with other delivery systems to provide synchronous audio capability.
Audiographics	Audiographics combines audio conferencing with personal computer text and graphics, allowing both voice and data to be transmitted to remote sites. Typically, a site consists of audio conference equipment, plus a large screen that serves as an electronic whiteboard. This system allows for two-way data exchange (limited to high-resolution still images only) and a synchronous interactive environment between the instructor and students at multiple sites.
Computer-based instruction (CBI)	Interactive instructional experience between a computer and the learner where the computer provides the majority of the stimulus and the student responds. The computer is the storage and delivery device with all content resident on the student's computer. It provides the primary display and storage capability and can support high-resolution images and video.
Correspondence (print)	Entirely print-based, asynchronous, and self-paced. Can be augmented through the use of multimedia CD-ROM. Instructor feedback can be facilitated through the use of e-mail. Used extensively to support other media
Instructional television (ITV)	ITV is defined as a one-way, full motion video, and audio transmission of classroom instruction through a telecommunications channel such as satellite, cable TV, or Instructional TV Fixed Service (ITFS) (a dedicated 2.5GHz spectrum managed by the FCC and limited to educational programming only, which is usually transmitted via microwave towers). This medium, when combined with an audio response or keypad system supports the capability for students to spontaneously ask questions of the instructor and respond to other students at multiple remote sites (Note: The synchronous, two-way audio is normally provided by a telephone carrier utilizing an audio bridge and normal terrestrial phone service. This specific application would not be available to instructional programming received via commercial cable TV). Due to the bandwidth available via satellite or ITFS, this delivery medium can emulate the live, traditional classroom environment but at a distance. ITV is sometimes referred to as business television (BTV), interactive video teletraining, or interactive TV, and can be transmitted via analog or digital systems.

(Table continues)

solution. Also, any combination of the media could be used to compliment the traditional classroom environment for a blended learning solution.

Some instructional media, however, may be more appropriate than others depending upon their strengths in supporting either a synchronous or asynchro-

Table 2
(Continued)

Delivery Technology	Description
Recorded audio (tape and digital broadcast)	Recorded audio content—on tape or transmitted electronically—which can be used as a stand-alone delivery tool or part of a blended learning approach. Can be used as the sole means of content or as part of a blended approach.
Recorded video (tape and digital broadcast)	A method of capturing learning content on tape or as a digital file for viewing on-demand. Can be used as the sole means of content or as part of a blended approach. Often used to capture a real time event and is an effective distribution medium that supports high-resolution images and video but does not support a synchronous interactive environment between the instructor and the remote student.
Satellite e-learning	Satellite e-learning represents the next generation of distributed media. Utilizing IP (Internet protocol) as the network layer and distribution technology, it also incorporates the latest MPEG (Moving Picture Experts Group) video standard or latest version of Widows Media. Similar in application to ITV, it allows for the live traditional classroom to be transmitted to a remote site while synchronous oral interactivity is supported by audio teleconferencing or student response systems integrating audio and keypad technology (data interaction). Additionally, since satellite e-learning uses IP, video streaming can be utilized at extremely high bandwidths (~3.0Mbps). The IP-based video can be distributed directly to the user's end-point and then distributed via the LAN to either a classroom or desktop computer, or both. Also, satellite e-learning can easily transmit large multimedia/web-based training modules (known as data casting) without being constrained by bandwidth, as is common with a terrestrial network. This capability allows the data to bypass the WAN by transmitting directly to the user's end-point and then distributed locally via the LAN, thereby effectively bypassing the terrestrial infrastructure and the Internet. Satellite e-learning is also referred to as BTV/IP (Business Television/Internet Protocol).
Synchronous Web-based instruction (WBI)	Internet-based software and services delivered over the Web that enable synchronous audio or Web conferencing, text chat, audio, video, document and application sharing, whiteboards, presentations, etc. Can support synchronous oral interaction between the instructor and remote students at multiple locations as well as supporting a Multi-User Virtual Environment (MUVE) or Webinars. Due to bandwidth limitations, high-resolution images and video may be limited.
Video teleconferencing (VTC)	VTC systems are two-way communication systems that offer both audio and video from local and remote sites and provide for synchronous interaction between the instructor and remote students at multiple locations. It allows for the instructor to observe the students at the far end (remote location), allowing the student to demonstrate an event. These systems can be terrestrial, satellite-based, or microwave-based Instructional TV Fixed Service (ITFS). Generally VTCs transmit and receive between 384Kbps–1.5Mbps, with the next generation coders/decoders (codecs) IP enabled.

nous learning environment. To that end, no single medium is inherently better or worse than other medium, just as a truck is not inherently better or worse than a sedan. They are all vehicles that simply deliver their contents. As discussed later in this article, the selection of the most appropriate media is not based solely on the attributes for that specific medium, but other considerations as well.

INSTRUCTIONAL STRATEGIES SUPPORTING DISTANCE LEARNING

The dissemination of content through the use of distance learning media is only as

effective as the design of the instruction. Regardless of the learning environment, instruction is designed to transfer knowledge from the instructor to the learner to the real-world environment. And transfer of learning is facilitated by the development of instructional strategies.

Scholars have identified learning to be primarily a social, dialogical process. Social learning theory suggests that most human learning takes place in a social context where their behavior is modeled by others. This modeling can occur through lecture, guided discussions, role-playing, case studies, and other instructional strategies. Each distance learning medium, as depicted in the Taxonomy of Distance Learning Instructional Media, has its strengths and weaknesses when supporting various instructional strategies. No single medium can support all instructional strategies.

How does this reality influence media selection and choice of instructional strategies? Quite simply, certain synchronous instructional technologies such as satellite e-learning, video teleconferencing, and synchronous Web-based instruction, are best suited for instructional strategies that require a live and dialectic learning environment. And conversely, there are asynchronous instructional technologies that are best integrated with strategies that require asynchronous learning environment.

So how does this all come together? How do you ensure that the most appropriate distributed instructional media are selected based on specific learning objectives? By combining the Distance Learning Instructional Media Selection Matrix with the Table of Instructional Media Delivery Options for Distance Learning and the instructional strategies listed below, you can increase the probability of selecting the most appropriate set of media.

The instructional strategies depicted have proven to be effective in facilitating the transfer of learning, and because any given program of instruction has multiple learning objectives, it follows that finding the right medium-to-objective match will likely result in a blended media approach.

INTEGRATING DISTANCE LEARNING MEDIA: A BLENDED LEARNING APPROACH

What is blended learning? Simply stated, blended learning is instruction using multiple media. Although appearing somewhat all-encompassing, this definition includes the integration of instructional media into a traditional classroom or into a distance learning environment. However, there is some discussion as to where technology insertion in the classroom ends and blended learning begins. Suffice it to say that blended learning can include any combination of media that supports instruction, regardless of the mix of synchronous or asynchronous media.

Figure 2 depicts the integration of synchronous and asynchronous media that can result in a blended learning solution. There are no prescribed solutions to integrating media, and in many instances, there are multiple blended learning approaches. The economy of scale and power of blended learning is derived from its "elasticity": the ability to integrate a variety of synchronous and asynchronous media allowing the instructional designer to attain the most appropriate blended learning solution (Figure 3). Whereas the delivery technology does not alter the content, certain instructional media can affect the design of instruction, and as long as the "most appropriate" media are selected, learning outcomes will not be affected.

When developing a blended learning solution, maintaining instructional quality is paramount. To that end, learning objectives should never be sacrificed to achieve a blended learning solution. Also, when integrating instructional strategies (which

Blended Learning Solution

Figure 2. Blended learning: An integration of media.

are the products of learning objectives and serve to ensure the learning objectives are attained), some strategies may be more appropriate than others to achieve optimal learning.

Therefore, when selecting the most appropriate media one must consider the following:

- Asynchronous media may be more appropriate for the lower cognitive levels where knowledge and comprehension and repetition or drill and practice are the primary focus.
- Synchronous media may be more appropriate for the higher cognitive levels (synthesis, analysis, evaluation) where a synchronous learning environment is required to support a high level of interaction (dialogue).
- Symmetry: To avoid inefficient (and perhaps costly) use of technology, symmetry of teaching strategy and technology should be matched. The key to efficient use of media is to use a judicious blend of symmetrical and asymmetrical systems. Delivery of extensive amounts of content (high-end graphics, large CBI files, etc.) to a dispersed audience, for example, should be (in most cases) accomplished over asymmetrical systems.

DISTANCE LEARNING INSTRUCTIONAL MEDIA SELECTION

The instructional media selection process is a systematic approach based upon the instructional systems design (ISD) model. When selecting the most appropriate instructional media for distance learning, consideration must be given to a number of variables that may influence the selection of one medium over another.

Some instructional issues that must be considered are:

- Identification of knowledge and skill gaps
- Effective assessment and measurement tools
  - Level of interaction (didactic versus dialectic)
  - Instructional strategies
  - Complexity of content
  - Rate of content change

Delivery issues to consider are:

- Audience size and distribution
- Cost
- In-house versus outsourcing
- Availability of existing infrastructure
- Delivery-hardware endpoints
  - Video teleconferencing equipment
  - Satellite receivers
  - WAN/LAN system/connectivity

- Instructional TV
- Satellite e-Learning
- Video Teleconferencing
- Audio Conferencing
- Audio Graphics
- Synchronous WBI

- Correspondence
- Asynchronous WBI
- Computer-based Instruction (CBI)
- Pre-recorded video/audio

Figure 3.   The elasticity of blended learning.

- TV/monitor, display devices, servers/computers

CONCLUSION

Throughout this article, the focus of instructional media selection has been on the learning environment, and not the technology, as the primary determinant in selecting the most appropriate media. This sentiment has been echoed in other similar journal articles, and most notably by the U.S. Congress, Office of Technology Assessment, in their benchmark report: *Power On! New Tools for Teaching and Learning* (1988).

The authors concur, in that the most significant factors in student learning are quality and effectiveness of instruction, and the most important single factor in media selection is the instructional objective, with the end result of improving human performance. The level of cognitive objectives is a critical variable to consider when selecting the most appropriate media, whereas:

- Asynchronous media may be more appropriate for the lower cognitive levels where knowledge and comprehension and repetition/drill and practice are the primary focus, and
- Synchronous media may be more appropriate for the higher cognitive levels (synthesis/analysis/evaluation) where a synchronous learning environment is required to support a high level of interaction (dialog).

In conclusion, it is important to remember that instructional media are basically distribution systems, and that the most critical consideration in selecting a medium is the preservation of instructional effectiveness.

Authors' Note: The full text version of *An Instructional Media Selection Guide for Distance Learning* contains additional information on specific instructional media and the use of instructional strategies. It is available online at http://www.usdla.org/html/resources/Guide.htm

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"… THE MOST SIGNIFICANT FACTORS IN STUDENT LEARNING ARE QUALITY AND EFFECTIVENESS OF INSTRUCTION…."

IN UPCOMING ISSUES

Process Transformations That Sustain Distance Training

A Blend of the Best of Common Maturity Models into a Framework

Allison Kipta and Zane L. Berge

Organizations striving to improve business processes are often faced with seemingly unmanageable but required changes that must take place, and often turn to use of a maturity model as a strategic tool for change management. Maturity models are used to build a framework for implementing process improvement in stages, from least effective to highly ordered and efficient. As the adoption of e-learning in the workplace becomes more widespread, development of a strategy for improving the processes that drive it becomes a critical element of its success. This article explores several existing process models and suggests employing a blend of the best elements of each in building a framework for sustaining distance training in the workplace.

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J ournalist Lloyd Dobyns describes change as disruptive, complicated, and frightening. Still, not changing can be worse. Resistance to change in an organizational culture is often identified as one of the primary obstacles to sustaining a successful process. Implementing change in increments through the use of a maturity model helps establish a clear and demonstrable framework for process transformations.

Many organizations already employ one of the hundreds of change management strategies, project management theories, readiness frameworks or maturity models in planning, building, measuring, and managing processes and products. Among the most common are Carnegie Mellon University Software Engineering Institute's (CMU/SEI) Capability Maturity Model (CMM), CMU/SEI's People Capability Maturity Model (P-CMM), and Project Management Institute's Organizational Project Management Maturity Model (OPM3). Lesser known and specific to learning organizations are THINQ's Learning Management Maturity Model (LM3), Online Course Design Maturity Model (OCDMM), and eLearning Capabilities Maturity Model (eL-CMM). This article explores stages of organizational maturity, capabilities, and competencies, and examines how factors for sustaining a distance training program are integrated in the process of change.

THE PROCESS OF CHANGE TO ACHIEVE SUSTAINABILITY

According to Branch (2002), nearly 70% of all change initiatives fail. One of the key reasons organizations fail to successfully implement change is in neglecting to conduct an organizational needs assessment to gain understanding of the organization's performance, external environment, and future vision to develop a viable strategy for change. The needs assessment should consider obtaining a baseline of the organization's growth and development lifecycle process so a change process can be effective.

Rosenberg (2001) spells out what can make or break an elearning endeavor in his "Four C's of Success: Culture, Champions, Communications, and Change," and recommends focusing on change from start to finish. Starting early is important, but the change strategy itself is critical. It must be sustained long enough to beat old habits and become the preferred way of learning.

A survey of online teachers in higher education revealed inability to deal with cultural changes as the largest class of barriers to online learning. "Responses placed in this category included: faculty or student resistance to innovation; resistance to online teaching methods; difficulty recruiting faculty or students; lack understanding of distance education and what works at a distance" (Berge, 1998, Cultural Barriers, para. 1).

Organizational culture as defined by Curtis, Hefley, and Miller (2001) is reflected in shared values and the resulting patterns of behavior that characterize interactions among the organization's members. According to Berge (2001), cultural change is a necessary element of organizational maturity. Where ongoing programs are transformed into delivery at a distance, a project management approach is helpful. Change management (Rosenberg, 2001) ensures an organization and its people are capable of executing a business plan, and involves establishing an environment for change. By improving performance, productivity, and motivation of the workforce, change management moves an organization toward its goals and improves the capabilities of its leaders to drive sustainable change.

Curtis et al. (2001) warn that although an organization's culture can be transformed through the use of process standards, organizations often fail to

implement them effectively because they attempt too much too soon (Branch, 2002).

A capability model is a standard industry tool for assessing the needs of an organization, documenting processes, and providing a multistaged template for growth. Such models help manage chaotic periods of transformation as an organization matures. Although models are not solutions in themselves, they provide a conduit for change and a vehicle for expressing an organization's goals and objectives.

MATURITY MODELS

Curtis et al. (2001) define a capability maturity model as "an evolutionary roadmap for implementing the vital practices from one or more domains of organizational process" (p. 16). With few exceptions, most maturity models are composed of five levels, where level one typically represents an ad hoc state and a very low level of maturity, and level five represents the highest level of maturity and continuous process improvement. A maturity level represents a new level of capability within the organization, created by a change in one or more of the organization's processes. The CMU/SEI Capability Maturity Model, for example (Wesman, 2004), shows maturity as a sequential progression through each of the five capability levels. To progress to the next higher level, an organization must demonstrate achievement of a set of prescribed processes. A review of relevant maturity model literature suggests using a maturity model to support change incurred by process improvement produces several outcomes. In general, predictability, increased control, and improved effectiveness are three results that can be expected. According to Systems Engineering Capability Assessment and Training (SECAT), using a maturity model helps an organization transition from firefighting to operating according to plan. This decreases rework levels (SECAT, 1998).

CARNEGIE MELLON UNIVERSITY, SOFTWARE ENGINEERING INSTITUTE'S (CMU/SEI) PEOPLE CAPABILITY MATURITY MODEL (PEOPLE CMM)

The CMU/SEI People Capability Maturity Model is composed of five maturity levels. Curtis et al. (2001) describe each maturity level as "a well-defined evolutionary plateau that institutionalizes new capabilities for developing the organization's workforce" (p. vi). Following are descriptions of each of the five levels.

Level 1—The Initial Level. Organizations at this maturity level have difficulty retaining talent, are poorly equipped, operate with ad hoc and inconsistent processes if they have defined practices at all. The Initial Level exhibits the following four characteristics: Inconsistency in performing practices, displacement of responsibility, ritualistic practices, and an emotionally detached workforce.

Level 2—The Managed Level. At the Managed Level, the workforce operates at the unit level. Practices implemented at this level focus on unit-level issues, and building workforce practices within each unit provides a foundation on which more sophisticated processes can be implemented as the organization matures. The organization's capability for performing work is best characterized by the ability of its units to meet commitments. "This capability is achieved by ensuring that people have the skills needed to perform their assigned work and that performance is regularly discussed to identify actions that can improve it" (Curtis et al., 2001, p. 22). While the organization may exhibit a stable environment, frequent problems at this low level of maturity are identified as: work overload, environmental distractions, unclear performance objectives or feedback, lack of relevant knowledge or skill, poor communication, and low morale.

Level 3—The Defined Level. At the Repeatable or Defined Level, although they are

performing basic workforce practices, organizations are inconsistent in how they are applied across units—and in general--the entire enterprise. Standardization of practices does not occur because the common core of knowledge and skill have not been defined. The primary objective at this level is to develop competencies to achieve business objectives. Absence of critical workforce competencies poses a severe risk to the organization.

Level 4—The Predictable Level. An organization achieving the Predictable Level is able to manage performance quantitatively and is able to predict the capability for performing work. It can use competency-based processes and measure the capability of its workforce in performing tasks. At this level (Curtis, Hefley, & Miller, 2001), when an organization is committed to competency-based processes, it can begin integrating multidisciplinary workforce processes.

Level 5—The Optimizing Level. The entire organization is focused on continual improvement at Level 5. The organization employs quantitative management activities founded in the Predictable Level as a template for improvement. "Maturity Level 5 organizations treat change management as an ordinary business process to be performed in an orderly way on a regular basis" (Curtis et al., 2001, p. 27).

SOFTWARE PROCESS IMPROVEMENT AND CAPABILITY dETERMINATION (SPICE)

SPICE is a major international initiative to support the development of an International Standard for Software Process Assessment (SPICE, 1995).

Level 1—Performed-Informally. Practices of processes are not rigorously planned and tracked. Performance depends on individual knowledge and effort. There is a general agreement among individuals within the organization that an action

should be performed and when it is required.

Level 2—Planned-and-Tracked. Processes are planned and tracked. Performance is based on specified procedures and is verified. Products meet standards and requirements.

Level 3—Well-Defined. Processes are planned, tracked, and well-defined using approved, tailored versions of documented organization-wide standards.

Level 4—Quantitatively-Controlled. Measures of performance are collected and analyzed, leading to a quantitative understanding of process capability. The organization has an improved ability to predict performance that is objectively managed.

Level 5—Continuously-Improving. Processes undergo continuous refinement and improvement and effectiveness and efficiency targets are established based on organizational business goals. Continuous process improvement is established.

MATURITY MODELS SPECIFIC TO LEARNING

A four-stage model used by Berge (2001) to describe stages of technological maturity (or capabilities) in an organization's distance learning endeavors presents maturity levels as such (pp. 15-16):

Stage 1. Separate or sporadic distance learning events occur in the organization.

Stage 2. The organization's technological capability and infrastructure can support distance learning events.

Stage 3. The organization has established a distance learning policy, procedures are in place, and planning occurs.

Stage 4. Distance training and learning have been institutionalized in the organization as characterized by policy, communication, and practice that are aligned so that business objectives are being addressed.

Elements that foster organizational change are present in transitions to (Berge, 2001) Stage 3 and Stage 4, with a stable and

predictable process in place to facilitate the identification and selection of content and of technology to deliver distance training. With a strategic planning process in place (Berge, 2001), budgeting, communication, workforce development, policymaking, and other management processes enable positive change within an organization.

THINQ LEARNING MANAGEMENT MATURITY MODEL (LM3)

THINQ (2004), a learning management software vendor, developed the five-stage Learning Management Maturity Model (LM3) described below.

Stage I—Ad Hoc. In Stage I there is no consistent process within the organization used to manage learning. Individual business units may adopt and implement their own processes and tools to meet their needs. The organization is unable to quickly determine training costs, outcomes, or if it even occurs, and therefore operates at high risk due to a lack of accountability, visibility and control (THINQ, 2004, Stage I-Ad Hoc, para. 4).

Stage II—Managed Learning. In the Managed Learning stage, a consistent approach to learning management is adopted and a learning management strategy is defined and executed. The organization is able to quickly determine training costs, outcomes, and has access to training activity across the enterprise. Evaluation tools are in place.

Stage III—Competency-Driven. The organization focuses on building a learning culture in Stage III. New technologies play a key part in the efficiency of the organization. The workforce engages in collaboration, uniting instructional designers in the content design and review process. A learning content management system (LCMS) is in place and is used for centralized storage of learning assets. Reuse of content is part of the policy.

Stage IV—Integrated Performance. At this stage the organizations strategy is well defined, learning and performance management are institutionalized and integrated into the business planning process and visible. Characteristics of the LM3 Stage IV (THINQ, 2004) are evidenced in a shared commitment to learning, thinking systematically, and a high degree of accountability.

Stage V—Optimized Workforce. The Optimized Workforce stage, success in shareholder value and net worth are measured. The organization has a flexible, learning and performance-centric structure and has an established approach for continuous improvement, so that the work done by the people, and the learning that occurs before, during, and after, are directly linked to the organization's goals (THINQ, 2004, Stage V-Optimized Workforce, para. 1).

ONLINE COURSE DESIGN MATURITY MODEL (OCDMM)

Neuhauser's (2004) proposed Online Course Design Maturity Model (OCDMM) is another five-level framework, consisting of the following stages:

Level 1—Initial. The goal of the Initial phase is to introduce face-to-face students to using communications technologies such as e-mail and document transfer on the Internet on an optional, unregulated basis.

Level 2—Exploring. The Exploring stage examines enhanced communication between student and instructor and introduces face-to-face students to Web-based information between face-to-face sessions.

Level 3—Awakening. Using text in various formats, the Web, and discussion, faculty and students are "awakened" to the possibilities of online instruction for enhanced learning outcomes.

Level 4—Strategizing. In the Strategizing phase, students and faculty form partnerships, strategize the use of multimedia resources, and use group learning and assessments.

Level 5—Integrating Best Practices. At this level all best processes are integrated, and technology is exploited to provide an effective learning environment that is manageable for students, motivating, and sensitive to learners' needs ((Neuhauser, 2004).

A BLEND OF THE BEST

Sustainability is an attempt for permanence (Seufert & Euler, 2003), and in terms of distance training, means developing stable structures that are integrated institutionally and result in fundamental changes in instruction. Employing a maturity model as a framework (Moore, 2004), organizations can aim for a specific level or stage, make assessments to benchmark their relation to the model, and create a strategy to reach their maturity goals. Following is a proposed framework for sustaining distance training in the workplace, integrating a blend of best-practice elements selected from the aforementioned maturity models.

Level 1—Ad Hoc. At this level, the distance training efforts are chaotic (Berge, 2001), separate, or sporadic. Related to People CMM (Curtis et al., 2001), there is inconsistent practice, displaced responsibility, and emotional detachment. THINQ (2004) characteristics of the Ad Hoc Level reveal incomplete, informal approaches with unpredictable outcomes. Performance depends on individual knowledge and effort (SPICE, 1995), and there is little or no organization to support development. A systematic approach for change management as a part of organizational development, support for teaching/learning outcomes, and establishment of a system of incentives are also typically neglected (Seufert & Euler, 2003).

Little or no technology is required. At the ad hoc level, Saba (2003), suggests that in general, faculty can teach with a white board, a flipchart, or a piece of chalk and a blackboard, and the addition of emerging technological devices or processes would simply increase cost and complexity.

In discussing organizational requirements, Bates (2000) and Levy (2003) list several organizational barriers to implementing technology. The greatest inhibitor is lack of faculty interest in using the technology for teaching. Technology-based teaching requires more skill and effort than traditional face-to-face classroom teaching. "When the rewards for appointment, tenure and promotion are driven primarily by research accomplishments, there is no incentive for professors to put more effort into their teaching" (Bates, 2000, Barriers to change, para. 1).

Change needs to happen. According to Seufert and Euler (2003), sociocultural changes have to be proactively supported in order to reach a permanent attitude and behavior modification of the involved target groups.

Level 2—Managed and Replicated. At the Managed and Replicated level, through an interdisciplinary team (Berge, 2001), distance training events are replicated. The team responds to the needs of staff and management and makes recommendations for the management of distance learning throughout the workforce.

Use of distance training technology is supported across the enterprise (Berge, 2001; Levy, 2003; THINQ, 2004) and an elementary approach to learning management is established. Quick access to training activities is available and visible. The organization uses a common set of tools and processes for training development. A method for evaluation is in place.

The organization's ability to develop a systematic plan of action for using the technology is a key factor in whether or not it will be used successfully. The largest challenge (Bates, 2000) is the failure to use technology strategically, and without cultural change, this will not happen. Moore writes, "As a learning organization matures, so does the level to which IT supports and engages learning technologies to

cultivate a continuous learning culture" (Moore, 2004, Extending Learning Maturity Through Relationships, para. 3).

Level 3—Competent and Capable. At the Competent and Capable Level, the organization focuses on building a culture of learning (THINQ, 2004), and (Berge, 2001) "a stable and predictable process is in place to facilitate the identification and selection of content and of technology to deliver distance training" (p. 16). Competency models are in place (THINQ, 2004) and competency-based learning and skill assessments are used. The workforce moves from operating in "fire-fighting" mode to "operating according to plan," (SECAT, 1998), and the transition from Level 2 to Level 3 brings "improved morale and a coherent culture."

New learning technologies are instrumental (THINQ, 2004) in improving the efficiency of the organization, and knowledge transfer is a product of collaboration and mentoring. The organization exploits Web-based resources (Neuhauser, 2003) and utilizes Web technology to increase the learning capabilities. Curtis (2001), however, warns of a misconception that use of communication and information technologies (CIT) can make course delivery more efficient: "There appears to be an implicit assumption that efficiencies can be achieved through the use of CIT, but it is clear that setting up to use such technologies entails high infrastructure and staff development costs and may require the 're-engineering' of course delivery processes" (p. 21).

Level 4—Predictable and Stable. The organization possesses "a quantitative understanding of process capability and an improved ability to predict performance. Performance is objectively managed" (SPICE, 1995, p. 3). The organization has (Berge, 2001) an established distance education identity and is conducting orderly assessments of its distance training. Seufert and Euler (2003) find support for the learning culture at this level is a "fundamental element of a sustainable change," more personal responsibility is placed on learners, and it becomes more important to promote self-guided learning within a team or workgroup.

Criteria for improved outcomes (Marshall & Mitchell, 2002) rather than mere reaction or perception are developed and established. Costing data is gathered regularly and used to ensure maximal use of resources. The organization has identified a set of standard pedagogical methods, tailored to the workforce.

Use of shareable and reusable content becomes the norm. Learning packages start to tie into other enterprise applications and sharing information. Further advances along this "framework show a more sophisticated world in which learning technologies are interoperable—not only sharing data but also providing value to other systems" (Moore, 2004, Extending Learning Maturity Through Relationships, para. 1).

Level 5—Optimizing and Continually Improving. Level 5 organizations are "running on all cylinders and driving maximum business value from their e-learning programs" (Maskell, 2003, Introducing LM3, para. 5). Core business functions are web-enabled (Rosenberg, 2000) and internal work and communication is online. The workforce is well prepared to succeed and is considered technologically advanced. The organization defines elearning to include knowledge management, performance support, and other web-enabled learning. The organization constantly evaluates learning needs to determine appropriate methods for any given situation.

Success is measured in shareholder value (THINQ, 2004) and net worth, and learning is "inextricably linked to the organization's goals" (Stage V-Optimized Workforce, para. 1) The organization is flexible, and learning and performance-centric in structure. Continuous and rapid correction can occur with little disruption

to business. Change management is a standard process (Curtis et al., 2001) and process improvement is perpetual throughout the enterprise. The daily work routine and learning activities are integrated with business objectives. Business benefits of e-learning are demonstrated (Rosenberg, 2000) and the organization continues to scale up capability.

Level 5 organizations develop standards-compliant materials (Neuhauser, 2003) that enable them to be used by others. High use of shared, reusable learning objects is evident. Level 5 distance training is learner-centric (Neuhauser, 2003), individualized, and personalized. The program is able to identify learning style preferences among individual learners and administers guidance for content based on abilities and knowledge. Distance training and education becomes transparent and sustained (Berge, 2001).

CONCLUSIONS

A maturity model is a framework that classifies the evolution of a system from a less ordered, less effective state to a highly ordered, highly effective state (Moore, 2004, Maturity Models and Learning Technologies, para. 1). Using a maturity model, however, should not be an exercise in "cherry picking." Still, the goal is not to rise to a higher maturity level for its own sake, but rather to more effectively or efficiently achieve the organization's goals (Berge, 2001; Curtis et al. , 2001; Marshall & Mitchell, 2002

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Learning Resources in a Competency-Based Distance University

Dan Eastmond

Since diplomas are awarded based on the demonstration of knowledge, skills, and abilities through assessment (not on accumulated credits through time spent) at a competency-based university, how do adult learners become competent? What is the role of distance learning resources (online courses, e-learning, library, and bookstore services) within this model? This article presents distance learning resource philosophy, procedures, and issues that arise when providing instruction at the United States's premiere, accredited, competency-based distance university.

INTRODUCTION

Imagine earning a college degree from the convenience of your own home or office. Sounds like online distance education, right? However, what if you

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didn't have to take a set number of courses and amass credits, but instead you could demonstrate what you already know and can do through assessments—affirming that prior learning and ensuring all new learning would be fresh and new? Add to that the benefit of a faculty member who works closely with you throughout your degree, and an individualized program of study, tailored to your background and eagerness to progress rapidly toward completion. Couple that with peer interaction throughout your studies with other students and faculty members in learning communities. Suppose that you could acquire new learning through online courses, where you might feel more comfortable in unfamiliar subject matter with the structure and expert guidance and feedback from an instructor—or, could have the flexibility of doing guided self-study of textbooks or e-learning modules for content in which you were familiar and only needed to brush up before assessment. Finally, imagine that your diploma was from a university that was both

regionally and nationally accredited, refined to meet the stated needs of major employers, associations, state and national standards, as well as industry certifying bodies. Does this sound intriguing? Such is the exceptional educational model being implemented by Western Governors University.

In 1998, the governors of 19 states founded Western Governors University (WGU) to provide a competency-based online alternative to the campus-based postsecondary educational enterprises in their states. Although the university had the backing of over 20 prominent corporations and foundations, at the time of accreditation by the Distance Education and Research Council (DETC) in 2002, the offerings were limited to a handful of bachelor's and associate degrees, and enrollments had reached a plateau at roughly 200 students. The receipt of unprecedented regional accreditation by four western commissions and grant support and funding by the U.S. Department of Education in 2003 turned the corner for this innovative institution. As of February 2006, WGU is realizing its original potential by providing distance education to over 5,000 students seeking 35 bachelor's and master's degrees in teacher education (many including initial licensure), business, and information technology (with health profession degrees being added in 2006). The university has over 650 graduates.

WGU's mission "is to improve quality and expand access to postsecondary educational opportunities by providing a means for individuals to learn independent of time and place and to earn competency-based degrees and other credentials that are credible to both academic institutions and employers." At the heart of the institution is "competency-based education." This commitment to CBE translates into all University policies, practices, and procedures, such as mentoring, use of third-party learning resources, and assessments.

Throughout their degree program, candidates demonstrate their competencies through a series of 15 to 25 substantive assessments. To ascertain students' proficiency, WGU adheres to rigorous assessment procedures to measure competency. This includes proctored objective and essay exams (delivered at testing sites through contract arrangements throughout the country—and overseas, for active-duty military personnel), performance tasks, portfolio items, and capstone projects. The University uses both internally-developed assessments and externally-developed ones. The latter consist primarily of industry-recognized certification exams, such as the SHRM for human resource management, or widely-used and validated teacher education assessments, such as the Praxis examinations for secondary education content knowledge. Only the demonstration of competencies through assessment counts toward academic progress and degree completion. Program councils, comprised of national experts from the academy, business and industry, government, and school systems, oversee the development of WGU competencies. These senior academics consult for the university on all aspects of the academic programs and serve as our most senior faculty members. They typically meet in person at WGU offices four times a year to monitor program effectiveness, evaluate learning resources, and provide advice on program planning issues.

This competency-based approach allows affirmation of prior college-level learning, while integrating it with new learning. Not surprisingly, WGU's average student is around 40 years old, working full-time, and hoping to accelerate through WGU's degree program because of relevant experience before and during the degree program. Students are drawn to the university for its convenience, as well as its relevance; for instance, all study is done at a distance,

and students can start any month of the year in one of WGU's 6-month terms. WGU courses of study include: (1) mentoring by faculty experts who assist student work throughout their programs; (2) learning resources like study guides, textbooks, Web sites, and full online courses, that students take to brush up or build competencies from scratch in some areas; (3) learning communities for peer interaction and learning under mentor guidance; and culminate in (4) assessments where students demonstrate competency for completing degree requirements.

PURPOSE

Because of the university's competency-based education (CBE) approach, faculty roles, distance program delivery, and the provision of learning resources are quite different than at other higher education institutions. The remainder of this article focuses on the implications of CBE for learning resources (LR). It details the role that these LRs play, the university's philosophy about their use, and practices WGU follows in collaborating with other institutions. This information can benefit you, the reader, in several ways. You will gain insight into how this innovative model of higher distance education has been successfully implemented over the past decade. The university's policies, practices, and procedures can inform similar initiatives within the agencies, institutions, and organizations where you are involved with distance education. Additionally, since the CBE approach to learning resources is collaborative, this article may give you ideas to effectively link your own distance offerings to similar consortia to create synergy for your own distance education enterprise.

WGU'S LEARNING RESOURCE BROKERING MODEL

From its inception, Western Governors University (WGU) has acquired the learning resources (LRs) that it provides its students through licensing agreements with third parties. WGU uses the term "learning resources" to refer to the wide variety of instructional supports that students use to gain competency. These include online instructor-led courses and independent learning resources (ILRs), such as Web-accessible e-learning modules, CD-ROMs, videos and workbooks. LRs also encompass textbooks and library materials. The primary purpose of LRs is to enable students to develop the skills and knowledge necessary for them to successfully demonstrate competency through assessment.

WGU seeks LRs that fit its model of competency-based distance education. These LRs need to be:

- independent of time and place—since WGU students are located through the country as well as some stationed overseas;
- scalable—since there are hundreds of students in each degree program with likely increases throughout the foreseeable future;
- affordable—since LR costs are paid through WGUs own low-cost general tuition, with 70 percent of WGU students receiving financial aid;
- available for open or frequent enrollment—since WGU students start monthly and are on individual six-month terms;
- modularized—since WGU recognizes that prior competencies shouldn't require students to repeat material they already know;
- feedback-affording—since students require response about their capability and readiness to assess; and
- self-paced—since students need to be able to progress according to their schedule; particularly, WGU seeks LRs that allow students to accelerate.

WGU's LRs come from accredited higher education institutions, like Rio Sal-

ado Community College, Chadron State University, and Davenport University, as well as from commercial educational enterprises, such as American Museum of Natural History, Wasatch E-learning, Canter and Associates, Thomson NetG, and Abromitis Online. WGU seeks the highest-quality LRs that fit its model, and retain the flexibility to use similar LRs covering the same content and swap out LRs as it identifies better ones.

WGU faculty members, known as mentors, assist their students in taking pre-assessments that identify individual areas of strength and weakness. The mentor works with each student to build an online academic action plan that schedules the assessments that they will complete during the term with appropriate learning resources. The possible learning resources include two types: (1) guided independent study LRs—for students with competency in the domain and who are self directed; (2) more structured LRs—usually instructor-led courses, for students with little or no competency in the domain and those with limited self-direction. Students enroll in their LRs directly through their online academic action plan, allowing them access within minutes to Web-based e-learning LRs, triggering same-day shipment of materials, and/or getting them instructions to enroll in their selected term-based online course within days.

WGU seeks, as much as possible, to identify existing resources that align closely to its competencies and performance tasks and use them "as is." When off-the-shelf LRs cannot be found, WGU works with its providers to first make *delivery modifications*—packaging the LR into smaller units or larger modules (courses) or creating open-enrollment or staggered offerings, fitting enrollment demands. If actual course content and learning activities need to be addressed, it will do so by asking EPs to perform *content customization*—inserting or eliminating objectives, content, and activities. In rare cases, WGU

asks a provider to build LRs to WGU specifications with WGU academic personnel providing occasional input with content expertise, assessment suggestions, delivery requirements, and learner characteristics.

LIBRARY AND BOOKSTORE SERVICES

WGU's competency-based approach enables student independent study under guidance of a mentor, following study guides, and aided by the peer support found in learning communities. Since its opening in 1998, the university has contracted with the University of New Mexico for library services to support all academic areas. A librarian provides the primary interface with UNM library resources for reference services, database search and full-text resource acquisition, interlibrary loan services, and for electronic reserves. Orientation to this distance library is an integral part of a mandatory course in which students participate when they join WGU. Through early research projects, they become familiar with using library resources. Similarly, WGU contracts with an online library vendor to keep a constant supply of its primary textbooks on hand. The bookstore sells these at discounted prices to students, while providing reliable shipping and buy-back services.

THE LR MODEL IN ACTION

The following depiction of a fictitious student, Laura, represents the detailed learning experience in the University's business degree program. Laura works in the personnel department of a major corporation. She advanced quickly in her job during early years with the company based on ability to quickly pick up necessary skills and a natural knack for working with various types of employees. A year ago, Laura was chosen to work closely with the human resource manager, shouldering many of the duties herself when there was a department crisis. However, recently she

has felt stifled because promotions have gone to those with bachelor's degrees and, rather than doing the human resource management tasks of which she is capable, she has been relegated to the more routine and clerical tasks. Recognizing her need for a bachelor's degree in human resource management to move ahead, Laura confronted the difficulty of trying to "go back" to school while married, with an infant son, and the need for full-time employment to pay the bills. Laura and her husband talked about how she might capitalize on the several semesters of college she had right after high school, and possibly incorporate some of the human resources training and experience while she has worked in this field over the past seven years. When they discovered WGU, it seemed like an answer to prayer.

After visiting the WGU Web site and expressing interest through an online form, she appreciated the personalized attention of an enrollment counselor who addressed her concerns and answered her questions in a telephone call and exchange of e-mails. An inquiry session via telephone conference with a business faculty member (mentor) and a group of other prospective students answered her questions satisfactorily. She was pleased to be able to start within weeks of applying, since the introductory course, "Education Without Boundaries," for new students, starts every month. During this course, she learned how to juggle her time to fit in the 15 to 20 hours per week demanded by the program, learned to participate in learning communities, and learned to use the University's bookstore and library. Her first writing assignment, a mini research paper on a business topic, required that she pull several full-text articles from the online library's databases, and use them correctly, following American Psychological Association format, which was new to her. During that first month, Laura took pre-assessments to determine her content strengths and abilities. She also met her mentor by phone, they shared each others' backgrounds, and together developed an academic action plan (AAP) based on transcript evaluations, pre-assessment scores, and Laura's commitment to work hard and progress rapidly through the program. Her mentor inspired confidence in Laura's decision to get a bachelor of science degree in business with a human resources management emphasis, and Laura felt the mentor had the skill, empathy, and expertise to guide her through.

Starting with liberal arts, Laura centered her studies in that first 6 months on completing the Language and Communications (L&C) Domain and Quantitative Literacy Domain assessments. It had been quite some time since Laura had written formally, so she enrolled in an 8-week instructor-led Composition course taught by one of Abromitis Online's instructors (an education provider with whom WGU contracts). The online course followed an ambitious syllabus, moving through the mechanics of writing (e.g., grammar), expository essay writing, to even developing a 10-page research paper (getting references from the WGU library). While taking the course and immediately afterward, Laura worked with WGU to schedule herself for assessments, a comprehensive objective exam and essay exam which were taken at a proctored testing center of a local community college near her home, and she was able to turn in the research paper (with modifications suggested by her mentor) to pass the performance task requirement of the L&C domain. Math had always been Laura's strong suit, so she opted to self-study the competency requirements, using the WGU study guide, the recommended textbooks which she purchased from WGU's online bookstore, and a self-paced "Thinkwell's Intermediate Algebra" package of CDs and Web site e-learning, which she received in the mail within 5 days of enrolling in this LR through her AAP. Laura enjoyed the QL assessments: a proctored objective exami-

nation taken by computer at the same testing center, covering algebra, probability, and statistics, as well as a more involved performance task—working with an Excel spreadsheet to demonstrate working knowledge of home financing, analyzing amortizations covering several scenarios.

The next few 6-month terms allowed Laura to "get down to business" as she addressed the lower-level Business core while completing other liberal arts domains like natural sciences and visual & performance arts. Much of the business core involved "brush up" work, using the study guides, textbooks that she ordered from WGU's online bookstore. She also used e-learning modules in various business topics such as in accounting, law, economics, marketing, management, ethics, and information technology from the Thomson NetG library, which had been tailored to fit WGU's business competencies. Laura particularly enjoyed these studies because she could relate these concepts to the multifaceted corporation in which she worked. The connections were remarkable! The liberal arts enabled Laura to study new areas to which she had had only minimal exposure in high school. This refreshed that knowledge by Laura taking online classes, engaging with CD-ROMs and Web sites (e.g., Thinkwell's Science program). Those were fascinating at first, but Laura breathed a sigh of relief when she passed the associated assessments in those areas. An intriguing assessment, required of all bachelor's degree students, is Collegiate-level Reasoning and Problem-solving Skills (CLRPS). A course from Abromitis Online, which prepared Laura for this assessment, involved researching a contemporary business topic from several perspectives, and writing a comprehensive essay explaining those sides as well as arguing for one's own position. Laura chose to examine positions to make U.S. companies and executives act ethically. Following the course study guide, she accessed some articles placed on e-reserve at the WGU online library about her specific question, and found related full-text articles from the library's online ABI/Inform database to buttress the various viewpoints and her own perspective. She received great satisfaction from the feedback she received as she progressively completed the various CLRPS assignments, and was pleased when her final essay, which she turned in to WGU assessment, passed the requirements.

Laura's final three six-month terms were devoted to upper-division business studies in the domains of leadership and professionalism, business and technical knowledge, and human resource management. Her managers at work recognized the additional knowledge and skills that she was learning in her business program, and Laura found herself with opportunities to use these in additional and more responsible duties on the job. Doors were starting to open at work, even though she was almost a year from graduation. Learning resources for these domains include textbooks, the NetG e-learning modules, as well as some targeted online courses from WGU's education providers. To get the degree with an emphasis in human resource management, Laura had to pass the rigorous Professional in Human Resources (PHR) certification exam, developed and administered by the Human Resource Certification Institute or the Society for Human Resource Management. For this high-stakes assessment, Laura spent over 3 months preparing diligently in an online course for that specific purpose, offered through WGU's provider contract with Davenport University. Not only did she interact with the instructor and other students through online discussions, there was a certification preparation package that came with the course—textbooks, workbooks, and access to practice exams at a Website. Laura was thrilled to finally pass that assessment and receive the industry standard, PHR certification; this is an important credential in addition to the

WGU diploma that would further her career within her company or elsewhere.

The final requirement in Laura's degree took most of her final semester: to compile a portfolio and develop a capstone project that demonstrated the breadth of her learning as well as the integration of knowledge and skill. For the portfolio, Laura wrote a reflective essay integrating the work she had done throughout her degree on a decision she made, revisiting that decision in light of who she had become. Additionally, for the capstone Laura completed a major project that integrated and synthesized competencies in all domains required for the bachelor in business degree; she demonstrated various competencies in language and communication, quantitative literacy, leadership and professionalism, and the several business areas of management, marketing, economics, ethics, and professionalism, along with her major of human resource management.

The learning resources Laura used for these projects included the study guides in the WGU learning community, exemplary sample projects done by previous students, articles from the library, and review of textbooks and Thomson NetG modules. She chose a capstone that examined the human resource department within her company in light of the research and academic scholarship about successful human resource operations. Constant guidance from her mentor was integral to the successful completion of these items. When they were complete, Laura submitted her materials electronically for grading.

CONCLUSION

Since students utilize learning resources primarily to refresh and develop competencies that they then demonstrate through assessment, learning resources play a unique role at WGU. Mentors work with students to identify to best fit of LRs that will enable them to move at the appropriate pace through these assessments and their degree programs. The WGU experience with learning resources demonstrates how a competency-based higher education institution can collaborate with other educational enterprises to provide high-quality instruction that fits the needs of working adult students. Such innovation leads the way for other programs to work on similar collaboratives in system, state, national, or international distance education consortia or initiatives.

"… AT THE HEART OF THE INSTITUTION (WGU) IS COMPETENCY-BASED EDUCATION."

Violins in the Classroom
Technology Implementation Success

Risa Blair and Lyndon Godsall

W hat is your school doing to improve technology skills of the teachers?" If you put 12 violins in a classroom, would you expect everyone to just walk over and start playing them? How can we expect teachers to sit down at a computer and do the same thing? Fittingly, Prensky (2001) said "Teachers are digital immigrants to technology, where students are the digital natives." These are powerful observations that make technology implementation the key issue of the Digital Age.

As schools and colleges adopt sophisticated technology and ubiquitous portable computing, a thorough investigation of the effects of this technology is needed, which should include both the successes and problems that have occurred with implementation (Bartel, 2003). One of the key issues that keeps emerging is the need to adequately prepare teachers to implement technology successfully.

Dertouzos (1998) suggests that schools and colleges adopted computers like fashionable mantras and questioned why children in schools should be connected. After 35 years of experimenting with computers in various aspects of learning, Dertouzos believes there is still no evidence to suggest this has been effective. Others argue that schools have been adopting technology at

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a fast pace and there is little, if any evidence of the effects of this technology on teaching and learning because teachers have not been adequately prepared. According to Shotsberger and Vetter (2001), there is limited evidence to suggest that the inclusion of technology into an educational setting has improved student achievement.

Presenting a favorable argument on the positive side, Pierson (2001) reveals teachers are competent in using technology, and identifies exemplary uses of effective technology use in schools. Pierson also noted teachers maintain high levels of expectations for student learning, believe they can use computers to address individual learning needs, and are willing to shift focus toward activities that are student-centered. Additionally, teachers are three times more likely to encourage student use of the Internet if they adhere to a constructivist teaching style (guide on the side), rather than a traditional teaching style (sage on the stage). These same teachers focus on student interest rather than curriculum coverage, and promote critical thinking skills, real-world problem solving, and group projects (Becker, 2000).

Teachers who felt comfortable using technology also made conscious decisions to alter established curriculum, relying on their professional judgment to guide student choices in learning activities. How is it that some teachers can implement technology into their curriculum delivery better than others? Is this a personal decision on the part of the teacher who likes to tinker with technology or are there schools that have made a conscious decision to support the implementation of technology?

A report from the Partnership for 21st Century Skills (2003) reinforced that technology is, and will continue to be, a driving force in workplaces, communities, and personal lives in the twenty-first century. This report emphasizes the importance of incorporating information and communication technologies into education from elementary grades through the 12th grade.

What are the benefits to effectively implementing technology? Three specific outcomes of training were identified over 10 years ago and still are true today. The first outcome is due to the advances in technology; teachers have not only come to expect more from their students, but also have the ability to cover more complex material. The second outcome refers to teaching style. When teaching with effectively integrated technology, teachers are able to individualize learning. Additionally, students are more responsible for their learning (Hadley & Sheingold, 1993). The third outcome of technology integration is a direct shift from a traditional teacher role to a facilitator role in the classroom. Teachers move on the continuum from traditional assessment to authentic assessment, and students are engaged in active learning where they can independently move forward with their lessons. These specific findings indicate that teachers have changed their teaching styles to facilitate the learning process in their classrooms (Buck & Horton, 1996). Teachers shift from a more traditional teaching style to a more constructivist teaching style in which learners take on responsibility for creating, interpreting, and reorganizing knowledge in individual ways (Windschitl, 1999).

GAINING ADMINISTRATORS' SUPPORT

What is the message for administrators at all levels to successfully implement technology across the curriculum? Administrators must be able to understand how effectively integrated technology can engage students in the learning process. Administrators must also serve as visionaries and clearly see how technology can fit into plans for school improvement (Johnston & Cooley, 2001). In addition, school leaders play pivotal roles in supporting teachers in their use of technology (Wil-

more & Betz, 2000), as well as guaranteeing access to a technology-rich educational environment for students (Boreen, 2000). Administrators need to be committed to the vision of providing technology-rich learning environments. It is this commitment to fully supporting teachers in their quest for technology, as well as providing ongoing training and development opportunities that will motivate those teachers to pick up their violins and start playing them!

At this K-12 independent school for gifted children in South Florida, the senior administrators made such a commitment. After running a successful capital campaign to lay the solid technology network infrastructure, they realized they needed something else to make the technology work. A director of technology implementation was hired who then formed a team of four instructional designers who acted as a technology support team. The team was named the Implementation Technology Team (ITT).

In its fourth year, ITT believes in a philosophy that it is every teacher's and student's right to be provided with the tools needed to succeed. Technology is now not only a necessity in life but also an exciting, innovative teaching and learning tool. Students, teachers, and parents must be well versed in the use of all technology tools and must be shown how to use these tools to create, disseminate, inform, and present information.

SUCCESSFULLY IMPLEMENTING TECHNOLOGY

To effectively implement technology, we first analyzed some of the specific barriers to teacher commitment to learning to use and implement technology, in order to deal with those concerns from the beginning. "Time constraints, insufficient access to classroom technology, limited knowledge and skills, and uncertainty regarding curricular integration are barriers to teachers' technology use" (Shap-

ley, Benner, Heikes, & Pieper, 2002, p. 32). With these key issues in mind, ITT created a successful all-encompassing implementation plan to address these teacher concerns. ITT developed and carried out numerous training sessions, supported teachers in groups and worked one-on-one with teachers to ensure this philosophy becomes a reality. As a result, the school is often visited by other schools, both public and independent, to find out how it has successfully implemented ubiquitous computing.

Implementing technology across a K-12 school is not an overnight achievement. In fact, the program that is in place at this school took almost 5 years to implement. Below are some suggestions and a model that could bring about success with regard to technology implementation:

1. Administrators need to make a strong commitment to technology implementation. This can be demonstrated in a number of ways, from a written document to the hiring of instructional design and technology support staff.
2. Once a person or team has been established, a system needs to be created that will benefit the institution. ISTE's National Educational Technology Standards were used as a basis to establish department and grade level guidelines for technology use. ITT is able to survey and make personal contact with every member of the school to ensure that they have the needed support.
3. As the support system evolves, develop a technology evaluation tool to ensure that no one is falling through the cracks. Teachers complete online questionnaires and demonstrate through classroom observation how they are or are not implementing technology. ITT analyzes the questionnaires and plans either whole-school training or specialized workshops.
4. To further help faculty increase the use of the ubiquitous computing opportu-

nities, adopt a course management system. This can be a major breakthrough, as it allows technology-challenged users to be supported with a system that makes technology easy-to-use.

5. To further involve the rest of the school, install a virtual customizable community environment to allow users to login and receive information based on their role in the school.

6. Finally, make every effort to provide technology training opportunities for faculty during and after the school day. ITT has offered teachers the opportunity to gain teacher recertification points for attending the sessions.

USING THE ITTIM MODEL

We developed the ITTIM Model for successful technology implementation. As we looked at other existing models in education, they were not a good fit with our particular needs. The ITTIM Model is inclusive because it involves the users, the teachers. It is not a bureaucratic model that adopts technology from a higher level and pushes it down to the users. This model, from conception, involves the end user.

The Implementation Technology Team Implementation Model (ITTIM) begins with the investigation of new products by the end-user. The ITT team recognizes that products endorsed and discovered by teachers are usually the most successful products to implement, because teachers have a vested interest in the success of the implementation. An example would be a teacher attending a technology conference or hearing about a product used in another school, and bringing it to the attention of the ITT. Together, the teacher and the team will investigate the product and its pricing, and then move to the next level. The key to all of this is to keep the end user involved in the process as much as possible. Teachers will promote use of a particular product to their peers.

To continually engage the end user (the teacher), ITT manages all of the logistics for implementation. The teacher needs only to be concerned with testing the product and offering feedback to the ITT team. Through various groups and independent teacher input, the team generates a report on the strengths and weakness of the product. One of the significant gauges for adoption is the suitability of this new technology related to how it will enhance our curriculum.

Based on feedback from the teachers and various user groups, and should we all choose to move forward, implementation will begin. Implementation takes place on various levels, depending on the technology. A common mistake is to bring technology on board and mandate use by all teachers. Through experience, ITT has found that a gradual adoption by interested groups is a much more effective way to introduce new technology into our school. Once the interested teachers have adopted and are working successfully with the technology, their peers pique an interest in actively adopting the technology themselves. An example would be the adoption of a course management system and learning portal. Originally, only a handful of teachers were involved with the CMS; however, only three years later, we have 100% support from teachers, parents, and the community. The benefits of using this technology became obvious to all those involved. This approach allows for a step-by-step implementation process that is usually successful.

We monitor and guide the users through the technology implementation process. By monitoring the process we are able to match training to end-users' computer skill level and product sophistication. For example, for novice computer users, the team would develop a simple training program showing product basics, so that the novice user can feel comfortable with his or her level of competence and continue learning, endorsing, and implementing the product.

In contrast, for highly skilled computer users, the team would develop a more in-depth training program, so these users do not become bored with the product, and also continue to support product implementation goals and initiatives. In an ideal implementation, user groups are formed and those end-users come together and share techniques and ideas, so they may learn from each other.

The maintain phase of the model is ongoing to keep the product exciting for the end-user. Systematically, ITT will repurpose software by offering end-users workshops or one-on-one training to revisit the product and move the users to higher levels of usage. The process will start over again when the end-user brings forward an idea for implementation of a new product or technology.

HIGHLIGHTING TEACHER ENDORSEMENTS

Perhaps the best indication of our success is teacher endorsement. In the past four years, ITT has reached 95% of our teachers with professional development activities that could be immediately used in the classroom. Trish Hawkins, a tenth grade English teacher, noted that "ITT has supplied us with the opportunity to attend the Florida Educational Technology Conference (FETC) every year and has designed professional development courses about such ideas as e-portfolios and other innovative ways to help us integrate technology into the curriculum." Often educational researchers such as Cuban report that teachers are resistant to new technology. ITT, through an innovative technology program, can only praise the

Figure 1.   The ITTIMM model of technology implementation.

teachers at our K-12 school for their enthusiasm and willingness to try something new.

Joe Rega, a middle school math teacher, commented, "ITT is very instrumental in both maintaining our technology platform, and particularly in training both students and teachers in the proficient use of the technology. Training is provided one-on-one and in small groups; both informally, and in a formal classroom setting. Recently, ITT introduced a formal six-week training class on the use of various technologies both in and out of the classroom. This training and the support of our technology group is a valuable part of our daily routine at school." As Kinnamon (1990) noted, "If teachers are to feel good about taking time from their schedules to acquire new computer skills, they must be provided incentives, remuneration, and recognition rather than roadblocks." This six-week course provides the teachers recertification points and occurs during the school day.

Lisa Garner, a fourth grade language arts teacher, commented, "ITT has established our K-12 school as one of the leaders in the field of technology implementation. Through ITT, we received a comprehensive training program on the use of the Content Management System (CMS)." As a result, teachers are able to log into tutorial programs, manage online grade books and student portfolios, input digital photography, design web pages, participate in discussion boards, and link to other outside resources. Our technology team also offers after school technology workshops and one- on-one training. One great incentive is that there is always something good to munch on!"

Teachers must first think of their curriculum and then how to integrate the technology (Guhlin, 1996; Persky, 1990). Our school provides ongoing faculty development workshops geared toward seamlessly integrating technology into the curriculum. The workshops focus on specific tasks with real application for the classroom, and are presented in a relaxed, non-threatening setting, for an hour at a time. Something for everyone is presented in the workshops, for the expert to novice users. Our technology team also provides one-on-one training and support to help with special technology requests. Bottom line, the technology team removes the anxiety related to learning and effectively implementing something new. Browne and Ritchie (1991) noted that coaching helps "teachers overcome the insecurity and fear of applying what they have learned in workshops."

Brand (1997) concludes, "Technology is being integrated into school curriculums in many schools across North America as a result of effective staff development. If technology is to be used by students, then teachers must possess the confidence, understanding, and skills to effectively incorporate technology into their teaching practices. This will only occur by providing adequate training and development of teachers." As with the violin, teachers must pick up their instruments and practice in the context of real time learning and teaching, with the support of an ITT. An Implementation Technology Team is the catalyst to provide the confidence and attitude that teachers need to be successful integrators of technology in their classrooms.

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"AN IMPLEMENTATION TECHNOLOGY TEAM IS THE CATALYST TO PROVIDE THE CONFIDENCE AND ATTITUDE THAT TEACHERS NEED TO BE SUCCESSFUL INTEGRATORS OF TECHNOLOGY IN THEIR CLASSROOMS."

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Podcasting
A New Delivery Method for Faculty Development

Christopher Essex

INTRODUCTION

College faculty face many demands on their time: teaching, research, committee meetings, office hours, as well as family and other obligations. It is not that they do not wish to continue to improve their teaching and technology skills through attending workshops, panel discussions, and training sessions, it is just that it is so difficult to find the time in the day to get to them. In the past, this has often meant scheduling things on Friday, when fewer instructors have to teach, but even Friday has become cluttered with

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competing meetings and workshops and other types of face-to-face, synchronous sessions. Thus, instructional support personnel need to look for other ways and means to deliver technological and pedagogical information and resources to their faculty. Podcasting is an exciting new tool for delivering professional development to college faculty.

DEFINITION OF PODCASTING

A podcast is a digital "radio show"—one of a series of audio programs that can be downloaded from the Web. The Wikipedia cites the first use of the term podcasting as happening in February 2004 (Wikipedia, 2005). Podcasts have become a huge new information and entertainment option for Internet users. It is estimated that 4.8 million people downloaded a podcast in 2005, and by 2010 the podcast audience is estimated to be between 45 and 75 million (Bridge Ratings, 2005). The podcast has been incorporated into the culture to the degree that the word "podcast" was chosen as the New Oxford American Dictionary's 2005 Word of the Year (New Oxford American Dictionary, 2005).

Many instructional support personnel may initially ignore the possibilities of podcasts because they know that few of their faculty members have access to Apple iPods or similar devices. They are confused by the term podcast, expecting that the programs can only be accessed through digital music players, but this is not the

case. In fact, a recent survey shows that less than 20% of podcast listeners use a digital music player to access their programs (Bridge Ratings, 2005). Instead, the vast majority are using their computers. Any reasonably modern computer can play a podcast. This immediate accessibility by a huge potential audience has been a major force in the popularization of podcasts. A listener does not have to go out and buy anything new, either hardware or software, in order to receive these online "radio shows."

Downloadable digital audio is nothing new, of course. People have been downloading audio files for years. But podcasting is not just a matter of downloading audio files. Podcasts also involve the use of a subscription system. When a listener subscribes to a podcast, through any of a number of free programs called aggregators, such as Juice (formerly iPodder [http://

juicereceiver.sourceforge.net/]), RSS Radio (http://www.dorada.co.uk/), or iTunes (see Figure 1—http://www.apple.com/itunes/), new episodes of the podcast are downloaded automatically, as they become available. Aggregators regularly check a file on the podcaster's Web site, called an RSS (Really Simple Syndication) file, to see if new episodes have been uploaded.

It is this combination of features—a common file format that can be read by many programs and devices, and the ability to subscribe to a program—that has led to the popularity of podcasting. But one other factor is also crucial: like a Web page, which can be created using basic, easily available tools and using a coding system that is easily learned, podcasts can also be developed by novices with software and hardware that is easily accessed and has a minimal learning curve.

Figure 1. The podcast as viewed through iTunes.

PODCAST PRODUCTION

The first step in making a podcast is the creation of the audio file. You will need to plug a microphone into your computer, either through the microphone jack in the back, or through a USB connection. Obviously, speakers and/or a headset are a must, so that you can hear yourself. For the actual recording, you will also need to have a program such as Audacity (available for Mac and Windows, http://audacity .sourceforge.net/), Goldwave (http://www .goldwave.com/) for Windows, BIAS Peak (http://www.bias-inc.com/) for the Mac, or any of a number of other audio recording programs. Another option, if you are a Mac user and have Apple's iLife '06 suite, is to use Garageband to record and edit your file, and to convert it to mp3 format. As we use the iLife '06 programs every day in my office, this is my preferred production path.

You may want to add music and sound effects to your podcast, to liven up the proceedings. It is important to respect copyright law when you do this. You may want to consider using a "podsafe" music source such as the Podsafe Music Network (http:// music.podshow.com) or Podsafe Audio (http://www.podsafeaudio.com/). If you use Garageband, you will find that it comes with a useful selection of copyright-free sounds and jingles.

The next step is to create the RSS file. These files can be created without hand-coding by using any number of programs, RSS Publisher, for Windows (http:// www.rsspublisher.com), or Podifier, for Windows and Mac OS X (http://www .podifier.com).

Now you have your mp3 audio file and your RSS file. Both need to be uploaded to a Web server. Since the audio files are to be downloaded, streaming software does not need to be installed on the server. Once the files are online, you are officially a podcaster!

PODCAST AUDIENCE

Your initial concern as a podcaster should be your audience. Is it just the faculty in your school, or is it the whole university? What about other campuses? What about faculty at other universities, or around the world? Also, are there content-area professionals that might also find the podcast interesting—for example, if you are in a school of nursing, would nurses in the field find your podcast useful? You may find that you have more than one audience; if so, you will need to make sure you provide content that is meaningful to each of them in each episode, or to define specific episodes as being for one audience or the other.

Your second concern is, will your audience be able to access the shows you create? With a college faculty audience, the percentage of actual iPod owners may be small, though all of them will have access to a computer. At our university, the computers all come with sound cards and speakers, but you may want to check with your technology services people. They will also need some program on their computer that can play mp3 files: Windows Media Player and Quicktime will do the job and are nearly ubiquitous. An aggregator program that will allow them to subscribe to your show—either iTunes or one of the other software packages described previously—will be helpful. If installing such a program is impossible, though, you could just put the files on your Web site and send out e-mail announcements when new episodes are available.

PODCAST CONTENT

Once you have established who your audience is, and that they can download and play your mp3 files, you'll want to consider the information that you want to deliver via these podcasts. What do your faculty need to know? What would help them in their teaching, research, service, or even family responsibilities? In the case of

"Teach with Tech," my podcast series, I decided to focus on integrating technology into teaching, both at the college and K-12 levels. This topic fits well with my audience because they are college instructors teaching current and future K-12 teachers. They may not use the K-12 information directly, but they can pass it on to their students. This topic is also good for a podcast series because there is always news in this area: new hardware and software become available, and new research is constantly being published. I could have also chosen to focus on teaching tips and strategies, and may do so in a future series. The main thing is to provide content that faculty will feel is worth their time to listen to.

There should also be a reason that you are not just sending this information out in an e-mail or posting it on your Website. What is it about the audio dimension that makes it an appropriate delivery method for the material? One answer to this, in general, is that with audio content, you can multitask. You can listen to a podcast while answering e-mail, while jogging, while driving home, while doing the dishes, etc. With print, you have to focus the entirety of your attention on the content in front of you. This severely limits the amount of print content one can process before weariness sets in. In the case of our program, my choice of podcasting was based upon my desire to reach an audience of faculty who are already deluged with text-based announcements. I wanted to offer faculty content that they might not access if it came in an e-mail, or just added to our already voluminous Website.

PODCAST FORMAT

Before reading this section, I encourage you to listen to two or three different podcasts. A good place to start might be the education directory at Podcast Alley (http://www.podcastalley.com/podcast_genres.php?pod_genre_id=7). One thing that you will quickly grasp is the informality of

most of the presentations. The tone is more drive-time DJ than NPR host. One of my favorite K-12-oriented podcasts is called "The Tech Teachers" and is hosted by Ray and Hollye, who are both teachers (http://thetechteachers.blogspot.com). Listening to their show is just like sitting in their living room and hearing them chat about their experience. Occasionally, they leave the couch for a "Dinner and a Podcast"—a recent one was recorded at the local Outback Steakhouse. The goal for most podcasts is to provide a friendly, casual atmosphere (with humor always a plus!). This has been a goal with my podcast series; faculty do not want to feel like they are being lectured to. It is important, however, not to go too far in the other direction, either, and get silly, as faculty time is valuable.

SIX TIPS FOR BETTER PODCASTS

1. Listen. Few of us have access to recording studios for our podcasts, but the environment that you are recording in should be as quiet as possible. Turn off that fan, close the windows, tell your cubicle neighbor to turn off the radio, etc. Close the door and put a "Don't Knock" sign on it.
2. Rehearse first, but record the rehearsal as well. Oftentimes, I find that my delivery during the rehearsal take is more lively and spontaneous than the "final" version. You may want to edit together the best parts of both attempts.
3. Provide the URLs for related resources on your Web site or, even better, on a companion blog site, rather than tediously spelling out every underscore, dash, and dot verbally.
4. Keep it short. While there are podcasts that last for an hour or more, that is asking a lot of your listeners. Especially given a faculty audience that may be listening to the show on a walk across

campus, or between students during office hours, and so forth, it is best to keep the show to 15 minutes in length. If you have more content to cover than that time will allow, give the listeners the option to download the show in multiple segments.

5. Don't go it alone. Find a colleague with an engaging personality, sense of humor and clear speaking voice to join you during your recording sessions. Dialogue is more interesting to listen to than monologue, and it also takes some of the pressure off. It is also good to provide multiple perspectives on issues when possible. Invite guests who are experts or at least experienced in the topic at hand.

6. Get feedback from your listeners. In order to ensure that you are meeting your audience's information needs, you should provide them with multiple methods of providing feedback on the show. Mention your e-mail address and blog URL regularly. Create a listener feedback survey, using one of the many free tools out there, such as SurveyShare (http://www.surveyshare.com) or Zoomerang (http://www.zoomerang.com).

THE FUTURE OF PODCASTING

Many see the addition of video as being the next step with podcasting. For one thing, broadband Internet access is becoming more and more common, so the large file sizes associated with video aren't as big a problem as in the past. Also, the recent introduction of new video-capable iPods and other devices with video support has brought a lot of media attention to the idea of videocasts. I'm not so sure, though, that video will overtake audio podcasts. For one thing, video requires that the viewer attend fully to the show, and thus one of the major advantages of podcasting—the

ability to multitask—is lost. If faculty can't take in your content while walking the dog, or hurrying across campus to teach, then much of the primary benefit of the medium is lost.

The biggest challenge, as I see it, for podcasters in instructional support services, is to keep faculty listening once they are past the novelty value of podcasting. This will be the case for podcasting in general. Just as many mediocre Websites have disappeared since the beginning of the Web, many of today's podcasts will also soon be gone. But the ones that truly meet the needs of their audiences will survive and continue to be popular.

CONCLUSION

Podcasting provides instructional support personnel with a new tool for their tool-kits. As a way to reach faculty with useful information and resources in an easy-to-access format, it can be a very practical delivery medium for college-level faculty technical and professional development programs, and should be considered by instructional support staff as one of many ways that they can fulfill their goals related to faculty support.

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6 TIPS FOR BETTER PODCASTS

1. LISTEN
2. REHEARSE FIRST
3. DO NOT PUT URLS ON RECORDINGS
4. KEEP IT SHORT
5. DON'T GO IT ALONE
6. GET FEEDBACK

Offering Online Courses

A Cost-Effective Adventure for
Distance Education Providers?

Charlotte D. Corbett and Lya Visser

INTRODUCTION

Higher education is faced with a surge in enrollments without having to invest capital funds for brick-and-mortar infrastructure growth. Many colleges and universities have been quick to include distance education in their programs to increase in cyberspace what they have difficulty doing physically (Boettcher, 2000; Morgan, n.d.; Tallman, 2000).

In the preparations for "going the distance," most providers include in their prognosis the cost of acquiring a server and other equipment and designing an infrastructure necessary to offer online courses successfully. What is often missing are policies and procedures for faculty training and for faculty compensation for teaching online. In addition, once the technology is in place, there are additional questions to answer such as whether there are limits to class sizes in online environments, to what extent faculty have been trained in online teaching, and how faculty are compensated.

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GOING ONLINE: THE INSTITUTION

The cost of making a course available for the first time can differ considerably. Traditionally in academe, faculty have designed and developed the courses they are responsible for as an additional task to their daily work. Boettcher (2000) gives a formula for time committed to designing a three-credit course. It includes preparation of materials, presentation of materials in class (lecturing), interaction with students related to the course in and outside the classroom, testing, assessment, and grades assignment. The total number of hours comes to about 135, based on 15 weeks of 3 hours a week and the conservative ratio of for each hour spent in class another 2 hours are spent out of class. Maxey (personal communication, 2005), estimates that the cost of updating and teaching a three-credit course is about $3,500.

A leaflet that appeared a couple of years ago made the assumption (while advertising a conference on "Developing Online Courses") that the average online class will have 100-1,000 participants. Should any decision makers worry that these cash cows could trample something of value, the next bullet item in the leaflet assured them that "there's more learning in high enrollment courses." These assumptions are too confused to be taken seriously. It is, of course, possible to offer courses to 10,000 or more people, but it is not likely that this will happen soon, and still less likely that they would produce more learning than typical face-to-face classes (Cahoon, 2000).

Although there is a wide variety of issues involved in putting a course online, concrete information is scarce. This is understandable, as there are many varying factors such as the cost of the technology used, the sophistication of the technology, the complexity of the course/program, and the method used for its development.

Based on figures that have been made available by the University of Massachusetts Boston (Maxey, personal communication, 2005), three principle methods can be used to design a course (see Table 1).

It will be clear that designing and developing a course using a course team approach, although much more expensive, leaves time for faculty to focus on pedagogical issues and allows staff to keep up with the latest developments in technology and learning management systems. Few faculty members have the time to devote to the learning curves associated with all the tasks of online course development. The benefit for students is that a course created through the efforts of a development team is more likely to meet high quality standards (Ragan & Terheggen, 2001).

GOING ONLINE: VOICES FROM THE FIELD

Frank Mayadas, the director of the Sloan Foundation's Asynchronous Learn-

Table 1
Course Design Methods

Mode of delivery	Method	Estimated Cost	Compensation
Face-to-face	Instructor as designer	$3,500	Course developed during working hours
Online course	Instructor as designer	$20,000	Course developed during working hours
Online course	Course team	$70,000	Additional staff support, course developed during working hours

ing Network, says they encourage participating institutions to limit their course development costs and to avoid making use of much very high-priced media. Their advice is to spend between $5,000 and $15,000 to develop a course. Many commercial companies spend much more on developing courses: some have put millions of dollars into a single course, making it impossible to compare their costs with those of nonprofit universities. According to Mayadas, the model the Sloan Foundation offers ensures that the cost of creating the course is not too high, and that the cost of delivery is roughly the same as if it is delivered on campus. It is expected that eventually the cost of creating and teaching an online course will end up being 20% lower than the cost of developing and teaching a traditional course. Leroy W. Dubeck, the chairman of the budget committee of Temple University's Faculty Senate, remarked that many colleges greatly underestimate the cost of designing, developing, and offering online courses and programs. It seems that those who think that they will make money may be disappointed. Some universities offer online course with an extra overhead, and still manage to get students, while other universities include technology fees to increase their income from online courses. In all cases, numbers are important to get the investment back (the money spent on developing the courses, paying faculty, and offering quality support services). Myers, of Maryland's University College, says that online programs are expensive to develop and even more expensive to develop well. He added that administrators who want to recoup their development costs on online programs will have to spend more time creating and following a business plan than they are accustomed to. Maryland University College spent slightly more than $1 million on its online MBA program, and is "very close" to having fully recouped the development costs. The $1 million was used to buy the program's

technological infrastructure and to create an assessment team to monitor the performance and satisfaction of students and faculty members, among other things (Carr, 2001).

Not all programs, though, have proved financially viable. Maryland officials, for instance, canceled a distance program in engineering management. Other institutions are trying to get a better handle on costs and revenue-generating potential to determine how quickly they should expand their online programs (Carr, 2001).

At the Rochester Institute of Technology (RIT), the Sloan study was timely because university administrators had decided to broaden their program and needed to figure out how much that would cost, says Christine Geith, RIT's executive director of online learning. She recognizes that it is one thing to put one course online. The costs are really easy to identify, and the faculty member can shoulder the burden of being the virtual university, but if initially the distance program counts for 10% of the total operations, it is important to seriously consider how to set up student support services.

Pamela Quinn, the assistant chancellor at the Dallas County Community College District's R. Jan LeCroy Center for Educational Telecommunications, observes that many colleges are hitting a point where they have to decide whether they want to become fully ramped-up distance education providers and, if they do so, some may have to add new positions such as instructional designers to their online programs. To make such decisions, it is important to be well aware of what the cost and the benefit of online education is for the providing institute and what additional resources are necessary if one wants to include distance education programs and courses. Costing may be a complicated and challenging business. There are the fixed costs (generally independent of the number of students enrolled) and the variable costs (influenced by the number of stu-

dents enrolled). Enrolling a greater number of students will not influence the fixed costs, but one will need more instructors, and have an increase in variable costs like communication. These are considerations and decisions that are not based on just trying out, but have to be grounded in serious strategic planning, taking the market and its opportunities and threats into consideration. The Sloan studies, in fact, varied considerably in what they counted as costs or expenses. A study to examine the costs of an online master's program in information systems of the Drexel University found that there are three main categories of costs that make online programs expensive to deliver: technical support, technology, and extra faculty. However, if the money saved on buildings and land is taken into account, distance learning can become considerably more cost-efficient. The number of enrollments is crucial in these cost-efficiency calculations (Carr, 2001).

GOING ONLINE: THE ROLE OF THE FACULTY IN ONLINE TEACHING AND LEARNING

In just one year, from 2003 to 2004, online enrollment in the United States increased from 1.98 million to 2.35 million (Allen & Seaman, 2005). This means that more online instructors will continue to be needed and increasing numbers of those who used to teach face-to-face will gradually have to familiarize themselves with online teaching. Some will gladly accept the challenge, while others may do so reluctantly.

Management theorist Peter Drucker predicted some ten years ago that higher education institutions in their current form will be relics in a matter of a few short years. His message was clear: change or die (Lenzer, 1997). Regardless of whether faculty consider online education a positive or negative development, they may have to go with the flow. Institutes that provide online courses have the important role to ensure faculty are well trained so that the change from face-to-face teaching to online teaching is a smooth one. Emphasizing that content is more important than technology may encourage faculty to face online delivery as part of their teaching obligations and enrich their experience.

It is generally agreed that distance learning requires more time on the part of the faculty (Grenzky & Mailand, 2001). According to Morgan (n.d.) faculty spend half an hour per week with each student outside of class in distance learning. Based on Morgan's survey, faculty noted an over-50% increase in time needed when teaching online courses; others, however, reported that the time is nearly double that of traditional courses (McKenzie et al., n.d., as cited in Parker, 2003).

The general agreement among online faculty is that teaching online courses is more labor intensive, may be the reason that students often complain that the instructors do not have enough time for them. Beaudoin (2005) speaks about the invisible instructor in online teaching.

Student satisfaction in online courses is highly correlated with interaction with the instructor (Shea, Swan, Fredericksen, & Picket 2001; Trippe, 2001). Many online instructors, however, do not have the experience of having been an online learner. They have only been involved in one side of the process: the instructional process. That is different in traditional education. We have all spent years sitting in a classroom and have been exposed to the "sage on the stage." It may thus, sometimes, be not easy for online instructors to imagine how students feel if they, for instance, do not hear from their instructor, or get an ambiguous answer to a question they have posted. Online students sometimes are very much aware of the absent instructor; as one student wrote, "the non-communication of the instructor made me depressed," and another student, discussing the presence/absence of the online

instructor, wrote, "I have had online instructors who have constantly been absent, they got in touch with us only once or twice during the 16 week course."

Class size may be a very important factor in how faculty engage in online teaching. The compensation structure often encourages increased class size. Class size and compensation vary across the country. One college in Illinois sets class sizes at an average of 25, with no more than 30 students, maximum, while a community college in Oregon has more than 100 students enrolled per instructor (Maitland, Hendrickson, & Dubeck, 2000). As with determining the cost of putting a course online, there seems to be no formula for determining the maximum number of students an instructor can efficiently and effectively manage. Lynch and Corry (1998) are of the opinion that some faculty can be hired exclusively for course design, while others will be hired for instruction. Looking at cost-efficiency the number of students makes a difference. If instructor A receives $3,200 for teaching an online management of distance education course to 10 students during 16 weeks, and the following year instructor B receives the same amount for teaching the same course, but has 30 students, the cost per student for instruction is $200 in the first case and $67 in the second case. The concern that the quality will diminish with an increased number of students, and thus more work seems to be a valid one.

Financial compensation is not necessarily the only reward. To do something well, one must be motivated. Motivation may be extrinsic, such as receiving release time or extra pay, or it may be intrinsic, such as self-satisfaction or intellectual stimulation. In a review of 102 articles, Parker (2003) looked at the intrinsic rewards listed by faculty

Research showed that self-satisfaction, flexible scheduling, and a wider audience making it possible to teach one's preferred

classes often, are intrinsic motivators for online faculty, while stipends, decreased workload, release time, and new technology are extrinsic motivators. Appealing to the motivators of the faculty will contribute to ensuring dedicated, efficient, effective and affective student support.

GOING ONLINE: FINAL OBSERVATIONS

In this article, we have looked at only two aspects of online teaching and learning: (a) the preparedness of institutions to go online as reflected in the their awareness of the need for a strategic plan and a concern for overall quality and (b) the role of faculty as critical in motivation and in the achievement of successful online teaching and learning. Although many other issues are involved in the decision to offer online courses, the centrality of the above factors causes them to merit special attention.

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The Online Course
The Development and Implementation of Training and Support

Amy Huff Berryhill and Vance A. Durrington

This article focuses on the development and implementation of training and support for faculty creating online courses at Mississippi State University (MSU). The ever-changing online environment can both challenge and motivate educators to discover and present via new methods of delivery. MSU supports the use of WebCT as its course management system and strives to create and provide training and support to faculty as they implement it on campus.

BACKGROUND

Creating and teaching a course in an online environment can be a challenge for new faculty members, as well as seasoned veterans. The development and use of distance education technologies by colleges and universities has created conditions that require faculty to adapt to new methods of teaching and communicating with their stu-

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dents. Special means must be devised for assigning, guiding, and evaluating students' work. An online course requires not only that faculty learn how to use new technologies, it also requires a paradigm shift in how materials are presented and retention evaluated (Dillon & Walsh, 1992). To accommodate this increasing implementation of online instruction, Mississippi State University's Information Technology Services (ITS) researches and develops training materials, conducts workshops, and provides designated open lab times for faculty to set up their courses with staffed instructional technology support hours. This creation of materials and support opportunities was developed largely from feedback received from workshop participant evaluations and a campus-wide technology needs assessment.

MEETING THE NEEDS OF FACULTY

The workshops ITS developed were designed to show faculty how to integrate and implement the technology and corresponding applications into their instruction. ITS offers software application workshops that are designed around a general theme incorporating common campus locations and icons. This theme was derived after information from an existing course was used and participants expressed concern that they were not able to relate to the exercises because they were not familiar with the topic. Thereafter, the workshops incorporated a common format around a general working theme: MSU 101. This theme centers on elements on campus that all participants can relate to, such as Perry Cafeteria, the Chapel of Memories, and the history of the University. Some workshops provide instruction on various software applications, which include Microsoft PowerPoint, Word, Access, and Excel; Adobe Acrobat, Photoshop, and Illustrator; and Macromedia Dreamweaver and Flash. Some workshop exercises include a PowerPoint presenta-

tion on the history of MSU and a Web site about Perry Cafeteria created in Dreamweaver. The MSU 101 common theme allows the participants to not only learn the applications, but through exercises and demonstrations, participants also learn how the software can be utilized in their classroom or course instruction. An effective design and delivery of online instruction depends heavily on competent and committed faculty (Beaudoin, 1990). With the increasing importance of creating online courses, colleges and universities are obligated to reduce existing barriers to faculty participation in online course creation and instruction which include providing support services that will ensure student access to a high-quality online experience (Katz, 1999; Olcott & Wright, 1995). The current needs and developing needs of faculty are determined, in large part, through workshop evaluations and personal contact with faculty by ITS consultants.

The workshop evaluation process began in 1998 with a paper evaluation and, in 1999, was changed to an online evaluation. The participants evaluated each coded workshop with Likert scale questions and were encouraged to submit comments relating to how and if the instruction met their needs. Monthly evaluation summaries were compiled and reviewed to assess the effectiveness of the workshops and instructors. The university's chief information officer and the Information Technology Advisory Committee (ITAC) charged ITS with developing the needs assessment. In the spring of 2001, ITS conducted a university-wide technology needs assessment. In addition to the assessment, the Course Management Task Force, who reported to the CIO, researched and evaluated existing course management systems and made the recommendation that MSU adopt and fully support WebCT. Prior to this recommendation, ITS supported several different CMSs. From the data and the workshop evaluation summaries, ITS

began developing specific workshops for training and supporting faculty in the creation of online and hybrid courses in the WebCT environment. Comments extracted from online evaluations from the initial Introduction to WebCT workshops indicated that more types of WebCT workshops were needed. Some of these comments were, "I need additional follow up," "Need more advanced WebCT," and "Need help and assistance one on one." From evaluation comments, as well as personal contact, workshops labeled "WebCT Specialty Areas" were developed and presented in the same format as the existing workshops. The six specialty areas included assessment, communication tools, preparing documents, Web graphics, content modules, and grade management, all designed for the WebCT environment. These workshops center on the functions and uses of the previously mentioned specific WebCT tools. In 2002, 21 workshops devoted to the development of WebCT courses were conducted. In addition, ITS offered 3 days in the instructional lab devoted to WebCT called "JumpStart." JumpStart provided faculty with an opportunity to set up and/or fine-tune their courses for the fall semester. Open lab times offered a come-and-go format, making attendance convenient for any schedule. ITS consultants were in the lab to offer any needed assistance. Over the 3-day period, there were 21 attendees, with the average attendee staying for 40 minutes. The total contact time was 14 hours. In addition, ITS has all workshop handouts and the accompanying files available for download and printing. These downloadable materials are used by faculty as a course refresher, as reference material, or as a preview to determine if the workshop fits their needs. In addition to the work-shop schedule, ITS also provides Instructional Technology Support, Monday through Friday, from 8:00 a.m. to 5:00 p.m. This support service is staffed by two graduate assistants answering questions via telephone, e-mail, walk-ins, and appointments. Faculty are able to call or sit down with someone and have questions answered and problems solved. Support ranges from help with PowerPoint presentations to setting up chat rooms in WebCT. This personalized approach is just another way ITS offers assistance to MSU faculty.

In the ever-changing online university teaching environment, the technology is not the most important factor to consider; ongoing faculty support is the key to obtaining and maintaining rich online course offerings. Colleges and universities must not only provide training, but, more importantly, work to develop an organizational atmosphere that encourages and supports faculty growth and development (Dillon & Walsh, 1992). Through the workshops and support offered through ITS, Mississippi State University hopes to play a major role in creating that atmosphere for faculty.

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Top Internet Technologies to Transform Your Recruitment Strategy

Paul Epstein

Most marketers of distance learning programs understand that the Internet is their most important recruitment vehicle. But the world of Internet marketing is constantly shifting, and it's often difficult to know which of the latest tools and technologies offers the best method for reaching your enrollment goals.

While fierce competition from other institutions and short attention spans of prospective students can make it challenging to get your message across and gener-

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ate high-quality leads, there are many new opportunities in online advertising that enable distance learning providers to break through the clutter and market their programs successfully.

Below is a brief description of the top five Internet technologies affecting today's recruitment strategies. By leveraging some or all of these tools, your institution will be able to generate higher-quality leads, improve lead-to-start conversion rates, and boost overall enrollment.

BLOGS

According to data from the Pew Internet and American Life Project, one in six adults goes online to read blogs. There are hundreds, if not thousands, of new blogs created every day, and the total number of blogs has grown so explosively that Merriam-Webster Dictionary named it their word of the year in 2004.

What is your institution's blogging strategy? If you don't have one, you'll need to create one immediately. Try keeping an institutional blog to update your prospects about current events at your school. Or allow your faculty or your students to keep blogs and publish them on your Web site. Blogs give your prospects incentive to return to your site, and the constantly refreshed content will also give you a boost in the search engine rankings. You might also try advertising on other people's blogs, which might offer less

expensive placements than traditional media buys.

RSS FEEDS

Depending on whom you ask, "RSS" stands for either "Rich Site Summary" or "Really Simple Syndication," but in both cases RSS feeds are one of the hottest new Internet technologies for getting your message out. An RSS feed allows a Web site to publish its content in a format that other sites, blogs, or intranets can easily pick up and redistribute.

The best content to distribute through RSS feeds includes press releases, event listings, news stories, project updates, or corporate information—essentially, the type of information that adds value to external Web sites. By allowing these sites to pick up your institution's updates and announcements, you'll extend your public relations reach and drive qualified traffic to your site.

WEBINARS

Webinars are Web-based seminars or workshops offering another excellent way for your school to get its message out and differentiate it from your competitors. This presentation technology allows you to paint a more complete picture of your institution's offerings than a traditional banner ad or Web page ever could, thereby dimensionalizing your value proposition for the audience.

Give your prospects a meaningful understanding of what it's like to attend your school, or what type of education they'll gain by enrolling in certain degree programs through Webinars—among the most effective tools on the Internet. Presentations can also explore topics such as financial aid, career paths, or the value of earning a degree online or through accelerated learning. To get the maximum value out of your Webinar, promote it on your Web site, in your newsletter and on part-

ner Web sites, and archive it after the event.

PODCASTS

Podcasts are audio files that Web site visitors can download to a portable mp3 player and listen to whenever they want. With the widespread adoption of iPods and other mp3 players, podcasting is set to explode as much as, or more than, blogs in 2004. In fact, researchers at the Diffusion Group have estimated that the podcast audience will grow to 56 million listeners by 2010.

Many prospective students would prefer to listen to certain content rather than read it on their computers, and by offering valuable audio content you'll demonstrate that your institution is ahead of the curve when it comes to technological innovation. You could offer podcasts about how to succeed in distance learning, or how to compare and select distance learning programs. Another way to take advantage of podcasts is to advertise on popular podcasts reaching your core audience; many in-demand podcasts offer ad opportunities such as product placement, show sponsorship, and even 15-second ads similar to a commercial you'd air on a radio program.

INSTANT MESSAGING

A recent study by Noel-Levitz, James Tower, and the National Research Center for College and University Admissions found that 81% of college-bound students use instant messaging (IM) when they go online, and when asked what activities they would like to participate in on a college Web site, 70% said they'd like to use IM to communicate with a counselor ("The e-savvy class of 2006," 2005).

Not only is IM a popular communication vehicle, but it can be highly effective in streamlining the enrollment process because it eliminates the lag time between a prospect completing a contact form and

receiving a telephone call from an enrollment advisor. Imagine how much better prospects will feel about your institution if they can get answers to their questions immediately, rather than waiting a day or two. And, of course, another added benefit of IM is that it will reduce your phone bill.

SEARCH MARKETING

Okay, so search engine marketing isn't exactly new, and maybe it's getting competitive and costly, but there are still viable ways to generate qualified leads for your school.

First, optimize your site for natural, or unpaid, rankings through the use of meta tags, backlinks, search-friendly content, and other tactics that will help boost your site rankings in all of the major search engines and directories. This will help make sure your site comes up for relevant search terms and thereby net you free site traffic. After that, consider bidding on search terms related to your core offerings. But be careful not to overbid on broad, highly competitive search terms that will not convert at an effective rate. Keep a close eye on your click-to-lead ratios to ensure you're getting your money's worth.

SEARCH GETS LOCAL, VERTICAL

Two new trends in search marketing that are worth keeping your eyes on are local search and vertical search, both of which are quickly emerging as less costly, more targeted methods of reaching your core audience.

Local search is especially valuable for any institution wanting to target prospects within a particular geographic area. Most of the major search engines now offer their visitors some way to search locally, while a number of new search engines have recently appeared on the scene in an effort to lure local advertisers to their sites.

Meanwhile, vertical search has come about as a result of the major search

engines simply including too many results, often making it difficult for the users to find exactly what they're looking for. But with a vertical search engine, users can narrow their results down to include only Web sites from the particular industry that interests them. So an education search engine, for example, would return a smaller and more targeted list of returns on searches conducted by prospective students than a similar search conducted at Google or Yahoo. Vertical search is still in the very nascent stages, but it's worth following to see if any education-related search engines grab the spotlight.

VERTICALLY SYNDICATED EDU MEDIA NETWORKS

The last few years, a large portion of institutions' advertising budgets has gone to Online Education Directories (OEDs)—Web portals that allow visitors to browse through their directories of colleges and universities. But the proliferation of these directories has diminished their value to the prospective student and made it harder to decide which ones are worth placing your school in and which are not.

More recently, a few Online Education Directories have begun syndicating their content and offers on the Web sites of third-party publishers, allowing them to run your offer on highly trafficked and highly visible Web sites on a cost-per-lead basis. This strategy expands your reach to a targeted media network while controlling your costs and generating qualified leads. Ask your Online Education Directory what their syndication capabilities are and how it can help get your school more exposure and better leads.

RICH MEDIA

Typical banner ads simply do not cut it any longer. Consumers have conditioned themselves to barely notice banners, a trend that is evidenced by the miniscule

click-through rates most banners experience nowadays.

The online advertisements that capture attention and engage the consumer more than any other ads are those that make use of rich media. The term "rich media" is generally used to describe any type of interactive media that exhibits dynamic motion and takes advantage of enhanced sensory features such as video, audio, or animation. In the past, most advertisers have shied away from ads that incorporate these elements because they tend to take longer to download than most ads, thereby frustrating the consumer. But with broadband connections now prevalent in most homes and nearly all businesses, rich media ads are quickly gaining popularity.

CONTINUE INNOVATING FOR BEST RESULTS

Internet marketing is nothing like direct mail, traditional media, or other forms of advertising. What worked last year won't necessarily work this year, and just because a campaign is successful right now, is no guarantee of future success. Astute marketers know they must constantly study the latest trends in the online marketplace and leverage them in their recruitment strategies if they want to secure more leads and convert them more effectively into enrollments.

If you're not planning on using any of the technologies discussed above, just keep in mind that your competition probably is.

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BASIC PODCASTING RECORDING EQUIPMENT

- AUDIO MIXER AND DIGITIZER
- MICROPHONE
- STUDIO HEADPHONES
- CABLE
- IEEE CABLES
- MP3 PLAYER

Proactive Planning for Success

Ryan Watkins

E-learning initiatives can (and should) accomplish valuable results for individual learners, organizations, and society alike. Yet, the implementation of e-learning courses or programs in no way guarantees the achievement of valuable results for any of these interdependent groups. Nor can organizations wait until after e-learning investments have been made to define and

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assess these intended results. Organizations that apply the "fire, aim, ready" approach to e-learning implementation when they hear about the latest technology are unlikely to accomplish useful results. The successful accomplishment of valuable results requires proactive planning and decision making from the earliest phases of the development process.

You cannot assume, for instance, that analogous e-learning efforts as those that have been successful in other organizations (whether they be Fortune 500 businesses, regional school districts, or Ivy League universities) are going to work for your organization. Each organization has some combination of unique strategic objectives, history, learners, culture, motivation, and other factors that may or may not contribute to the success of their e-learning efforts. As a consequence, your success hinges not on the success of others but on your ability to determine and define the results that must be accomplished for all three groups (i.e., individual learners, your organization, and the shared society) and then decide if e-learning is going to achieve those results.

Planning for the accomplishment of value-adding results requires that we focus on the contributions that will be beneficial to all the individuals and groups that are

principal to our success. Groups such as suppliers, organizational partners, clients, community members, and others should each benefit from the e-learning opportunities we offer; their success is tantamount to our success. After all, a successful system of e-learning (just as most any other organizational initiative) extends beyond the products delivered to the learners or direct-clients to include the subsequent performance of learners in the workplace, the safety of product they deliver to clients, the long-term success of client organizations, and the value learners can add to our shared communities.

As a consequence, there are several useful perspectives that can be used to consider the groups that are essential to our success. From generations of clients to varying roles in the supply chain, differing ways to consider the groups that are essential to our success should be used to ensure that our planning is truly systemic. One practical framework for categorizing our organizational partners is to examine the expected results of both internal and external groups to our organization. That is to say, what are differing results expectations of internal clients (e.g., individual learners, teams, divisions) versus external clients (e.g., suppliers, client organizations, organizational partners, community members)? And, can e-learning provide the necessary results for all of these partners to be successful?

The internal partners of an organization include the individual learners, colleagues, teams, units, divisions, and others that we work with each day to produce valuable products. An internal partner is also the organization itself. Defining and assessing the results that we contribute to each of these groups within our organization provides for the essential internal alignment that is necessary for success. For instance, an e-learning development team in the training department has many internal partners that include the technical support staff, the network administrators, the human resources department, graphic designers.

In addition, the learners who will complete the training, the supervisors of those learners, the divisions in which learners will perform their newly acquired skills, as well as the organization itself which will benefit from the performance of employees are also essential internal partners to the success of e-learning. Only when working together and toward the same objectives can all of these interdependent groups effectively deliver the products and/or services that make the organization successful. Hence, proactive planning efforts should start by defining the results that each of these groups requires and later determine if e-learning (or some other initiative) is the best tool for accomplishing those results.

The members of the second constituent group are the direct and indirect external partners of our organization. These external partners typically include members on both ends of our organizational processes; (a) the supply-side partners that contribute to the success of our efforts (e.g., suppliers, consultants, development partners), (b) the product-side direct clients that purchase our organization's products or services, as well as (c) the product-side indirect clients that are the clients of our direct clients and the other societal members that benefit from our organization's contributions.

The external partners similarly play an important role in the success of any organizational initiative. The external partners are defined by the direct and indirect relationship that each has with our organization. For example, external partners may include direct-clients who purchase online training curriculum for their organization, learners from other organizations that take an e-learning course, and/or the organization that supplies our learning management system. Each of these groups is a first-generation direct-client of the products and/or services you provide, yet they reside outside of your organization.

**Conventional Planning and
Assessment
(reactive)**

Organizational methods, resources, culture, structure, and results.	→	Current societal/community consequences.

**Future Oriented Planning and
Assessment
(proactive)**

Organizational methods, resources, culture, structure, and results.	←	Desired societal/community consequences.

Source: Kaufman, Oakley-Brown, Watkins, and Leigh (2003) and Watkins (2006).

Figure 1.   Conventional and proactive planning.

Correspondingly, the indirect partners of an organization can also include the second generation clients (i.e., our clients' clients) who receive goods or services from direct-partners, third generation clients who are the end-consumers of the products that are delivered, as well as the external society in which our organization (and our organizational partners) operate. As much as any other partners, these external indirect clients of our organization play an essential role in defining what results are necessary for our organizations to be successful, and subsequently what is required of e-learning initiatives (see Figure 1).

Effective planning for successful e-learning incorporates the necessary results for all of the partners in the system to be successful. By starting outside of the organization and moving inward you can effectively plan for the achievement of valuable results that will benefit all of the internal and external partners (e.g., individual learners, organizational units, your organization, client organizations, clients' clients,

and even society at large). This planning for the accomplishment of useful results for all stakeholder and partner groups is the first step in determining if e-learning is the "right" tool for achieving useful results. And when e-learning is the "right" tool you will know in detail what results must be achieved by the efforts in order for all of the system partners to be successful.

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Whip It Good

Craig Ullman

A man has just bought his first car. The first car in his family. The first car in his neighborhood. Maybe the first car in his state. It's 1903 and he's just bought a Curved Dash Oldsmobile, a jaunty little number and one of the first commercial petrol-powered cars in the United States. After stuffing the tank with high quality hay, he climbs into the car and waits for it to go. Nothing happens. He yells in a loud, threatening voice, but there is no response. Frustrated and with no alternative, he takes out his whip and lashes it across the engine, but the recalcitrant car refuses to move. He sits there, head in hand, bitterly regretting having sold his old nag.

The man may sound like a fool, but actually he's a distinguished professor of computer science at UC Berkeley.

Well, not really. But the car and buggy confusion is not terribly different from the experience many professors have when they start offering audio downloads of their lectures to the students. According to a recent article in the *Los Angeles Times*, the students stop showing up to the lectures, and just come in for the tests. According to the article:

> some professors are witnessing a spurt in absenteeism as an unintended consequence of adopting technologies that were envisioned as learning aids.

> Already, even as many academics embrace the electronic innovations, others are pushing back. To deter no-shows, they are reverting to lower-tech tactics such as giving more surprise quizzes or slashing their online offerings.

The professors can offer as many pop quizzes as they want, whip that Olds engine as hard as they can, but nothing is going to budge. The combustion engine, like the Internet, is a disruptive technology, and the previous behaviors—as effec-

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tive as they might (or might not) have been—don't necessarily apply.

The hard part in all this is driver/teacher behavior. I wonder if there were sociological studies done about the travails of horse people becoming car people, what behavior managed in some form to carry over—did they name their cars? Did they pet the hood?

It's no more sweetly absurd than a professor expecting a group of students to show up at a certain time to watch them talk, when the kids have an anytime, portable format to get the same experience—or a better one, considering you can be sprawled out on the couch, dressed in your underwear, eating chips while viewing the podcasts, whereas some of that behavior might be frowned upon in a classroom.

Teachers (… ah … like horses?) need to reinvent their role in light of the disruptive technology. Instead of transmitting content through a lecture the students can access more easily somewhere else—even pause and rewind them—and let the class time be the *class* time. We can use technology to turn classroom management past the print era to the aural era. The students will be free to talk, to exchange ideas, not simply to participate in the class, but to *be* the class. Maybe this newfangled technology can be fun.

We just need to get the hay out of the gas tank.

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Somehow, the wikipedia definition seems different than what is meant when the two words are defined separately.

Twigg writes eloquently about course and course materials ownership, and draws several conclusions. Of the most interesting is the statement that "there is a radically different—and infinitely simpler—solution if we treat the intellectual property issue not as a legal issue but as an academic issue" (p. 29). The question of ownership becomes less contentious and more collegial when the rights of faculty and institutions are satisfied equally.

And finally, Seneca probably had it right 2,000 years ago when he said, "The best ideas are common property."

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If it is Intellectual, Can it be Property?

Michael Simonson

Carol Twigg, executive director of the Center for Academic Transformation, has written and spoken extensively in the area of intellectual property and ownership of online courses and course materials. A reading of the abstract of her excellent monograph *Intellectual Property Policies for a New Learning Environment* is a requirement for any serious distance educator (Twigg, 2000). It is well-written, informative, and thought-provoking.

Reading Twigg's monograph got me to thinking about the two words—intellectual and property. Intellectual has a number of definitions, but most deal with the idea of the use of the intellect, and the showing or possessing of intelligence. Intellect, by the way, is the power of knowing and understanding. Property, on the other hand, refers to things that are owned or possessed. Usually property means things like land or objects that a person legally owns. So, intellectual property is "intelligence that is legally owned." Or, is it?

The source of the millennium, the wikipedia (can you believe doctoral students are citing the wikipedia? Go figure!), defines intellectual property (IP) as:

> a legal entitlement which sometimes attaches to the *expressed form* of an *idea*, or to some other *intangible* subject matter. This legal entitlement generally enables its holder to exercise *exclusive rights* of use in relation to the subject matter of the IP. The term *intellectual property* reflects the idea that this subject matter is the product of the *mind* or the intellect, and that IP rights may be protected at law in the same way as any other form of *property*.

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