Shaping Business Education

M-PBEA Journal
Volume III, Number 1

Fall 2008

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Published by the
Mountain-Plains Business Education Association
http://www.mpbea.org

Shaping Business Education, M-PBEA Journal, Fall 2008

The Mountain-Plains Business Education Association publishes the *M-PBEA Journal* biannually. Original manuscripts on topics that are of interest to the members of M-PBEA are considered by the Review Board of Peer Evaluations under blind review.

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Preface and Acknowledgements

The Fall 2008 edition of the *M-PBEA Journal* presents research, strategies, and methods that can be used by both veteran teachers and those new to the field of business education. This third edition includes new technologies and emerging issues that continue to shape business education such as the hugely popular use of social networking among students and the evident necessity for cybersafety.

Twenty-two authors from six states submitted manuscripts for consideration. As editor, I would like to thank each of these individuals for taking the time to research and compose the articles that created this year's journal.

The members of the Review Board of Peer Evaluations donated time from their busy summer schedules to review the original manuscripts and offer their expertise and advice. Board members included:

Murleen Bellinger	Mona Schoenrock
Bill Latta	Jeanna Sellers
Linda Malers	Carol Sessums
Wanda Samson	Chari Sowers

Previous editor, Susan Evans Jennings, provided answers to many logistical questions, and M-PBEA Board members Mona Schoenrock, Marilyn Jones, Lynette Heitz, and Sue Sydow were also excellent resources. Residing in the little town of Winchester is the excellent proofreader, Peggy Mailen; her assistance was invaluable. Laura Wallace, a gifted design student, created the cover graphic. Appreciation and gratitude are both extended to my husband, Jerome, and daughter, Clara, for their support while I completed this professional endeavor.

If you are interested in participating in the next *M-PBEA Journal*, the call for papers will be posted at the Mountain-Plains Business Education Association's website, http://www.mpbea.org. Potential reviewers may contact the *M-PBEA Journal* Editor directly.

As business education continues to evolve with our society, let us help each other by sharing ideas and networking. The opportunity to learn from and assist other business educators will truly impact our pedagogy.

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Go Ahead, Erase My Whiteboard— Working with mimio® Interactive + Capture

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mimio® Interactive + Capture is a small, portable device that attaches to a typical whiteboard and a computer enabling the teacher to capture, edit, and share whiteboard information instantly. In addition, this device can be used to control the computer from the whiteboard and digitally record every stroke of the marker in order to create on-line videos. This device is a wonderful tool for enhancing the learning environment for both the teacher and student.

Imagine being able to convert your ordinary whiteboard into a data sharing collaboration tool. What if you had a device that could capture notes and diagrams directly from your whiteboard and make them instantly available for printing or electronic transfer? No more worrying about someone mistakenly erasing those whiteboard notes you intended to save. Your audience can be fully engaged in discussion instead of concentrating on copying notes. Participants would be able to concentrate on the information being delivered and actively participate in the discussion rather than just concentrating on copying information off the whiteboard. Such a device does exist.

mimio® Interactive + Capture (formally mimio® Xi), developed by Virtual Ink Corporation (currently a subsidiary of Newell Rubbermaid Company), gives you the ability to capture, edit and share whiteboard information instantly. Using infrared and ultrasound technology, the device tracks and captures the movement of a stylus pen containing dry erase markers and a dual surface eraser. The device can also be attached to your laptop (PC or Mac) with a USB cable (wireless available) to capture each stroke of the stylus pen.

WORKING WITH mimio® INTERACTIVE + CAPTURE

Attach the mimio® Interactive + Capture to a traditional whiteboard then present information by writing and diagramming ideas and concepts using the stylus pen. Once you have filled the whiteboard just press the *New Page* button located on the capture bar and the information is saved. Erase the board using the Capture eraser and continue the process. While in stand-alone mode the capture bar will continue to capture and save the delivered materials, storing 20-40 full boards of notes and drawings.

Lightweight and portable, the mimio® Interactive + Capture bar weighs 1.1 lbs. and when fully open is approximately 18″x 3″x 1″ (folded 9″x 2″x 3″) and attaches

(temporarily or permanently) to a whiteboard up to 4′ x 8′ in size. In stand-alone mode (without a computer) the capture bar can store 20-40 full boards of notes and diagrams depending on the density of the ink applied to the whiteboard. Power for the capture bar comes from four (4) "AA" (double A) batteries giving the user 40+ hours of active use or an AC adapter can be used.

The stylus pens are a hollow sleeve in which a dry erase marker is placed. Powered by one N cell battery, each stylus can have an expected three months of use. Each stylus contains a device that when pressed against the whiteboard emits a sound that allows the capture bar to locate the stylus and track movement with ultrasound technology. Infrared sensors contained in the cap of the stylus allow the capture bar to identify the color of the pen. Marker color is determined by the stylus cap and not by the marker contained within the stylus. Pen settings located in the mimio® application software allow you to change the color and the width of the pen strokes. mimio® Interactive + Capture eraser works in much the same way. The eraser has two sizes of felt erasers and its position is tracked with ultrasound. Not only does the eraser clean the white board, it also deletes digital information previously captured and transmitted to the capture bar.

Once notes and diagrams have been captured, mimio® Interactive + Capture connects to a PC or Mac with a USB cable (wireless adapter available) for easy downloading of pages. If the capture bar has been configured to download automatically, files will automatically download into an open Notebook page when connected to the PC or Mac. If configured to manually download ink, open a new Notebook and click Download Ink. mimio® Notebook also allows the saving of All Pages, Current Page or Selected Pages. Pages can be viewed in three ways: Single Page, Multi Page or Full Screen. The user can insert pages, duplicate existing pages, remove pages, import pages from other Notebook files or rearrange pages.

Much like other applications with editing and drawing capabilities, Notebook Tools offer a variety of ways to modify and annotate the downloaded notes and diagrams. Available tools include pen, highlighter, line, shapes, text and insert object. Items on the page can be selected, moved, color can be added, and the stroke size can be scaled or adjusted. A variety of objects can be created and added to the page as well as the insertion of backgrounds and images. Text is inserted onto the page by using the text tool located in mimio® Tools. This is accomplished by opening Tools, selecting the text tool, choosing the desired font, style and color, and then clicking on the desired location on the page to type the desired text.

SHARING mimio® INTERACTIVE + CAPTURE FILES

Notebook, the application software, saves to a file with an ".ink" file extension. The .ink file can be saved in a variety of file formats, such as; HTML, BMP, JPG, GIF, PNG, TIF, EMF, WMF and PDF. The user can integrate images into other applications using copy and paste functions. Once files are saved into the needed format (other than .ink), no special application is needed to view the pages. Files can be copied to CD to create libraries of information for later review, reference, or to re-use at a later date. With Notebook's formatting capabilities anyone can open mimio® Interactive + Capture digital ink files.

mimio® INTERACTIVE + CAPTURE SYSTEM REQUIREMENTS

mimio® Interactive + Capture can be used with PC or Mac. Users need a windows compatible PC with a Pentium™ 166 MHz+ processor with 32MB of RAM minimum (64MB recommended). Also required are 45MB of free disk space, CD ROM drive and a USB Port. Mac users (G3, G4, iMac, PowerBook G4 or iBook, PowerBook G3) require 128MB memory (256 recommended), 30MB free disk space minimum and CD ROM Drive. An available USB port is also required and, if using in interactive mode, a Video Out port (mimio® Interactive + Capture Specifications, May, 2007).

ADDITIONAL CAPABILITIES

mimio® Interactive + Capture hardware and an overhead projector, along with mimio® Studio software (a free add-on that can be downloaded after purchasing mimio® Interactive + Capture) will turn the user's basic classroom whiteboard into an interactive (selected from options in settings) whiteboard. Connect the mimio® Capture hardware to your computer and overhead projector and you can project images for mark-up and annotations or use the mimio® Mouse (inserted into one of the stylus pens). When in interactive mode the user has the ability to use the Tools Palette, Screen Markup, Spotlight Presentation Effect, Reveal Screen Presentation Effect and to Calibrate/Re-calibrate the Capture Bar. Connected in this manner to the computer, you can project previously saved pages for continuation of notes or review. Using the software alone mimio® Studio allows the user to prepare presentations and to annotate previously created content.

Users can also link directly into NetMeeting (Windows 2003) or other IP conferencing solutions to share information with offsite locations. mimio® supports the streaming of notes with synchronized voice audio over the Internet in Interactive and Recording modes.

mimio® INTERACTIVE + CAPTURE ADD-INS

mimio® Recorder allows the user to record data in any application, in full screen or a selected portion of the screen. The recorder uses the standard record, pause, stop and play. With the use of vector-based images each stroke can be captured with or without synchronized voice or audio to create .avi (movies) that will play on a PC or Mac using Real Player, Windows Media or QuickTime. These files could then be copied to a CD for easy access and storage or uploading to a website.

Writing Recognition converts handwritten .ink data to editable ASCI text (English). Handwriting using the mouse or other input device can be converted to text while writing anywhere on the screen while in interactive mode. Writing can also be converted after having saved a file using the writing pad. Using either method, handwriting is automatically converted into text and the user can change font style, size, color, and format.

SUPPORT AND RESOURCES

Although not inexpensive, mimio® Interactive + Capture costs $899 and can be upgraded to expand functionality through a variety of options. Financial assistance is

available through mimio® grant and the Think Ink contest to receive a free mimio. The two add-ins discussed above, Writing Recognition and Recorder, are now included as free downloads once the user has purchased mimio® Interactive + Capture. The company offers an additional three years on the standard two-year warranty just for registering the product. Users can also access on-line troubleshooting databases and ongoing no cost training via CD tutorials and live interactive webinars.

CONCLUSION

mimio® Interactive + Capture is affordable, smaller, and more portable than a dedicated electronic whiteboard with the ability to expand its functionality with added software and hardware. Much more than just an electronic note-taker, mimio® Interactive + Capture is a data sharing collaboration tool that gives users the ability to capture, edit, and share written and diagrammed data instantly.

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Assessing Learning Styles to Improve Instruction in Business Communication

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Learning styles impact how we best receive and process information and ultimately how we communicate with others. Students in the reported study were found to be sensing, active, visual, and sequential in their learning preferences based on the Felder and Soloman Inventory of Learning Styles. Students can assess their learning styles to identify the best means to study and apply information, and instructors can use such information to tailor classroom and out-of-class learning opportunities.

Learning style impacts not only how we receive and process information but how we communicate it as well. Cognitive learning researchers agree that students have different strengths and preferences in the way they receive and process information: by seeing or hearing, reflecting or acting, reasoning logically or intuitively, analyzing or visualizing steadily or in spurts. Teaching methods also vary, depending on the preferred learning style of the instructor. Some instructors lecture; others demonstrate or lead students to self-discovery; some focus on principles and others on applications; some emphasize memory and others understanding.

When mismatches exist between learning styles of students in a class and the teaching style of the instructor, students may become bored and inattentive in class, do poorly on tests, get discouraged about the course, the curriculum, and themselves, and in some cases change to other curricula or drop out of school. Instructors confronted by poor student performance may become overly critical of their students or begin to question why their efforts seem to be falling short. Identification of learning styles can aid students in achieving academic success and can assist instructors in identifying and implementing effective teaching strategies. Understanding learning preferences also provides insight into preferred communication styles of individuals.

LITERATURE REVIEW

Various learning styles models have been proposed by researchers to identify and categorize student differences (i.e. Kolb, 1976; Felder & Silverman, 1988; Vermunt, 1996). Learning styles can be assessed using various measures, one of which is the Index of Learning Styles (ILS). The ILS is a 44-item forced-choice instrument developed in

1991 by Felder and Soloman to assess preferences on the four dimensions of the Felder-Silverman (1988) learning style model. The self-scoring instrument is available online and has been translated into six languages; its website reports more than 100,000 hits per year (Genovese, 2004).

Though not without its criticism (Cook & Smith, 2006; Van Zwanenberg, Wilkinson, & Anderson, 2000), the ILS has been judged in various studies to be reliable and valid for assessing learning styles (Felder & Spurlin, 2005; Zywno, 2003). The ILS classifies students as having polar preferences in each of the following four dimensions:

- Sensing (concrete thinker, practical, oriented toward facts and procedures) or intuitive (abstract thinker, innovative, oriented toward theories and underlying meanings).
- Visual (prefer visual representations of presented material, such as pictures, diagrams, and flow charts) or verbal (prefer written and spoken explanations).
- Active (learn by trying things out, enjoy working in groups) or reflective (learn by thinking things through, prefer working alone or with a single familiar partner).
- Sequential (linear thinking process, learn in small incremental steps) or global (holistic thinking process, learn in large leaps).

More information about the ILS is available at http://www.ncsu.edu/felder-public/ILSpage.html. The ILS instrument can be accessed and completed free of charge at http://www.engr.ncsu.edu/learningstyles/ilsweb.html.

PURPOSE OF RESEARCH

The purpose of the study was to determine the learning styles that predominate among selected business communication students and to propose ways to use that knowledge to improve learning. Business communication instructors can then use the information to craft classroom experiences that meet the needs of learners and design out-of-class assignments and web enhancements that are appropriate to a variety of learning styles.

DESIGN OF STUDY

The research sample in the study conducted in fall of 2005 was made up of students enrolled in five sections of an introductory business communication class at a large public university and two sections at another large public university. Students were given the option of participating in the study, and those choosing to do so assessed their learning styles using the Index of Learning Styles (ILS). Data analysis shown in Table 1 reveals the breakdown of learning styles among participating students:

Table 1
Student Learning Styles
(N= 182)

	Learning Style	Number of Students	Percent
Dimension 1	**Sensing**	**137**	**75.3**
	Intuitive	45	24.7
	Total		100.0
Dimension 2	**Visual**	**142**	**78.0**
	Verbal	40	22.0
	Total		100.0
Dimension 3	**Active**	**126**	**69.2**
	Reflective	56	30.8
	Total		100.0
Dimension 4	**Sequential**	**135**	**74.2**
	Global	47	25.8
	Total		100.0

Data indicated that the learning style of the majority of students was characterized as sensing, visual, active, and sequential. That is, students were most likely to (1) be concrete thinkers, practical, and oriented toward facts and procedures; (2) prefer visual representations of presented material, such as pictures, diagrams, and flow charts; (3) learn by trying out things and enjoy working in groups; and (4) use a linear thinking process, learning in small incremental steps. While these results are only generalizable to students in the study's sample and could differ for students with different backgrounds, majors, and characteristics, they are consistent with the characteristics of accounting students as reported by Henry (2004). Results may vary by student major, as Litzinger, Lee, and Wise (2005) found that engineering students were significantly more sequential and more sensing than liberal arts and education students and significantly more visual than liberal arts students.

As a result of the current classroom research on learning styles, students gained broader insight into how to maximize their learning experiences. Instructors were able to use the information gained about students' learning styles in a variety of ways throughout the term and for future course planning.

CLASSROOM APPLICATION

Knowledge of the learning styles of students can benefit both students and the instructor. Students can realize the benefit of information derived from the ILS by completing the following activities:

Activity 1:

Ask students to complete the Felder and Soloman Learning Styles Inventory (ILS).

- After obtaining their results, have them link to the information about learning styles and strategies to read about how those with their particular learning style can maximize their learning, study time, and other preparation.
- Ask students to submit a short report that discusses the findings of their ILS and how they plan to apply the information to maximize class performance.
- If involved in a team project, have students share information about their learning styles with others in the group and discuss how each person's learning style can best be applied in the assignment of roles and responsibilities (Gould, 2006).

Activity 2:

(Complete Activity 1 first). Preferred learning style is also closely associated with communication style. People develop their patterns of communication based on how they think and perceive the world.

- Assign students to read the following article on communication styles: Taylor, P., & Poulteney, J. (2005). "How to talk your customers' language." *The Write Stuff.* Retrievable from http://www.thewritestuff.co.uk/talkcustomerslanguage.htm
- Lead the class in a discussion of how one's preferred communication patterns are influenced by his or her preferred learning style. How can what others say and do indicate their preferred learning styles?

IMPLICATIONS FOR COURSE DESIGN

Having knowledge of students' learning styles allows the instructor to tailor classroom instruction for best results. When the instructor uses an appropriate balance of teaching methods, all students will learn at least partly in a manner they prefer, which leads to an increased comfort level and willingness to learn. Table 2 summarizes some strategies that appeal to various styles of learners (Engineering, 2006):

Table 2
Learning Style Appeal of Various Instructional Strategies

Strategy	*Learning Style Appeal*
Relate information to what has come before, what is still to come, material in other courses, and real-world experiences	Global
Present concrete, practical information and examples	Sensing/Active
Relate theories and models	Intuitive
Use video, pictures, diagrams, and graphs	Sensing/Visual
Provide demonstrations and hands-on experiences	Sensing/Visual/Active
Use multimedia and computer activities	Sensing/Active
Provide intervals in lecture for students to think about or write down what they have heard	Reflective/Verbal
Allow for small-group brainstorming activities	Active/Global
Use team learning exercises	Active
Test for recall and understanding	Sensing/Sequential
Test with open-ended problems and exercises	Intuitive/Reflective/Global

While students typically learn more easily from instruction consistent with their learning styles, learning in a less preferred manner is also useful in developing alternate ways of thinking and problem solving needed to become fully effective professionals (Felder, 2006). Out-of-class assignments and web-based resources offer further opportunities to respond to various learning styles, thus supporting a balance in instructional delivery. A wide array of online learning tools—including interactive quizzes, puzzles, and games; streaming video cases; and voice-narrated slides—address various learning styles and preferences of students. Successful use of such tools requires active instructor support of the technology's value, adequate computer proficiency, and selection of meaningful, easy-to-use applications (DuFrene, Lehman, Kellermanns, & Pearson, 2006).

Expanding students' exposure to a variety of learning methods may enrich their ability to obtain and use information, thus increasing the number of avenues they have for effective learning. For instance, Johnson (2007) found that students who were more active than reflective preferred face-to-face study groups, and those who were more visual than verbal preferred online quizzes over paper-and-pencil quizzes but did not prefer online study groups over face-to-face study groups. Galvan (2006) reported some relationship between learning styles and student performance on marketing course exams and overall course grades, indicating that students with certain learning styles may be advantaged in certain educational settings. Overall learning success will require continual

assessment of students' learning needs, genuine support for students' efforts to explore new and less comfortable learning strategies, and selection or development of learning methods that appeal to a variety of learning styles and preferences.

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How Do Teachers Continue Learning, Using, and Integrating Technology in the Classroom?

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An important factor for teachers effectively integrating technology into the classroom is the teachers' ability to learn, use, and integrate technology themselves. Teachers are respected for what they already know through their educational background and experiences in the classroom. Various learning theories and models recognized that teachers as adult learners have previous knowledge and experiences to build on future learning situations for active learning using technology. South Dakota implemented a technology learning model to help teachers use and integrate technology. Learning technology in a social community model provides support, sharing of technology-rich lessons, modeling of technology integration, and continued collaboration where teachers serve as mentors for each other.

Mezirow (1996) indicated that adults learn through life experiences along with reflection and connections between transformative learning and adult development. Piaget (1972) indicated the importance attached to the active role in constructing knowledge and implied that learning through activity is more meaningful for adults. Merriam and Caffarella (1999) pointed out that the constructivist learning theory is compatible with self-direction, active inquiry, independence, and individuality in learning tasks. Teachers learn by a process of constructing meaning using previous experiences and by situations that provide cognitive conflict and encourage new knowledge. Teachers learn through activities supported by group discussion and reflection of shared problems and tasks.

Becker (1994) identified exemplary technology teachers and the characteristics that distinguish them. Becker found that exemplary technology teachers teach in an environment that helps them become better technology teachers, prepare to use computers in teaching, and allow technology to have an impact on how and what is taught in the classroom. Combinations of teaching using technology applications with collaborative and cooperative learning experiences provide the pedagogical movements in education that are important elements in the learning process (Gilbert, 1995).

Technology integration is not about the availability of technology, but more about the teacher's effective use of technology that makes a difference in reforming the classroom. The teacher is the most important ingredient for success when using and integrating technology (Mandell, Sorge, & Russell, 2002). Researchers have created models to help

teachers learn to use and integrate technology into the curriculum to enhance student learning. Many schools and teacher education programs continue to look at these learning models to successfully integrate technology into instruction.

Wang Integration Model

Wang's (2000) model for implementation of integrating technology is one that includes the three phases of familiarization, utilization, and finally integration. Familiarization is the process of acquainting teachers with the computer environment. Utilization is the process of teaching teachers to use computers as personal production tools to make work easier. Integration is integrating computers into the curriculum as teaching tools. The focus is to help teachers transfer what was learned about integrating technology into teaching practices (Wang, 2000).

Innovation-Decision Integration Model

Rogers' (2003) innovation-decision model of integration focused the value of technology as seen by teachers. Rogers believed that teachers adopt and integrate technology over time in a pattern that is consistent with a standard curve. The innovation-decision model provides a process where teachers gain initial knowledge of the innovation or technology to form an attitude about the innovation. Teachers make a decision to adopt, then implement the new technology, confirm the decision, and reinforce the innovation or technology that has already taken place (Rogers, 2003).

Instructional Transformation Model of Teacher Integration

Hooper and Reiber (1995) and Reiber and Welliver (1998) reported on the Instructional Transformation Model of Teacher Integration where teachers become familiar with technology, utilize the technology in the classroom, integrate technology in daily lessons, design lessons to include technology, and finally integrate technology into teaching and learning. Hooper and Rieber (1995) described the phases of teachers' use and integration of technology in the classroom as familiarization, utilization, integration, reorientation, and evolution. Real change occurs at the integration stage where teachers consciously designate tasks and responsibilities using technology.

Integrated Technology Adoption and Diffusion Model

Sherry, Bellig, Tavalin, and Gibson's (2000) learning and adoption trajectory model identified stages that teachers experience with learning technology. The stages of the model start with teachers evolving from learners (teacher-trainees), to adopters of educational technology, to co-learners with their students, to making reaffirmation decisions, and finally to building capacity with colleagues. Teachers are the learners by adopting technology as a tool in the classroom. Teachers work as co-leaders with other teachers using technology and reaffirming technology. In the reaffirming stage, teachers decide that the use of technology enhances teaching and learning.

Concerns-Based Adoption Model

Hall and Hord's (1987) Concerns-Based Adoption Model (CBAM) placed teachers at the center of the integration process with teachers' concerns as the focus. Teachers who are beginners using technology are uncertain and self-doubters about the value of the technology. The self-concerns of teachers evolve into task concerns which are about how the technology affects instruction. From task concerns teachers move to impact concerns which are about the impact of technology on student learning. Teachers see a personal value for the use of the technology, realize consequences for the use of the technology, collaborate with others about technology, and refocus on the integration of technology into the classroom.

Collaborative Apprenticeship Model

Glazer, Hannafin, and Song (2005) found that teachers learn technology skills and integration strategies by professional seminars which help transfer instruction to the classroom. Teachers learn to integrate technology within the context of their classrooms through practice, reflection, and modification of teacher practices. The Collaborative Apprenticeship Model is a professional development model promoting technology integration where teachers design technology-rich lessons through modeling, collaboration, and coaching.

Technology Infusion Model

A Goals 2000 Preservice Teacher Education Grant for the Department of Curriculum and Instruction at SUNY Oswego funded a technology infusion project to increase teachers' proficiency in educational technology integration. The objectives of the grant were to increase technology integration of technology proficiencies and to provide teachers with videoconferencing to view technology-rich classrooms. The goal of facilitating technology integration among teachers as an instructional tool shows the importance of connecting technology integration activities to course content, objectives, and assignments (Vannatta & Beyerbach, 2000).

Newman's Model

Newman's (1990) framework for using and integrating technology in education consists of four steps which (a) identifies strategies that creates an effective teaching and learning classroom, (b) determines how technology supports the strategies, (c) explores new technology to improve teaching and learning, and (d) develops areas of research using technology. The objective of a learning environment is to give learners competencies in the content taught in the classroom. Strategies developed by teachers help determine how computer technology is used to support learning strategies.

Instructional Evolution Model

Barron, Kemker, Harmes, and Kalaydjian (2003) indicated that investments in hardware, software, and infrastructure continued the need for instructional integration of technology in K-12 classrooms. The Apple Classrooms of Tomorrow (ACOT) research produced an adoption model for using and integrating technology known as the Stages of Instructional Evolution. The model showed that educators go through five stages of thought and practice when using and integrating technology in the classroom. The stages—entry, adoption, adaptation, appropriation, and invention—serve as the foundation for research relating to integrating technology as an integral part of teaching and learning.

Content-Area Specific Technology Integration Model

The University of Minnesota presented a model of content-area specific technology preparation combining the characteristics of exemplary college-wide approaches with the specific needs for technology within the content areas for preparing teachers. Teachers not only developed abilities to teach a particular subject matter but also developed their ability to structure and enhance learning opportunities for students by connecting students' learning to the real world using technology The model of content-area specific technology integration was built to help teachers understand how to integrate new technology resources into their knowledge of a content area in ways that enhance student learning (Dexter, Doering, & Riedel, 2006).

PROFESSIONAL DEVELOPMENT MODEL TO CONNECT TEACHERS AND CLASSROOMS

South Dakota implemented a plan to make 21st century technology available everywhere in the state of South Dakota by the Wiring the Schools (WTS) Project where all South Dakota K-12 schools, universities, libraries, and governmental buildings have local area network (LAN) connections. The Connecting the Schools Project connected all teachers, K-12 students, university students, state government employees, and state libraries to the Internet. The goal of the projects was to connect all South Dakota K-12 schools and provide classroom educational opportunities throughout the state (Moore, 2001). An important element of the Connecting the Schools Project was the professional development model called Technology for Teaching and Learning (TTL) Academies which took place from 1997 to 2003. The purpose of the academies was to establish a growing cadre of highly trained educators who change teaching and learning through the integration of technology into the curriculum. The first academy was designed as a four-week academy that provided teachers with skills to effectively use technology as a teaching and learning tool in the classroom (Schopp & Rothernel, 2001). The second academy was created as a three-week academy that allowed K-12 educators to research, implement, and evaluate distance learning theory and applications (Gosmire & Vondruska, 2001). The purpose of the third academy was to provide a two-week academy for educators to build on their skills and abilities and to extend skills in

advanced software applications, web design, and video production. The teaching and learning academies enhanced individual education, helped the state become one large interactive classroom, and equalized technology learning across the state. South Dakota teachers had the skills necessary to infuse technology into the teaching and learning process (Schopp & Rothernel, 2001).

South Dakota continued to help teachers integrate technology with another program called Classroom Connections which started in 2006 and continues today. South Dakota provided a computer for every student in high school and set up a professional development program where technology facilitators came to each school site and trained teachers on the mobile devices and how to integrate this new technology to provide technology-rich lessons. The new digital world and the enthusiasm of a generation of students for technology are forcing schools to adapt and change in ways never before imagined. Students prefer access to information on the Internet where information is more abundant, more accessible and more up-to-date. This generation of students is more media conscious and becoming increasingly portable with their cell phones, iPods, computers, and cars. Teachers and administrators understand that technology such as the Internet, digital cameras, email, and chat programs are tools for improving learning. Mobile computers have unique ways of helping students for lifelong learning through guided interaction, exploration, and communication (Levin & Arafeh, 2002). South Dakota's objective is to make laptop/tablet computers accessible to high school students in the state. The Classroom Connections project puts South Dakota well ahead of the trend in making the objective of one computer for every student a reality.

Professional development programs for teachers to learn, use, and integrate new technology must continue even after teachers learn technology. The transforming of classrooms to one-to-one computer classrooms where every student and teacher has a mobile laptop or tablet is adding to increased needs for teachers to continue to learn technology. Professional development programs must accommodate the busy schedules of teachers and should be continued in the summer when teachers have the time to take courses plus be free from the stress that comes from being in the classroom all day. Professional development programs should help teachers learn new technology software and hardware, design teaching activities with technology, implement the technology in the classroom, and determine how to best utilize the technology to increase student learning. Teachers can continue to collaborate, share ideas, and help mentor each other after professional development programs have ended. Collaboration gives teachers opportunities to reflect, share, and exchange innovative activities and strategies using technology. Encouraging collaboration among teachers can be done through discussion boards, listservs, and email groups after formal professional development programs have ended. Time to learn, use and integrate new technology into lessons to enhance student learning happens with well-developed professional development programs that help teachers make technology central to core teaching practices.

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Has Social Networking Become Epidemic?

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Online social networking websites; e.g., Facebook and MySpace, have become an increasingly popular communication tool. This paper presents findings of a study to examine the preference and extent of use of Facebook and MySpace by high school and college students. Electronic questionnaires were completed by a volunteer convenience sample of college students as well as high school students whose teachers indicated they would like to be part of the study. From this study it appears that the use of social networking sites is widespread in both high schools and colleges.

INTRODUCTION

Students today find ways to communicate that were never imagined 20 years ago. The emergence of the Internet has provided them with an expanded mode of keeping in contact with their friends and family. According to a survey of teenagers conducted by the Pew Internet and American Life Project, "More than half (55%) of all online American youths ages 12-17 use online social networking sites" (Lenhart & Madden, 2007, p1). High school age girls are more likely to use social networking sites primarily to reinforce pre-existing friendships, while boys use them to flirt and make new friends. Online social networking has become an increasingly popular communication tool with today's college students as well. Two of the more popular websites used by both high school students and college students are Facebook and MySpace.

PURPOSE

The purpose of this study is to examine the extent of use of Facebook and MySpace by high school and college students. This use will be examined in terms of how many of both groups have accounts with these networking sites, how many times university students use the sites in an average day, and why they visit the sites.

REVIEW OF RELATED LITERATURE

When it comes to social networking, there are a multitude of sites that can be used. Frieiert (2008) ranked the top 20 social networking sites by monthly visits and factored this number by total audience size and intensity of use. The top two were MySpace and Facebook.

When looking at these two, one might ask what causes a person to use one over the other. An article that addressed this very question reported that one big distinction is that

on Facebook users stick more closely to their real identities. This began when the site was limited to students with .edu addresses. However, even since opening it up to everyone, the tradition remains that, "On Facebook, you really have to be who you are, so it's more controlled and polite." With MySpace, users are free to be whoever they want to be (Atal, 2007).

There is research that suggests that MySpace and Facebook are not as direct of competitors as some have reported. A report released in June of 2007 suggested that race and class are dividing lines between the two entities. The demographics of users are also very different between the two. In June, 68 million users logged on to MySpace and 26 million to Facebook. Though both sites have predominately adults as users, half of the MySpace users are aged 35 and older. In addition, MySpace users tend to be from the lower middle classes with the three lowest income brackets being reported as being "overrepresented." On Facebook only 40% of the users are classified as "older" users (aged 35 and older) with the next largest group being college students (29%). In Facebook the three highest income brackets are more dominant (Atal, 2007).

Facebook

Facebook was launched by a 21-year-old Harvard student, Mark Zuckerberg, on February 4, 2004 (U. S. News & World Report, 2005). Within two weeks more than two-thirds of the Harvard students had signed up in Facebook (Fortune Magazine, 2005). Originally created to provide an online student ID directory, it quickly spread to other users. Use of the site was limited to those with .edu email addresses; however, it has now been made available to everyone. Though considered a social networking site, Zuckerberg maintains that Facebook is a social utility program. He says, "What we're trying to do is just make it really efficient for people to communicate, get information, and share information" (Locke, 2007). If you visit the Facebook.com site, it actually advertises that, "Facebook is a **social utility** that **connects you** with the people around you." The site includes the words "social utility" and "connects you" all in bold print. According to the recent demographics report by Boyd (2007):

> The goodie two shoes, jocks, athletes, or other "good" kids are now going to Facebook. These kids tend to come from families who emphasize education and going to college. They are part of what we'd call hegemonic society. They are primarily white, but not exclusively. They are in honors classes, looking forward to the prom, and live in a world dictated by after school activities.

Exactly what is it that these students do with their Facebook site? Students create profiles that include personal information. Facebook makes it easy to connect to people in their social network. This can include current friends, but also former friends (Hass, 2006). In order to visit the Facebook site of a person, you must first be included in his or her "Friends List." Each person's site includes an area where friends can leave messages. This is called their "wall." This has become a very popular electronic communication method for users of Facebook.

Another popular use of Facebook is photo-sharing. Once you are "friends" with someone, you have access to his or her photo albums. There is no limit to the number of

photos members can add to their albums. Pictures can be "tagged" so that the pictures they are in will also appear in the friends' profiles (Kessler, 2007).

Members can develop "groups" by banding together with others who have a common interest. They can be from the serious to the ridiculous when it comes to topics of groups. This medium also provides a way to promote an event to other members of the "community." There is even a way for those invited to RSVP on the Facebook event page.

Over time the site has added many "features" to its service. A feature added which was quite controversial when it started was a new "News Feed" that allowed members to see what other friends were doing without ever leaving their own page. At first this feature was an automatic feed. Many complained that they felt this new feature compromised their privacy. The complaint was that the RSS feed "publicizes potentially embarrassing developments including romantic breakups, friendships going sour, professional setbacks, and the like." It was not that this information was not available on the individual pages of the people to whom these things happened; it was just that they didn't want it broadcast to everyone on their "friends" list. The option was then given to block this automatic feed (Sass, 2006).

Not everything that students have gained from the use of Facebook has been positive. There are instances where students have been charged with crimes for their postings on the site. There was a case where swimmers at Louisiana State University made unfavorable comments about their swimming coach, and as a result they lost their scholarships. In another case a student was investigated by the Secret Service for his comments referencing the assassination of President Bush that were on his Facebook site (Epstein, 2006). In Boston a student was expelled for criticizing a security officer on his Facebook page. Some universities, such as the University of California, have come out with a statement that they will take disciplinary action with students who post pictures that show underage drinking or other illegal activities (Hass, 2006). According to Epstein (2006), students are going to have to learn how to balance their freedom of expression with their own best interests when it comes to presenting a personal persona.

Since the expansion of membership to anyone who would like to join, Facebook has been growing exponentially. Though still much smaller than MySpace, there are those who predict that Facebook will soon rival it in terms of number of users, attention time, and visits (Freiert, 2007).

MySpace

MySpace was founded by Chris DeWolf and Tom Anderson in 2003. Part of its big appeal is the fact that it is controlled by the user (Rosenbush, 2005). Originally the site was developed to assist musicians. The site was a place where bands could create pages that featured information about their groups. It did not take long, however, until non-musicians were setting up pages on MySpace. When it comes to which teens are using MySpace, in Boyd's (2007) report she says:

> MySpace is still home for Latino/Hispanic teens, immigrant teens, "burnouts," "alternative kids," "art fags," punks, emos, goths, gangstas, queer kids, and other kids who didn't play into the dominant high school popularity paradigm.

> These are kids whose parents didn't go to college, who are expected to get a job when they finish high school. These are the teens who plan to go into the military immediately after school. Teens who are really into music or in a band are also on MySpace. MySpace has most of the kids who are socially ostracized at school because they are geeks, freaks, or queers.

This seems a somewhat narrow view in that comScore reports a 64% overlap of audiences (Atal, 2007). When looking at what people do with their "MySpace," one author said she uses it primarily for meeting people. Other things she liked about MySpace were the ability to use her creative skills in designing her own "space," the search option that allows you to find classmates by school listing, and the forum topics (Boswell, n/a). Another article explained how nonprofit organizations use MySpace to raise awareness of their purposes. Awareness, according to this article, is vital to the survival of nonprofit organizations. Because their funds are almost always limited, the ability to broadcast information to a large group of people at no charge is quite a draw (Coleman, 2006). It seems that just about anything you can think of can be addressed in some manner on MySpace.

When looking at a MySpace profile, though there is the opportunity to do much more customization than with Facebook, there are some common available features. Profiles have two standard parts considered "blurbs." These blurbs are "About Me" and "Who I'd Like to Meet." Other areas include "Details" where users have categories such as: Status; Orientation; Hometown; Body type; Ethnicity; Religion; Zodiac Sign; Smoke/Drink; Children; and Education. In the "Interests" section there are categories of: General; Music; Movies; Television; Books; and Heroes. There is also a "Friends" space where a count of your friends shows. There are pictures in this area, and visitors can click on one of the pictures to go to the page of that "friend." If this person does not have his or her profile set to "Private," you can also then see all of the same information about that person. These are just a few of the many features that are already created for the user. The user can go in and customize the look of the page using html or predesigned templates (MySpace.com).

Whether MySpace will continue to be the biggest is yet to be seen. There is no argument that it is currently the largest social networking site to date.

METHODOLOGY

The researchers provided access to electronic questionnaires to 25 high school instructors around the state of Texas who indicated they would like to be part of the study. In this questionnaire, students were asked whether they had accounts with Facebook and/or MySpace. In addition, the researchers administered the survey to a convenience sample of students in college classes. All participation was voluntary. These students were also asked whether they had accounts with Facebook and MySpace, but they were also asked the frequency they visited the sites and their main reason for doing so. Table 1 shows the distribution of participants' ages, while Table 2 shows the distribution of gender.

Table 1: Participant Ages

Ages	Frequency	Percent
11-13 years old	3	.2
14-16 years old	494	40.6
17-21 years old	586	48.2
22-28 years old	74	6.1
29-35 years old	18	1.5
36-50 years old	19	1.6
Over 50	8	.7
Missing	14	1.1
	1216	100.0

Table 2: Gender

Gender	Frequency	Percent
Female	648	53.3
Male	549	45.1
Missing	19	1.6
Total	1216	100.0

FINDINGS

When asking all respondents whether they had accounts with Facebook and/or MySpace, 35% had Facebook accounts and 76% had MySpace accounts. In further breaking that down however, only 28% of high school students had Facebook accounts whereas 76% of them had MySpace accounts. This was very different than the college/university students, where 65% reported having Facebook accounts and 59% reported having MySpace accounts.

When broken down by gender, 37% of females had Facebook and 79% had MySpace compared to males where only 32% had Facebook and 74% had MySpace.

University students were asked their frequency in visiting their Facebook and/or MySpace sites. Table 3 shows the results of these questions.

Table 3: Visit Frequency by Percentage

	Facebook			MySpace	
Visits to Site	Females	Males		Females	Males
>10 times per day	4.2%	4.8%		6.2%	2.0%
>5 but <10 times per day	15.3%	14.3%		7.4%	4.1%
>2 but <5 times per day	29.2%	19.0%		11.1%	26.5%
Twice a day	19.4%	15.9%		12.3%	4.1%
Once a day	5.6%	17.5%		11.1%	14.3%
Once every couple of days	9.7%	17.5%		25.9%	30.6%
Once a week	8.3%	3.2%		19.8%	8.2%
Once a month	8.3%	7.9%		6.2%	10.2%
Total Respondents	72	63		81	49

As can be seen in the above table, the largest percentage of visits for both female and male university students was in the greater than two but less than five visits per day. Interestingly enough, both females' and males' largest percentage of visits to MySpace was only once every couple of days.

According to the review of literature, Facebook was for staying in contact with current friends and MySpace was for meeting new friends. When the university students were asked their number one reason for visiting these sites the following results were found:

Table 4:
Number One Reason Students Say They Use Facebook or MySpace

	FEMALES		MALES	
Reason	**Facebook**	**MySpace**	**Facebook**	**MySpace**
To connect with old friends	31.9%	48.8%	28.6%	42.0%
To connect with current friends	55.6%	40.5%	55.6%	40.0%
To make new friends	1.4%	4.8%	6.3%	2.0%
As an outlet to express views/ feelings	1.4%	0.0%	0.0%	8.0%
Other	9.7%	5.9%	9.5%	8%
	100.00%	100.00%	100.00%	100.00%
Total Reponses	72	84	63	50

As shown here, exactly the same percentage (55.6%) of females and males said they use Facebook for staying connected with current friends. In addition, both females and males said that their number one reason for using MySpace was to connect with old friends. When it came to making new friends, more females used MySpace and more males used Facebook.

Finally, both the high school and university students were asked which they preferred–Facebook or MySpace. Table 5 gives the results from this question.

Table 5: Which Site Is Preferred

Response	College/ University Females	College/ University Males	High School Females	High School Males
They are equally good	15.0%	16.9	16.5%	13.4%
Facebook is better	33.6%	46.8%	8.8%	9.4%
MySpace is better	29.9%	15.6%	66.1%	64.7%
I do not like either one of them	10.3%	3.9%	7.9%	12.3%
I have no opinion	11.2%	16.9%	.7%	.3%
Total Respondents	107	77	454	382

Both female and male college and university students like Facebook better than MySpace. In contrast, both female and male high school students like MySpace better than Facebook.

CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

From this study it appears that the use of social networking sites is widespread in both high schools and colleges. Although MySpace has been around a little longer, it does appear that more university students are using Facebook, but that may be in part because of the previous requirement that a school email address (.edu) be used for Facebook. Most high school students would not have had school addresses to use for registering and were drawn to MySpace instead. This may also be the reason more university students used Facebook for current friends and MySpace for old friends.

The information from this study helps to provide insight into students' use of social networking. In trying to reach today's high school and college students, we need to attempt to understand what is important to them and how they communicate. Further research should be conducted on students' comprehension of how the use or misuse of these sites could potentially affect their future careers. This could be an important lesson to include when working with high school, community/junior college, and university students.

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Authentic Assessment with Video and Audio Technologies in Online Business Education Courses

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Over the last decade, online education has played a strategic role in responding to the changing needs of business education. As the use of online course delivery has increased, so has the need to effectively assess students from a distance using authentic assessments. Developing assessments for online business education courses is critical to assuring student achievement and successful business teacher preparation. This paper discusses lessons learned from ten years of practice in online business education and provides examples of video and audio-based technologies, which could be used by business educators to increase student learning in the online environment.

INTRODUCTION

Online education has undergone immense growth at the secondary and post-secondary levels during the last decade. Pope (2006) reported that roughly one in six students enrolled in higher education, or about 3.2 million people took at least one online course in 2005. The ability to design, develop and deliver online courses has become a critical and popular research topic in education. Reisetter, LaPointe, & Korcuska (2007) suggested that online teaching and learning has some distinctly different considerations than its face-to-face counterpart. Ouzts (2006) stated that teachers should learn about teaching online to avoid some of the difficulties they may experience when they transition from teaching face-to-face. Maor (2003) suggested that new teachers need to be prepared to teach online and may benefit from mentoring by experienced online instructors. This implies that specific training in methods and techniques concerning online course design, communication, and assessment should be studied in preparation to deliver online courses.

Studies suggest that business education courses can be effectively delivered online. Crews and Brown (2003) indicate that many business educators believe methods, skills, and non-skill business education courses can be successfully taught via the online course management systems. Further, Crews and Brown propose that business educators across

the nation believe that there is a need for more business education courses to be designed and delivered using web-based tools.

Online course development technologies have become more sophisticated, thereby helping universities to develop and deliver online business education. For example, East Carolina University (ECU) has offered fully online business education courses for over ten years, and it continues to update delivery technologies. For the purpose of this paper, fully online means no face-to-face or on-campus instruction. In 1997, the ECU Business Education Program was delivering fully online courses with a complete online degree program using static web pages and links to low quality video clips and PowerPoint® presentations. Today, the use of course management systems such as BlackBoard® with high quality streaming video, audio and interactive communication tools is the current standard. Additionally, costs of implementing technology decreases because of the availability of open source course management technologies such as Moodle® and an array of inexpensive or free video and audio conferencing technologies. In short, technological capability and feasibility is no longer a limitation to teaching online courses. Many feel that the question is no longer "if" we should teach online, but rather "how best" to teach online.

ASSESSMENT IN ONLINE COURSES

Instructional design and course development not only include presentation of content material, they also include evaluation and design of effective assessment activities (Smith and Regan, 1993). Like their face-to-face counterparts, online courses are only as effective as the assessments, which are used to evaluate the learners and their achievement of goals and objectives. Unfortunately, unlike face-to-face courses, teachers of online courses do not have students in a controlled personal environment where they can monitor behavior and measure competence through observation.

Planning assessment of online students is a critical undertaking, which demands thoroughness and creativity. Online instructors often place a large amount of emphasis on presentation of course material while focusing less on ensuring effective student evaluation or assessment of course goals. Traditional assessment strategies generally consist of a written question and a written response in a transactional student-teacher exchange (Posner and Rudnitsky, 2001). Problems can arise when traditional assessments are the only form of conformative evaluations used in the online arena.

Even though technology has advanced to enable the use of a wide range of assessment techniques, many online instructors still rely on traditional assessments requiring students to read/review content, then complete an activity or project on their own with little input or guidance. Online testing has also become popular, where students receive a timed exam consisting of multiple choice, true/false or fill-in-the-blank questions. According to Ko and Rossen (2004), online testing should not be solely relied on due to issues of security and academic dishonesty, and if used, they should only be in conjunction with other assessment methods.

As opposed to traditional assessment, technological advances now make the use of authentic activities in fully online courses possible and feasible (Woo Herrington,

Agostinho, & Reeves, 2007). Among other qualities, Herrington, Oliver and Reeves (2003) describe authentic assessments as having:

1. real world application;
2. the need for complex student investigation;
3. loosely defined requirements, prompting student interpretations of requirements;
4. different outcomes based on individual student input;
5. the ability to be examined and interpreted differently by different students;
6. opportunity for collaboration; and
7. opportunity for reflection.

Authentic assessments differ from traditional assessments in that they include real-life decisions and behaviors and they are performance based. Over the last decade, the Business Education program at ECU has relied on the following guiding principles for developing online assessment activities:

1. Assessment in online courses should include active student performance. This includes organized and structured student demonstrations, presentations, and/or synchronous discussions *in addition to* traditional tests and writing exercises as appropriate.
2. Assessment strategies should not be limited to independent writing assignments or multiple choice, true/false tests alone. When exclusively used, these methods are laden with issues of knowledge-regurgitation in lieu of critical thinking, student misuse of resource materials, and a lack of interactivity and sense of community.

By using technological solutions with authentic assessments, online courses can be legitimate learning opportunities which transcend correspondence courses of years past.

EXAMPLES OF AUTHENTIC ASSESSMENT

A variety of business education courses such as administrative management, business communications, financial information systems, computer applications and literacy, information processing, merchandising, administration & supervision and methods classes have successfully incorporated authentic assessments during the last ten years at ECU. These assessments have included video and audio technologies and were created using various software and hardware tools. These tools can vary in price from free to hundreds of dollars. The following is a list of popular tools and their websites:

- iMovie® - http://www.apple.com/ilife/imovie/
- Windows MovieMaker® - http://www.microsoft.com/windowsxp/using/moviemaker/default.mspx
- Centra® - http://www.saba.com/products/centra/
- SightSpeed® - http://www.sightspeed.com/
- iVisit® - http://www.ivisit.com/
- Polycom® - http://www.polycom.com/usa/en/home/index.html

- Camtasia® - http://www.techsmith.com/camtasia.asp
- YouTube® - http://www.youtube.com
- Blogger® - https://www.blogger.com/start
- Skype® - http://www.skype.com/

The websites above contain information on costs, how-to manuals, FAQs and download information. These assessment tools enable instructors to create authentic assessments to enable students to demonstrate their obtained skills and knowledge from course materials. Using video and audio technologies, instructors can supplement and authentically assess students in online courses. The following content describes the use of video and audio technologies in student assessment.

1. Video Presentations with Motion Video (Static Videos and Real-Time Conferencing)

Video presentations are an effective way to assess students in a variety of business education courses. Student preparation of presentations along with a written response allows instructors to see how well students have internalized course content while diminishing misuse of resources. Preparing to participate in a video conference or to create a video presentation requires students to rehearse, read, practice, and become fluent with material. Instructors can grade video presentations on content acquisition, presentation style, proficiency with use of technology, use of professional dress and language, and use of visual aids. Additionally, instructors can see the student performing in this process. These elements allow video presentations to be a far more dynamic medium than traditional stand-alone written assignments or multiple-choice tests.

Until recently, the use of student video presentations was cumbersome and problematic because of network speeds, low availability of home networking equipment, poor camera technologies, slow personal computers and overall cost prohibitive solutions. Current high speed broadband networking and video technologies are wide-spread among students of all ages for personal use. Using a computer camera (such as the Logitech QuickCam®), students can participate in Internet video conferencing and static video production. The computer camera, along with video editing software which is standard on many personal computers such as iMovie® and Windows MovieMaker®, students can design, develop, and produce video assignments which are professional artifacts of their learning.

ECU has integrated web-cams as well as more advanced video technologies such as Centra®, SightSpeed®, iVisit®, and Polycom® units can all be used for video presentations and synchronous video discussions in real-time. Further, students can also create motion video screen recordings to demonstrate their use of computer technologies and software applications. Using Camtasia®, students can develop video segments displaying their use of accounting software, Microsoft Office® products and other computer applications which business education heavily relies on. Online students can also upload video they create to other media venues such as YouTube®, Blogger®, as well as to conventional course management systems.

2. Digital Still Images

The abundance of digital still photography has made the use of digital images both simple and feasible for online classes. The popularity and relative inexpensiveness of standard digital cameras and phone-based cameras has put digital photography in a position to be used as a tool for demonstrating and documenting learning in online environments. Digital still images can be used as supporting materials in the development of e-portfolios, student websites, visual aids for PowerPoint® presentations and visual evidences which can be embedded in written work products. Even though digital still photography is largely considered low-tech, the fact that they allow users to show performance is an overlooked asset. Having students use digital cameras, mobile phone cameras, PDAs, webcams and screen shots are all ways online students can display their competence if online instructors weave these techniques into their assessment strategies.

3. Audio Discussions, Audio Presentations and Audio Narrations Accompanying Other Work Products

Online courses have long suffered through the over-use of discussion board postings, emails and chat tools. These frequently-used tools have redeeming qualities, but also present a myriad of problematic issues for online instructors including minimal participation, grading based on word count or number of responses, and relative inconspicuousness. Audio technologies provide assessment opportunities which allow synchronous discussions and asynchronous audio reports through a variety of technologies both easily and inexpensively. In many online programs, the usefulness of audio technologies has been overlooked. The pervasiveness of mobile phone technologies along with inexpensive calling plans and conference call features has made synchronous discussions a feasible assessment technique which could be used in conjunction with online course delivery. Additionally, products like Skype®, a free software program, can be downloaded for having web-based synchronous discussions using a personal computer. Finally, using the simple audio recorder in Windows® operating system allows students to give audio reports which can be paired with a prepared written paper and/or PowerPoint® presentation to provide an additional means of allowing students to explain or prove what they have learned.

CONCLUSION AND NEXT STEPS

Business education courses, like nearly all other educational disciplines, will continue to move into online delivery in the coming years due to students' desire for flexibility and because of rising costs in post-secondary and secondary infrastructure. Online education can only be successfully accomplished with academic integrity if student assessment is valid and reliable. Educators must consider a variety of technologies and assessment philosophies to avoid the use of correspondence techniques and undependable measures of student learning. Technology-enhanced assignments, coupled with authentic assessment characteristics have the potential to validate and legitimize online learning in the field of business education. East Carolina University continues to research innovative

online course design, delivery and assessment techniques in fully online business education programs. The Department is currently studying how to improve social presence and provide student teacher supervision effectively online.

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The Importance of Teaching Project Management as a Part of the High School Business Education

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The purpose of this article is to encourage business educators to introduce basic project management tools and techniques to the business education curriculum in their school. The typical high school business education curriculum includes units on many subjects; however, rarely is project management discussed. Introducing high school students to project management teaches them excellent skills that are required in most businesses, is a good paying career path, and provides them with skills they can use to manage their education, in high school and beyond.

The typical high school business education curriculum includes units on accounting, business law, economics, entrepreneurship, information technology, international business, management, and marketing. Missing from this list is project management. Introducing high school students to project management teaches them excellent skills that are required in most businesses, is a good paying career path, and provides them with skills they can use to manage their education, in high school and beyond. The purpose of this article is to encourage business educators to introduce basic project management tools and techniques to the business education curriculum in their school.

IMPORTANCE OF PROJECT MANAGEMENT IN THE MODERN ORGANIZATION

To understand what project management is, it is useful to understand what is meant by the term project. According to the Project Management Institute (PMI), a project is a temporary endeavor undertaken to produce an end product or service (*A Guide to the Project Management Body of Knowledge (PMBOK Guide)*, 2004). The nature of projects means that they have a definite begin date and end date. So, for a high school student, simply doing day-to-day homework would not be considered a project. However, producing a research paper or entry for a science fair would be considered one. Project management is then the application of specific knowledge, skills, and techniques to the activities of a project to meet the requirements for the project (*A Guide to the Project Management Body of Knowledge (PMBOK Guide)*).

Project management is a career whose origins can be traced back to undertakings such as U.S. Department of Defense major weapons systems development, NASA space

missions, and major construction and maintenance efforts (Dinsmore & Cabanis-Brewin, 2006). The complexity of these undertakings were the catalyst behind the search for tools and techniques that could aid in the planning, control, and monitoring of the tasks involved.

The United States spends $2.3 trillion on projects every year (*The PMI Project Management Fact Book*, 2001). Project management is a role in companies from all industries including health care, construction, information technology, and financial services. If you consider the world as a whole, we spend nearly $10 trillion of our $40.7 gross product on projects of all kinds (Schwalbe, 2006). However, most projects are not completed as per the original specifications. According to a report by The Standish Group, the number of successful IT projects has more than doubled, from 16 percent in 1994 to 34 percent in 2002, although that number dropped to 29 percent in 2004. The number of failed projects was cut in half, from 31 percent in 1994 to 15 percent in 2002, although that number increased to 18 percent in 2004. The amount of money wasted on challenged projects and failed projects was down to $55 billion in 2002 compared to $140 billion in 1994. They attributed these improvements to better tools and better skilled project managers with better management processes (*CHAOS 2001: A recipe for success*, 2001).

Corporations are increasingly changing their corporate structures from the traditional hierarchical to project based (Berggren & Soderlund, 2008; Whitley, 2006). These project based organizations have flatter hierarchies and little to no divisional boundaries. Employees with different skills are assigned to project teams to develop innovative products or services within a fixed amount of time. Most, if not all, of the necessary business functions are handled within the team.

PROJECT MANAGEMENT AS A CAREER

The importance companies place on projects and project management can also be illustrated by the amount of money that project managers make. According to the salary wizard at Monster.com, a first-level project manager makes an average of $75,000/year. A senior level project manager can expect to make an average of $90,000/year. This average wage is higher than most other occupations. However, most students do not realize that project management is a career.

A study by Whittington, Pettigrew, Peck, Fenton, and Conyon (1999) documented the growth of project management and its rising importance to the top management of companies. Universities have responded to the rising importance of project management by including project management courses in MBA and other business programs as well as creating degrees in project management. For example, the University of Houston offers a Masters degree in Technology Project Management and offers courses in Project Management Professional (PMP) certification. The George Washington University offers a Master of Science in Project Management degree. In fact, a significant number of major universities now either offer it as a stand-alone degree or as a specialization within an existing degree program.

There are many career options for students with degrees in project management. The Project Management Institute, http://www.pmi.org, lists members in the following

industries: aerospace, automotive, business management, construction, engineering, financial services, information technology, pharmaceuticals, health care, and telecommunications. The demand for skilled project managers is at an all-time high (*Is project management the career for you?*, 2004). An article on Dice.com listed project management as one of the hot skills needed by today's information technology companies (Schwartz, 2007). This article is not unique; there have been many that have appeared in the last five years listing project management as a needed and hot skill for job seekers to acquire (e.g., Dubie, 2007; Leung, 2007; Weinstein, 2008a; Weinstein, 2008b).

USING PROJECT MANAGEMENT SKILLS TO MANAGE THEIR EDUCATION

During the high school years, assignments change from nightly homework problems to longer term assignments, such as book reports, research papers, and team projects. These assignments are intended to take anywhere from one week to three months, or more, to complete. Unfortunately, most students will wait until the last possible minute to begin the project. This can lead to high levels of stress and lower than expected grades. While students are given these projects, they are often not provided with the tools and techniques in which to manage them. By being taught basic project management skills, the student can focus their project efforts to successfully deliver on time while meeting all requirements.

CONCLUSION

The purpose of this article was to encourage business educators to introduce basic project management tools and techniques into the business education curriculum in their school. The typical high school business education curriculum includes units on accounting, business law, economics, entrepreneurship, information technology, international business, management, and marketing, but not project management. Introducing high school students to project management teaches them useful skills that are required in most businesses, is a good paying career path, and provides them with skills they can use manage their education. The amount of money that businesses in the United States spend on projects is in excess of $2.3 trillion dollars, and growing. As this expenditure grows, so does the need for qualified project managers. While teaching students basic skills in high school will not allow them to immediately step into a project management role, it does introduce them to a possibly lucrative career path. In addition to a skill necessary in business, they also learn a necessary life skill.

WHERE TO GO FOR MORE INFORMATION

There are numerous resources for getting more information on project management, including online sources, books, and trade publications. Below is a list of some good websites for getting more information:

- http://www.pmi.org: The Project Management Institute. This site includes information related to project management, the Project Management

Professional (PMP) certification, and project management seminars and conferences.

- http://www.gantthead.com/: Gantthead. This site includes articles on project management and templates of commonly used forms/reports in project management. The site is geared towards technology project management, though many of the articles and templates can be altered for use with any industry.
- http://www.projectsatwork.com/: Projects @ Work. This site provides resources, tools, and training for professional project managers.

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Teaching Plain English in the Business Education Classroom

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Communication is more important than ever in this age of electronic communication. However, business teachers are still complaining that students do not know how to write properly. Students are comfortable communicating in acronyms and abbreviations, and they often need to be reminded of the difference between social and business communication. They need to learn to use "Plain English". This article will address the issue of teaching communication skills and proper writing technique in the business classroom. Helpful hints and useful websites for the business teacher are included, as well as a brief history of the Plain English movement.

"If we all wrote in plain English, how much easier—and efficient—life would be"
Margaret Thatcher, former British Prime Minister
(Plain English Campaign, 2007)

Business teachers from high school through college generally find themselves reviewing and often re-teaching writing mechanics. Georgia State University business faculty reported in a 1999 survey that they are frustrated by the time they spend teaching writing instead of course content (Epstein). Students seem to have mental blocks when asked to apply basic composition rules to essays and written assignments. How many times has a student in a business class expressed the sentiment, "But I didn't think this was an English class"? What is it about the basic rules of the written English language that makes it so difficult for students to remember and apply them to essays and projects in business classes?

Writing skills seem to have deteriorated even more in recent years, with the popularity of text and instant messaging. Students are comfortable communicating in acronyms and abbreviations, and they often need to be reminded of the difference between social and business communication. They are so accustomed to the instant forms of communication that they will often key a letter or report for a business class, run spell check, print the document, and turn it in—without taking the time to read over the document to make sure it effectively communicates the content in accepted business language.

This article will investigate the importance of effective writing skills for business students. In addition, the writers will introduce and discuss Plain English, also referred to as the Plain Language approach to teaching writing, with some specific guidelines that may help business educators incorporate effective business writing into their courses.

IMPORTANCE OF ADDRESSING THE PROBLEM

What business educator hasn't told a classroom of students that employers demand good writing skills? A report from a survey of 120 major American corporations conducted by the College Board's National Commission on Writing (2004) might help educators convince students. In the report, one business leader shares, "Writing is a ticket to professional opportunity, while poorly written job applications are a figurative kiss of death" (p. 3). Other important points from the College Board's report that students may need to know are:

- Two-thirds of salaried employees in large American companies have writing responsibilities as part of their job responsibilities;
- Half of the respondents indicated that writing skills are taken into consideration during hiring and for promotion, with 80% or more of the companies in service industries assessing writing during hiring;
- More than half of all responding companies report that they "frequently" or "almost always" produce technical reports (59 percent), formal reports (62 percent), and memos and correspondence (70 percent).
- More than 40 percent of responding companies offer or require training for salaried employees lacking writing skills. Based on the survey responses, it appears that teaching writing skills may cost American firms as much as $3.1 billion annually.

Logically, companies would rather not spend billions training employees in basic writing skills, especially when high school and college graduates are expected to have learned how to write in school. Budig (2006) notes that "to remain competitive in an increasingly global economy and to meet the needs of an ever-changing workplace, America needs to pay new and special attention to develop the writing skills of all students at all levels in schools" (p. 1).

PLAIN ENGLISH

Plain English is defined as, "the writing and setting out of essential information in a way that gives a co-operative, motivated person a good chance of understanding the document at first reading, and in the same sense that the writer meant it to be understood" (AskOxford.com, 2006).

By 1991 eight states had passed statutes to convert government forms to plain language. In the mid 1990s, the Internal Revenue Service began using plain language to make tax forms easier to understand. In 1998, in a Presidential Memorandum, Clinton wrote:

> By using plain language, we send a clear message about what the government is doing, what it requires, and what services it offers.... Plain language documents have logical organization; common, everyday words, except for

> necessary technical terms; 'you' and other pronouns; the active voice; and short sentences. (Locke, 2004).

Clinton seems to be saying that plain language can help writers reach their audiences, which is certainly an important aspect of business communication. Baldwin (1999), another supporter of Plain English at around the same time as Clinton's edict, provides even more reasons for using plain language:

- Readers understand documents better;
- Readers prefer plain language;
- Readers locate information faster;
- Documents are easier to update;
- It is easier to train people;
- Documents are more cost-effective.

As noted by the federal government, plain language gets your message across in the shortest time possible, and more people are able to understand your message.

HELPING STUDENTS WRITE IN PLAIN ENGLISH

By the 12th grade, students should be writing at a proficient or advanced level of writing; however, it was established earlier in this article that business teachers find it necessary to include basic writing instruction in their classes, even at the college level. Perhaps following the lead of the federal government and incorporating Plain English criteria into the business classroom can help.

Writing letters and reducing wordiness are two major skills that business teachers want their students to understand, thus the remainder of this article will be dedicated to tips related to those tasks. Teaching these important aspects of written communication may be aided by the use of humor, which will also be addressed.

LETTER WRITING

Business students are generally introduced to letters early in their keyboarding and word processing classes. They learn the proper format and they spend a great deal of time practicing the keying, proofreading, and editing of letters. In other business courses, students are expected to actually compose letters. Many textbooks, organizations, and educators offer tips for writing effective letters and documents.

The federal government continues to support the Plain English movement by offering guidance for writing effective letters at its PlainLanguage.gov website (2006d). Some of their guidelines are listed here, along with some additional comments that business educators may want to consider.

Identify your audience. Usually this is the person to whom the letter is written, but writers must realize that sometimes the letter will be shared with additional readers. Identifying the audience will help the writer determine sentence length and complexity of

words to be used in the letter. For example, a letter being sent to customers using particular software would be written at a lower technical level than a letter sent to computer programmers of that same software.

Organize the letter to meet your users' needs. Present the information in an order that will make the letter easy to understand. This order may vary depending on the purpose of the letter, as noted below:

- *Start with the main message.* Readers should be able to identify the message easily and quickly. Some writers will try to bury the message if the message is bad news.
- *Letters may need a sympathetic opening*. Address bad news at the beginning rather than burying it, but write compassionately—not bluntly.
- *Use an overview sentence after the main message has been presented*. The overview sentence might tell the reader what needs to be done next, or what type of appeal may be instigated. It provides organization for the remainder of the letter.

Use letter headings. If the letter is long and contains a great deal of detail, use letter headings. Letter headings make it easier for the reader to find answers to questions. These can be in the form of side headings, similar to those you see in this article.

Use pronouns. Never start a letter with "I"; rather, refer to the reader as "you", and to your company or organization as "we". However, avoid using the pronoun "you" if it sounds accusatory. For example, rather than stating "You did not say", state "We did not understand".

Use active voice. Using active voice and pronouns helps prevent the writer from referring to people as if they were inanimate objects. Stating "The back injury is disabling; therefore, the payee is entitled to benefits" is less personal than "We found that you have a disabling back injury; therefore, you are entitled to benefits". Active voice also makes a sentence easier to understand. For example, "your employer began the appeals process" is clearer than "the appeals process was begun by your employer".

Choose the right tone. The tone of a letter should be friendly and helpful, even if bearing bad news. When the tone of a letter is harsh or pushy, the reader may become angry and resentful without ever reading to the end.

Use present tense. Present tense is easier for your reader to understand, especially if giving instructions.

Use "must" correctly. "Must" indicates a requirement, and is more forceful than using words such as "need" or "have to". Never use the word "shall" as it generates confusion on the part of the reader.

Limit each paragraph to one topic. Covering more than one topic in a paragraph makes it difficult for a reader to follow the train of thought in the letter. Basic writing teaches that each paragraph includes a topic sentence with two or more supporting sentences.

Use lists. If the writer is identifying elements in a series of requirements or procedures, it is better to use a list to identify the elements. If the list must be completed in a certain order, use a numbered list. If no order is required, a bulleted list will suffice.

Directing business students to the PlainLanguage.gov website before assigning letters for them to write may help them understand some of the basics of Plain English that could help them communicate more effectively.

REDUCING WORDINESS

Whether they are writing letters, memos, reports, or technical instructions, students need help reducing wordiness to assure that they are writing in Plain English. Making a document clear, concise, and correct may take some time. Students generally find that it actually takes longer to write fewer words. According to *The American Heritage Book of English Usage* (1996), using too many words makes it difficult for a reader to understand the message of a letter or other documents. Several issues contribute to wordiness: redundant openings, wordy phrases, and excessive use of adjectives and adverbs.

Untrained writers often start their documents with such redundant openings as, "The purpose of this letter is" or "I am writing to inform you that". Generally, those phrases can be deleted, since it's understood that the letter is written with a purpose. A more effective opening would begin the letter with the words that are left. For example, if a student writes "The purpose of this letter is to inform you that you are invited to a luncheon", the first phrase can be deleted, leaving, "You are invited to a luncheon". Other examples of redundancies where extra words can be eliminated are: so very important (important), mutual agreement (agreement), and future prospects (prospects).

Reducing the number of adjectives and adverbs used will also reduce wordiness. Rather than saying "thank you very much", tell the student to simply say "thank you'. Avoid using participles which follow a noun as an adjective. Replace the phrase with an adjective preceding the noun. For example, rather than writing "the monthly statement ending June 30", the student should write "the June statement".

Students should be cautioned not to use several words when one will suffice. Some examples of wordy phrases and their suggested replacements:

Wordy Phrase	**Suggested Replacement**
in view of the fact that	because
at this point in time	now
so very important	important

Students should also avoid padded verbs. Ask the students to use the words "I hope" rather than the words "I have the hope that"; the words "to arrange" rather than the words "to make the arrangements".

Students should always read over their documents with the goal of reducing wordiness while maintaining clarity. Many universities provide websites with excellent examples designed to help reduce common writing problems such as wordiness and

redundancy. The sites http://grammar.ccc.commnet.edu/grammar/ and http://www.wisc.edu/writing/Handbook are two such sites that teachers might share with business students.

USING HUMOR TO DRIVE POINTS HOME

Students often react favorably to the use of humor as a teaching tool. PlainLanguage.gov (2006c) provides humorous examples of improperly written phrases, such as, "Red tape holds up new bridges", "Farmer Bill dies in House", and "Kids make delicious snacks". Such examples may help students see the impact of writing errors. PlainLanguage.gov (2006b) even includes a section on "how to write good". Of course, as the description implies, the rules in this section should never be followed. Many are accompanied by humorous examples. *Nine Easy Steps to Longer Sentences* by Kathy McGinty (2006) is another great site peppered with humor to use in the classroom. In one example, McGinty illustrates wordiness by changing the phrase "Studies have found that more night jobs would keep youths off streets" to "There is no escaping the fact that it is considered very important to note that a number of various available applicable studies studied ipso facto have generally identified the fact that additional appropriate nocturnal employment could usually keep juvenile adolescents off thoroughfares during the night hours, including but not limited to the time prior to midnight on weeknights and/or 2.a.m. on weekends." This is an excellent example that teachers can use to illustrate the concept of using Plain English.

CONCLUSION

Business teachers from high school through college generally find themselves reviewing and often re-teaching writing mechanics. Our students must be taught that the spell checker in their word processing software is not the final editor of their business letters, memos, and reports—they are. We must teach our students how to move from level one writing skills to more proficient writing skills so that they can pass employment tests and gain a competitive edge in the global job market. The federal government has embraced the move from legalese to Plain English writing and provides excellent resources in the form of the website, PlainLanguage.gov, that business teachers can use to guide students to more effective and efficient writing. This site, plus other resources, guidelines, and suggestions in this article will enable teachers to help their students achieve advanced writing skills.

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Teaching Business Students Safety for Today's Cyberworld

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While information about security breaches makes the news on a daily basis, there are also several security dangers that affect our students, our business education classrooms, and our computer labs. Some of the dangers are obvious and some of them are hidden. This article discusses some of the dangers and highlights what secondary educators need to know about information security. This article includes basic terminology, teaching topics and strategies, as well as what teachers can do to protect their students and themselves.

INTRODUCTION

While reports of information security breaches make the news on a daily basis, there are also several other security dangers that affect our students, our business education classrooms, and our computer labs. Two of the main factors which contribute to the increasing number of security breaches include the computing environment and the online behavior of computer users. Students and adults alike are increasingly utilizing online resources to communicate, conduct business, and entertain themselves. Potential attackers have responded by increasing their focus on obtaining their information or money from people, frequently through creative and electronic methods (Vaas, 2007; Potter, 2006).

Social networking also has become a pervasive activity. BCS News (2007) reported that a Webroot software study found 82% of teenagers regularly visit social networking sites. Some educators are taking advantage of these sites and using them as tools in the classroom. In addition, employers are even using the sites to check up on employees and potential candidates.

Threats to information security will always exist and new technologies also will present new threats on an ongoing basis. Therefore, a continual, systematic education for both business educators and students on the risks and the methods to help mitigate these risks in an online world is needed. However, many schools have not systematically provided training for teachers nor incorporated cybersafety, cybersecurity, and cyberethics instruction across all grade levels (McQuade III, 2007). Consequently, just because students are using these technologies does not necessarily mean they are using them safely. Therefore, in addition to teaching the technologies, teachers need to include sufficient coverage on safe and responsible computing behavior, information security, and cyberethics.

DANGERS

Although pervasive use of numerous new technologies and Internet usage has brought many opportunities, the potential for information security threats also has risen for both faculty and students. Examples of threats to which teachers may have to respond include the potential threat for students cheating and stealing information with various electronic devices. With more personal mobile devices becoming a single source point for data, the necessity to secure these devices through encryption and other security mechanisms becomes critical for both students and teachers. It is important to realize that devices which typically are recognized as single-purpose devices (such as an iPod for listening to music or a digital camera for taking pictures) can also provide threats. Digital media of all types, including valuable information from a laptop computer, can easily be saved to an iPod or a camera's flash storage.

Teachers also could find themselves and their classes being captured and then posted on web sites like YouTube (cell phone video makes this really easy). From a student perspective, cyberbullying, cyber predators, identity theft, or consequences incurred as a result of posting too much or inappropriate information on social networking sites also have become potential, but very real threats. These dangers may have ramifications or consequences in terms of personal safety, college and athletic careers, future job prospects, keeping a job, and Internet archiving (http://srv2.lycoming.edu/~snyderm/portal/internetsafety.html).

WHERE TO BEGIN

Although the idea of teaching information security awareness practices to students may be somewhat intimidating for many business educators—especially when a significant number of students seem to be tech savvy, and many educators may not have received any security awareness training—teachers can begin educating themselves about information security risks through research and reading. Numerous online resources and information technology publications provide trends and current information regarding security. In addition, teachers can investigate the possibility of resource people that could provide training for themselves and/or their students.

One excellent resource for business educators is http://www.staysafeonline.org. This site provides educational resources for both teachers and learners including K-12 curricula, online quizzes, teaching materials and tips, videos, and other materials.

Next, educators can continue the literacy process by learning the vocabulary associated with online computing and networking. At a minimum, everyone needs to be familiar with phishing, strong passwords, online safety rules and virus protection. Strategies for implementing these topics, as well as a few other topics, are included in the next section.

CLASSROOM TOPICS AND STRATEGIES

The security topics and depth of content that business educators teach depend on the age of the student audience, the type and level of course, and the background of the student. The following topics represent a sampling of content that can be covered in a variety of business and information technology courses. These topics apply to everyday computing on both a personal and a business level. They provide a basis from which to start discussing security and from a level which is relevant to students' lives.

Importance of security literacy. Students need to understand why security literacy is essential. More importantly, students also need to understand why information security, as a whole, is critical. Information security is not just an information security (IS) or technical issue. Many breaches of security have been a result of human error or a result of human action. Therefore, information security is everybody's responsibility whether at home, school, or work. Topics could include protecting personal and confidential information, preventing identity theft, protecting personal safety, protecting financial information, and protecting an organization's information assets (including legal, ethical, and financial responsibility).

School and/or district computer usage policies may be a great place to start with students. Each student needs to be aware of and compliant with the school and/or district policies of acceptable use. If a district does not have policies in place, students could be asked to research policies, participate in a discussion with information technology (IT) professionals on policies, or draft a policy as a class activity. While drafting policies, students would be forced to examine potential dangers as well as the risk level of those dangers in order to determine which items should or should not be incorporated into the policy.

Security Awareness. In relation to security, awareness has been defined as "being acquainted with, mindful of, conscious that and well informed of a specific subject, and thus implies knowing and understanding a subject and acting accordingly" (Wulgaert, 2005, p. 9). According to Wulgaert (2005), creating awareness involves more than pushing or communicating information to people; it "requires understanding, learning, acquiring skills and using the obtained knowledge," (p. 9) of which the latter is critical to the success of the security awareness program. Creating a culture of security awareness begins in the classroom and should permeate the entire school.

Social Networking. Because social networking has become so pervasive, it is critical for students to learn how to be safe when using these sites. Activities could include surveying students to find out how many are using social networking sites and the practices and behaviors used on these sites. Aggregate data then could be used to highlight areas of potential concern along with potential consequences. Many times students do not realize that their actions or postings are resulting in giving up their privacy for a very long time to come. Discussion of Internet caching, archiving, inability to retract posted material and examples of "real" incidents could be incorporated into the classroom to help convey the seriousness of the topics. Subtopics could include social networking statistics, data on security related incidents, and social networking safety tips such as privatizing screen names, restricting access, and maintaining privacy.

Phishing. Emails that bait users to give out personal information are considered phishing attempts. These emails include realistic and authentic looking graphics from businesses such as banks, PayPal, eBay, and credit card companies. Mass quantities of these emails are sent out with the hope that a number of people will take the bait and perform the requested action. Recently, the term spear phishing has been coined to refer to phishing attacks where the criminals "use information about staff or current organizational issues to lend their e-mail an air of credibility" (Vaas, 2007, p. 26). Further, the term "whaling" was adopted in 2007 as the term for spear phishing executives and rich people, "drawing on the Las Vegas habit of referring to rich gamblers as 'whales'" (Vaas, 2007, p. 26).

Real-life examples combined with statistics related to phishing and its consequences in terms of loss could add much interest to the class. Students may likely have their own examples to share. Sharing strategies and phrases used by phishers is critical so that students will be more prepared to recognize a potential scam when they see it. Safety tips and what not to do is equally important to ensure information security and proper computing behavior. Discussing the evolution to spear phishing and whaling will help students to realize how "smart" or sophisticated the phishers have become.

Identity Theft. Statistics illustrating frequency of incidents, common targets for identity theft, and losses incurred can set the stage for the importance of this topic and the probability of identity theft affecting each of them or their family. Topics could include how identity theft can happen (dumpster diving, drive by sniffing, phishing, etc.), how to detect possible identity theft and what to do if identity theft happens.

Strong Passwords. Strong passwords consist of a sequence of upper and lower case letters, numbers, and symbols typically greater than seven characters. Strong passwords should not include family or pet names, dictionary words, birthdays, or previously used passwords. Users should avoid using commonly used passwords, writing passwords on a sticky note or other easily accessible document, using the same password for multiple accounts, and sharing passwords with friends or peer groups.

Online Safety Practices. The overall theme of this topic is *How do I Protect Myself?* Subtopic areas could include downloading files, instant messaging, conducting business online, and safety guidelines for using public computers and public wireless network access. Related topics would also include the legality of some online practices such as plagiarism and downloading others' work. Teaching students what is acceptable/legal and what is unacceptable/illegal can potentially save all parties.

Social Engineering. Social engineering has been defined as "successful or unsuccessful attempts to influence a person(s) into either revealing information or acting in a manner that would result in unauthorized access to, unauthorized use of, or unauthorized disclosure of an information system, a network or data" (Hansche, Beri, & Hare, 2004, p. 58). In other words, social engineers will devise (through nontechnical means) deceptive and clever ways to get people to reveal confidential or sensitive information that should not be disclosed. Social engineers can be quite skillful in applying a number of psychological principles including intimidation, flattery, sympathy, or building trust. The delivery methods for these schemes may be in person, over the phone, or through the Internet.

While social engineering may not be a major threat at the secondary school level, students need to be aware of social engineering and the tactics used as they prepare to move into the business world. Utilizing various scenarios of clever attempts to obtain information and discussing or role playing how to counter these attacks will help students develop practical strategies they can use to protect their information. Additionally, many high school students already have part-time jobs. An unsuspecting, young part-time employee may be just the type of person a social engineer looks for.

Workstation Safety Practices. Helping students to understand that workstation settings can directly impact the security of data and information is a key step in providing workstation safety. Safety practices will also include coverage of firewalls, encryption, file sharing, anti-virus and anti-spyware software, browser settings, email settings, passwords, and permissions.

WLAN (Wireless LAN) Safety Practices. Many students and their families have their own wireless home networks. If these networks do not have properly configured security, other people can access their network and open the potential to seeing their data. Topics could include wireless encryption, SSIDs, MAC address filtering, passwords, remote administration, and common safety tips.

IMPLICATIONS AND GENERAL STRATEGIES

A key point to remember is that not all security topics fit all classes. Teachers need to determine which information security topics relate to the objectives of the courses they teach. Some topics may be more appropriate for IT and IS classes than for every business course. What is important is that teaching principles of information security, safe online and computing behavior, and cyberethics needs to be incorporated systematically, on an ongoing basis across the business and information technology education curriculums. Various security awareness training and instructional strategies used in business can also be applied to the classroom.

Speak their language. Teachers need to speak in a language that students understand to ensure the message will, in turn, be understood. Students will better understand security topics when teachers introduce these topics in terms of how it affects the students (Desman, 2003).

Keep it relevant. Security awareness education needs to be relevant, important, and tailored to each individual audience. Students are more likely to pay attention and incorporate what they see or hear in the classroom if they feel that the material was developed specifically for them (Wilson and Hash, n.d., Developing section ¶2). Include practical examples, invite outside speakers to share interesting facts and stories, and ask students to share their findings.

Involve students. Information security should not be a passive activity. Teachers can actively engage students by having them role play various scenarios, create security awareness videos, participate in group discussions and practical lab activities. Include students in the research process. Not only will they get the message from multiple sources and add to your knowledge base, but also they can research security topics that apply to them, thereby making security personal in another way.

Another great way to involve students is to take advantage of their knowledge and abilities and let them be the "teachers." Students could create a security awareness or computing safety presentation to be delivered to their parents, the local school board, or even other students. Such activities could even become part of a community service project for a career and technical student organization (CTSO).

Take advantage of the technology. Teachers can also take advantage of their students' interest in and adaptability towards new technologies to attract their attention to safety and security topics. For example, online sites like YouTube and TeacherTube can be a source of instructional videos that may cover important topics. With appropriate guidelines and controls in place, teachers could have their students make their own videos to be posted to YouTube or have them utilize a variety of Web 2.0 technologies to research, discuss, explore, and reflect on various safety and security topics. Students could learn to safely utilize these cybertools while in a controlled environment.

Lead by example. A teacher who consistently practices safe computing behaviors and follows security guidelines can serve as an excellent role model for students. Teachers need to be sure they are "practicing what they preach." They need to be sure not to violate copyright restrictions, not to allow unethical or illegal behaviors in their classrooms, and not to forget to use encryption and strong passwords.

SUMMARY

Teaching responsible computing behavior is just as important as teaching technology. Although many business educators may not feel adequately prepared to teach various aspects of information security, they can begin by reading and taking one step at a time. Security awareness is a continual process, not a one-time event. By embracing the challenge and involving students, business educators can make a difference in preparing the future workforce to meet the numerous and diverse information security challenges facing today's society and business world.

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