ASSOCIATION OF BUSINESS INFORMATION SYSTEMS

2013 REFEREED PROCEEDINGS

FEDERATION OF BUSINESS DISCIPLINES

March 2013
Albuquerque, New Mexico

ASSOCIATION OF BUSINESS INFORMATION SYSTEMS

2013 Refereed Proceedings

Albuquerque, New Mexico

ASSOCIATION OF BUSINESS INFORMATION SYSTEMS

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March 14, 2013
(Thursday)

CONGRATULATIONS!

Recipient of the 2013 McGraw-Hill Distinguished Paper Award

Multiple Software Upgrades/Changes: Faculty Perceptions Related to
Change Management and Technology Acceptance
Betty A. Kleen, Nicholls State University
Ronnie Fanguy, Nicholls State University
Sherry Rodrigue, Nicholls State University
Lori Soule, Nicholls State University

Recipient of the 2013 Federation of Business Disciplines Outstanding Educator Award
Ann Wilson, Stephen F. Austin State University

8:00 a.m. – 10:00 a.m.   Zuni

SESSION A   Buffet Breakfast, Business Meeting and Distinguished Paper Presentation

All ABIS members are invited to come enjoy a great breakfast buffet and participate in the
Annual Business Meeting.

Session Chair:**Ann Wilson**, Stephen F. Austin State University, ABIS President

Yearly Business Meeting: Old and New Business of ABIS

2013 McGraw-Hill Distinguished Paper Presentation

Multiple Software Upgrades/Changes: Faculty Perceptions Related to Change Management and Technology Acceptance
Betty A. Kleen, Nicholls State University
Ronnie Fanguy, Nicholls State University
Sherry Rodrigue, Nicholls State University
Lori Soule, Nicholls State University

March 14, 2013
(Thursday)

10:00 a.m. - 10:30 a.m.	Ballroom C

FBD Coffee Break

Please make plans to visit the exhibits for information on the latest books and newest educational technologies. Let our exhibitors know how much we appreciate their presence and continued support!

Great Door Prize Drawings take place at **10:15 a.m.** in the Exhibit Area. *Must be present to win.*

10:30 a.m. – 12:00 p.m.	Zuni

SESSION A   Online Teaching & Learning

Session Chair: **Ann Wilson,** Stephen F. Austin State University

When the Course Management System Isn't Enough
Gail Weatherly, Stephen F. Austin State University
Susan E. Jennings, Stephen F. Austin State University

Effective Use of Technology to Improve Diverse Student Interaction in Online Courses for Workplace Success
Ehi Aimiuwu, Morgan State University

Assessment of Online Instructors: An Essential Component of Quality Instruction?
Robert B. Mitchell, University of Arkansas at Little Rock

Noon – 1:30 pm	Ballroom A

Joint Luncheon with Southwest Academy of Management

Title   Entrepreneurial Speaker Series Luncheon/Steak Buffet Luncheon

Presiding Kimberly L. Merritt, Oklahoma Christian University, Program Chair, ABIS
              Janie R Gregg, The University of West Alabama, Program Chair, SWAM

Speaker   Ms. Jackie Baca, CEO of Bueno Foods

ABIS Members will attend free with paid registration.

March 14, 2013
(Thursday)

1:30 p.m. – 3:00 p.m.   Zuni

SESSION A   **Preparing Students for Success**

Session Chair: **Beverly Oswalt**, University of Central Arkansas

Modeling eJob Shadowing for Teaching MIS Students with Simulation Technology
Joselina Cheng, University of Central Oklahoma

Millennials, Technologies, and Expectations
Julie McDonald, Northwestern State University
Sarah Wright, Northwestern State University
Margaret S. Kilcoyne, Northwestern State University
Sue Champion, Northwestern State University
Eric Fountain, Northwestern State University

The Consumerization of IT: BYOD
Ann Wilson, Stephen F. Austin State University
Debbie D. DuFrene, Stephen F. Austin State University
Timothy W. Clipson, Stephen F. Austin State University

3:00 p.m. – 3:30 p.m.   Ballroom C

FBD Coffee Break

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March 14, 2013
(Thursday)

3:30 p.m. - 5:00 p.m.   Zuni

SESSION A   **Current Issues in Information Systems**

Session Chair: **Carla J. Barber**, University of Central Arkansas

Ownership of Digital Media: The Status of Digital Inheritance Laws
Marsha L. Bayless, Stephen F. Austin State University
J. Keaton Grubbs, Stephen F. Austin State University

Making Sense of Microsoft Office 2013, Office 365, and the Sky Drive
Jim Larsgaard, Eastern Kentucky University

Social Media: Don't Over Socialize!
Marcel M. Robles, Eastern Kentucky University

5:30 p.m. – 7:00 p.m.   Ballroom C

FBD Meet and Greet Social

Everyone is invited to attend this FBD conference-wide social event. Visit with long-time friends and make new ones as you enjoy light appetizers and live music. A Cash Bar is available and a limited number of drink tickets will also be distributed. Stop by to relax and wind down from the day's conference activities before heading out to other association and cultural events, dinner, or historic Old Town.

March 15, 2013
(Friday)

7:30 a.m. – 8:30 a.m.   Centro del Sol

ABIS and ABC-SWUS Joint Breakfast

All ABIS and ABC-SWUS members are invited to come and enjoy a great breakfast buffet!

8:30 a.m. - 10:00 a.m. –**Joint Meeting with ABC-SWUS**   –Centro del Sol

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SESSION A   **New Age Technology in the Classroom**

Session Chair: **Kathryn S. O'Neill**, Sam Houston State University

Building Relatedness in Online Courses: Developing Your E-Persona
Traci Austin, Sam Houston State University
Lucia S. Sigmar, Sam Houston State University

BYOT/BYOD—What?
Harold A. Hurry, Sam Houston State University

The Use of Disruptive Net Based Tools in Teaching Business Communication
James G. Ward, Fort Hays State University

Examining Gender Differences in Email Communication: A Study of Student Email to Faculty
M. Suzanne Clinton, University of Central Oklahoma
Kimberly L. Merritt, Oklahoma Christian University
Katelynn B. Burns, Student, East Central University

10:00 a.m. - 10:30 a.m.   Ballroom C

FBD Coffee Break

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March 15, 2013
(Friday)

10:30 a.m. – 12:00 p.m.   Zuni

SESSION A   **Curriculum Development**

Session Chair: **Joselina Cheng**, University of Central Oklahoma

Universal Design for Learning 2.0: A New Challenge for Online Higher Education
Begona Perez-Mira, Northwestern State University
Margaret S. Kilcoyne, Northwestern State University
Brenda Hanson, Northwestern State University
Thomas Hanson, Northwestern State University
Sue Champion, Northwestern State University

Using Excel Solver to Teach Nonlinear Modeling: A Proposal
Daniel D. Friesen, University of North Texas at Dallas

Spreadsheet Proficiency in Business School Students: A Preliminary Study of Student Job Preparedness
Gregory Treadwell, Cameron University
Mike Estep, Cameron University
K. David Smith, Cameron University
Kimberly L. Merritt, Oklahoma Christian University

1:30 p.m. – 3:00 p.m.   Zuni

SESSION A   **Pedagogy and Student Learning**

Session Chair   **Daniel D. Friesen,** University of North Texas at Dallas

Students' Attitudes Toward Eight-Week Courses in Computer Literacy
Lori Soule, Nicholls State University
Kent White, Nicholls State University

Head in a Cloud? What Business Students Know about Cloud Computing
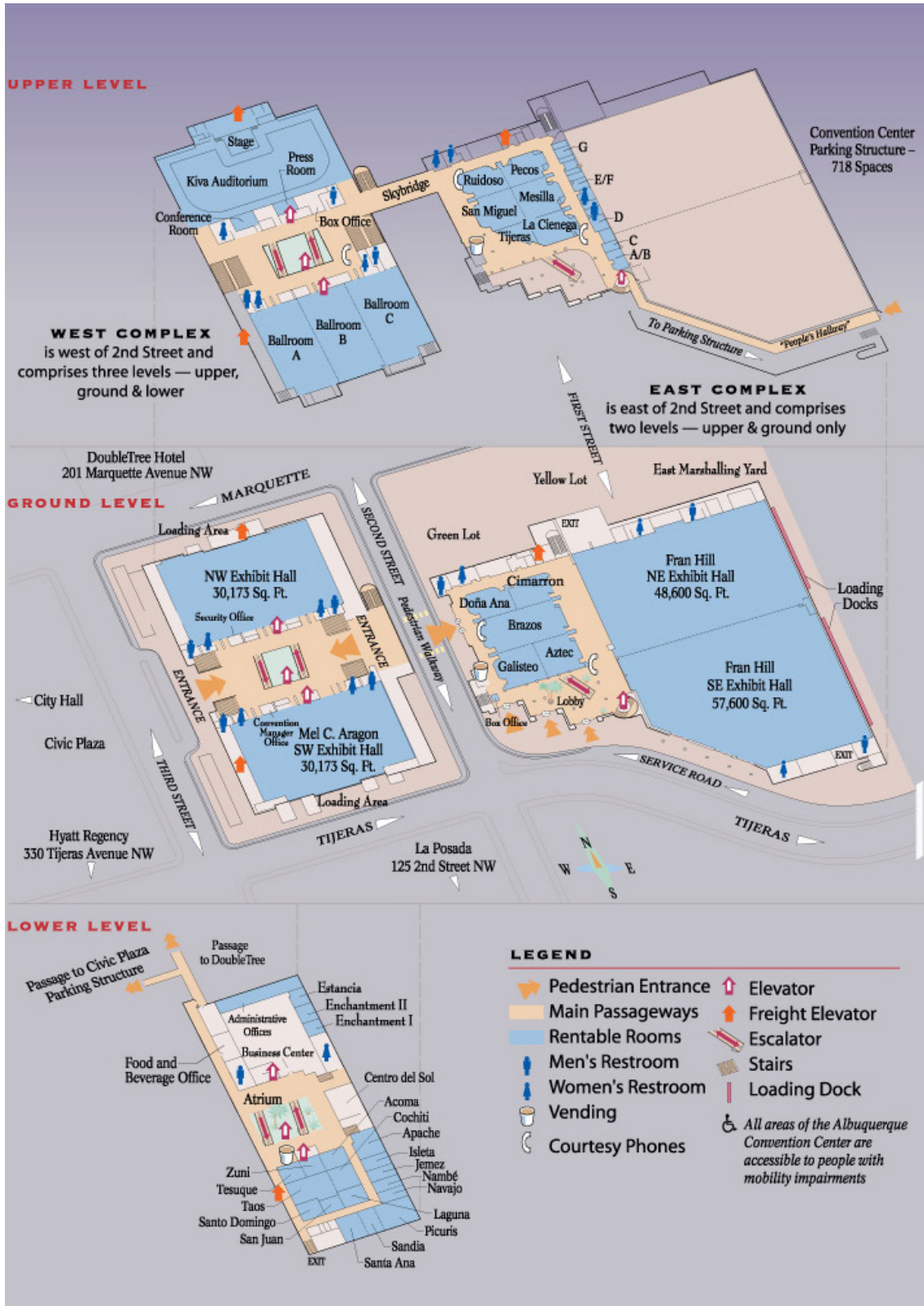**Carla J. Barber**, University of Central Arkansas
Beverly Oswalt, University of Central Arkansas
Lea Anne Smith, University of Central Arkansas

A Dozen Apps in the Life of a Professor
Lori Soule, Nicholls State University

Albuquerque Convention Center

UPPER LEVEL

Stage
Press Room
Kiva Auditorium
Conference Room
Box Office
Skybridge
Ruidoso
Pecos
G
Mesilla
E/F
San Miguel
La Cienega
Tijeras
D
C
A/B
Ballroom C
Ballroom B
Ballroom A

Convention Center Parking Structure – 718 Spaces

To Parking Structure
"People's Hallway"

WEST COMPLEX is west of 2nd Street and comprises three levels — upper, ground & lower

EAST COMPLEX is east of 2nd Street and comprises two levels — upper & ground only

FIRST STREET

GROUND LEVEL

DoubleTree Hotel 201 Marquette Avenue NW
MARQUETTE
SECOND STREET
Yellow Lot
East Marshalling Yard

Loading Area
Green Lot
EXIT
NW Exhibit Hall 30,173 Sq. Ft.
Cimarron
Fran Hill NE Exhibit Hall 48,600 Sq. Ft.
Loading Docks
Security Office
Doña Ana
Brazos
Pedestrian Walkway
ENTRANCE
Aztec
ENTRANCE
Galisteo
Lobby
Fran Hill SE Exhibit Hall 57,600 Sq. Ft.
City Hall
Box Office
Civic Plaza
Convention Manager Office
Mel C. Aragon SW Exhibit Hall 30,173 Sq. Ft.
SERVICE ROAD
EXIT
THIRD STREET
Loading Area
Hyatt Regency 330 Tijeras Avenue NW
TIJERAS
La Posada 125 2nd Street NW
TIJERAS
N W E S

LOWER LEVEL

Passage to Civic Plaza Parking Structure
Passage to DoubleTree
Estancia
Enchantment II
Enchantment I
Administrative Offices
Business Center
Food and Beverage Office
Centro del Sol
Atrium
Acoma
Cochiti
Apache
Zuni
Isleta
Tesuque
Jemez
Taos
Nambé
Santo Domingo
Navajo
San Juan
Laguna
Picuris
Sandia
EXIT
Santa Ana

LEGEND

- Pedestrian Entrance
- Main Passageways
- Rentable Rooms
- Men's Restroom
- Women's Restroom
- Vending
- Courtesy Phones
- Elevator
- Freight Elevator
- Escalator
- Stairs
- Loading Dock
- All areas of the Albuquerque Convention Center are accessible to people with mobility impairments

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Distinguished Paper Award Winner

MULTIPLE SOFTWARE UPGRADES/CHANGES: FACULTY PERCEPTIONS RELATED TO CHANGE MANAGEMENT AND TECHNOLOGY ACCEPTANCE

Betty Kleen, Nicholls State University
Ronnie Fanguy, Nicholls State University
Sherry Rodrigue, Nicholls State University
Lori Soule, Nicholls State University

ABSTRACT

This paper investigates faculty perceptions regarding several software changes and/or upgrades at Nicholls State University, a medium-sized public university within the University of Louisiana System. Within a two-year timeframe, the university changed software for email, assessment of student learning, course management, faculty annual reporting, and enterprise software for processes such as registration, human resources, and finance. This totaled five different software changes. The researchers surveyed faculty regarding their perceptions of ease of learning and use, as well as their perceptions of the software change related to change management. Findings revealed that faculty were generally accepting of the technology changes; however, they appeared particularly disappointed with the new course management software.

INTRODUCTION

Beginning in the spring of 2010 through spring of 2012, the researchers' university made several software changes. The first change was to adopt Digital Measures software in January 2010 as a way of capturing data concerning faculty activities, teaching loads, and so forth for annual evaluations. This change was an upgrade from previous years when word-processed forms based on a customized design were prepared and submitted by faculty each January.

This change was followed by the Banner system replacing the Student Information System (SIS) during registration for fall 2010. The change to Banner was mandated by the administrative board overseeing the university and affected most of the universities in the state university system. Faculty used Banner for advising students by accessing such information as student transcripts and course schedules; checking course catalogs, course availability and options; and checking their own course enrollments. Although SIS had previously supported these tasks, Banner required new interfaces, new screens, and new navigation.

The University switched to Gmail for faculty/staff use (from previous use of GroupWise) in December of 2010. Budget savings that occurred motivated this particular change.

Moodle replaced Blackboard in August of 2011 (early adopters using that semester), with all faculty required to convert to Moodle in spring 2012. Once again, the change from Blackboard course management to Moodle resulted in significant savings labeled as a way to deter faculty layoffs.

The LiveText system for capturing student assessment of learning was also rolled out fall 2011. The administration perceived usage of this software would facilitate documentation of assessment of learning for general education as well as various accrediting agencies. Additionally, it would support students' abilities to compile electronic portfolios. Figure 1 graphically reflects this timeline.

The researchers, who all teach in some area of information systems, viewed that some software changes were relatively easy changes (email), while other software changes such as moving to the Banner system and changing to the Moodle course management system were more comprehensive changes. Although some training had been offered for each of the software changes prior to conversion, the researchers had informally heard various opinions on topics such as user acceptance, ease of learning and use, strengths and weaknesses of the various software, and whether the changes were all necessary. The discussion and complaints appeared to increase with each new software package change during this time span.

PURPOSE OF THE STUDY

The purpose of this study was to determine faculty perceptions related to each of the five technology changes identified above. Perceptions regarding ease of learning, ease of use, and usefulness, tie to the basic technology acceptance model (TAM). Additionally, faculty perceptions were studied related to elements of change management including the university's need to change to improve effectiveness or to improve information management, as well as training and support offered related to the changes. For all these items, the researchers chose to gather data and research the following:

- Are there differences in perceptions based upon gender?
- Are there differences in perceptions based upon age?
- Are there differences in perceptions based on years of teaching experience?

The findings of the study will provide insight into various aspects of managing technology change within an institution of higher learning and afford an overview of differences in perceptions of males and females, younger and older faculty, and those with differing years of teaching experience. Findings can also assist managers in proactively addressing interventions for future technology changes.

RELATED LITERATURE

How and why individuals adopt new information technology has been studied by many researchers over the past few decades, including researchers such as Agarwal & Prasad (1997); Brown (2009); Davis (1989); Davis, Bagozzi & Warsha (1989); Halawi & McCarthy (2007); Venkatesh (1999); and Venkatesh & Morris (2000), to name just a few. These studies used either the Technology Acceptance Model (TAM) or variations of that model. Frequent

comparisons in studies included differences in gender, age, and technology experience. As early as 1999, Hu *et al* reported that researching and explaining user acceptance of new technology was one of the most mature research areas in information systems literature. Hu *et* al summarized findings of various TAM studies and identified that user perceptions of ease of use, ease of learning, and usefulness of a system all play a part in user acceptance of a new technology. To further support the importance of user perceptions, Bhattacherjee's (2001) study results found user satisfaction with an information system's *use* and *perceived usefulness of its continued use* determined a user's intent to continue using the software.

Venkatesh, Morris, G. Davis, and F. Davis (2003) described several streams of research within the broad area of adoption of new technology and developed and validated what is known as the Unified Theory of Acceptance and Use of Technology, based upon conceptual and empirical similarities across the eight models they researched. The authors identify a key value of such studies to help managers "understand the drivers of acceptance in order to proactively design interventions (including training, marketing, etc.) targeted at populations of users that may be less inclined to adopt and use new systems" (p. 426). Their unified model identified "three direct determinants of intention to use (performance expectancy, effort expectancy, and social influence) and two direct determinants of usage behavior (intention and facilitating conditions)" (p. 467). Further, they identified significant moderating influences of experience, voluntariness,

gender, and age as integral features. In their study, performance expectancy included such constructs as perceived usefulness, extrinsic motivation, job fit, and outcome expectations. Effort expectancy included perceived ease of use and complexity. Social influence involved what others think, social factors, and image.

The research stream related to TAM and variations continues. Schepers and Wetzels' 2006 meta-analysis of the TAM identified differences in studies reviewed; however, they did conclude that the original TAM relationships are confirmed. Recently, Turner, Kitchenham, Brereton, Charters, & Budgen (2010) examined evidence, through a systematic literature review, that TAM predicts actual usage. They found behavioral intention likely correlates with actual usage, but perceived ease of use and perceived usefulness are less likely correlated with actual use. Ultimately, some variation in findings related to technology acceptance ties to the particular group researched.

Within the area of organizational change research, Avey, Wernsing and Luthans (2008) note "Employee resistance is commonly recognized as one of the biggest obstacles and threats to organizations attempting to change to keep up or ahead of evolving internal and external conditions" (p. 64). Their findings of a study of working adults from a wide cross-section of U.S. organizations suggest, "employees' positive psychological capital and positive emotions may be important in countering potential dysfunctional attitudes and behaviors relevant for organizational change" (p. 64).

Rafferty and Griffin (2006) commented, "When change occurs very frequently, individuals are likely to feel fatigued by change and experience an increase in anxiety due to the unpredictability of change in that setting" (p. 1155). Their review of empirical research also revealed that employees have major concerns related to the planning that accompanies change efforts in an organization.

Brown's study of a University's replacement of a legacy system included both organizational change and technology acceptance models as part of his research (2009). His findings revealed the following predictors of a user's personal initiative regarding acceptance of the new system perceived ease of use, perceived usefulness, and change efficacy. Brown further noted, "perceptions of new technology are tied to perceptions of the change agents' management of the implementation process, as well as the ramifications of the organizational change on the organization as a whole" (p. 248). He further suggests that change agents, "should be wary of thinking that a new technology can 'sell itself' to the change recipients" (p.250).

Higher education specifically has been a focus of additional studies concerning management of technology change. A study of Digital Measures implementation (Baker-Eveleth & Stone, 2008) concluded that participants' behavioral intentions to use the software were impacted by previous computer experience, ease of system use and administrator support. Orr, Williams, and Pennington (2010), studying institutional efforts to support faculty in online teaching, note the value of strategic communication by top decision makers and management. Since switching to a different course management system would be viewed as a significant organizational change by many faculty, lack of effective strategic communication could lead faculty to question the necessity and/or value of the change. Concerning training provisions, Lee and Busch (2005) found adequacy of training was identified as related to faculty willingness to participate in distance education and use of a course management system. Likewise, Fedorowicz, Gelinas, Usoff, & Hachey (2005) recommended effective and diverse training as an important component of integrating an enterprise system across an institution.

Based on a review of the factors that influence technology acceptance and change management literature, the studies show differences in perceptions may exist among various groups based on such factors as age, gender, and experience with technology. The researchers believe it beneficial to study a group involved in numerous significant technology changes that occurred within a reasonably short timeframe. Of further interest is whether there is a difference in faculty perceptions for the technology changes that occurred near the end of the timeframe.

METHODOLOGY

Based on a review of both the technology acceptance model and change management literature, the researchers developed a survey instrument that focused on the five different software changes implemented at the university beginning spring semester 2010 through spring 2012. The survey was reviewed

for validity of questions included and format prior to full dissemination.

The survey was designed to gather classification data of gender, age, years of teaching experience, and background of teaching either hybrid or fully online courses. Participants were also asked to rate themselves on confidence in learning and using new software, as well as where they fit in the adoption of new technology (first, second, and third portion of users). Five survey sections followed (one for each software change) with questions concerning effectiveness, peer perceptions, ease of use, usefulness, need for change, training provided, and utilization of the system in their current position. Faculty could skip any software they did not use (such as LiveText, which was not used by a majority of the faculty at the time the survey was conducted). An open-ended question at the end of each software section solicited any comments the participant would like to make.

The final instrument was created using Google forms, and all faculty received a link to the electronic survey in very early May 2012. As an incentive to encourage faculty to participate at the end of a semester, participants who voluntarily chose to include a contact phone number became eligible for drawings for $25 restaurant gift cards (one awarded for each 50 participants). All faculty received three follow-up messages to encourage participation.

Frequency counts, percentage distributions, and cross-tabulations were prepared for data analysis. Furthermore, t-tests, analysis of variance, and Pearson correlations were used to identify if there were significant differences between different classification groups related to gender, age, and teaching experience.

SURVEY FINDINGS

A total of 123 faculty completed the survey (38.2% response rate). Table 1 provides details of participant classification questions. More females than males responded to the survey, and those age 50 and above represented 46% of the participants. Years of teaching experience varied, as was expected, with those having 21 or more years being the largest group of respondents (29%). Approximately one-fourth of the respondents have not taught either hybrid or fully online courses; the largest group of respondents (36%) had been teaching online courses for three or more years.

As illustrated in Table 2, close to one-half of the respondents rated themselves as having high confidence in learning and utilizing new software. Almost three-fifths of the respondents classified themselves as being in the first third of adopters of new technology.

Faculty Perceptions

Simple averages of faculty opinions for all technologies are presented in Figure 2. Respondents are nearly neutral on the need for change and whether the changes improved information management. They are most strongly in agreement that they are capable of transitioning to the new technologies and are able to utilize the new technologies. This is not surprising since 41% of respondents had some confidence and 47% were highly confident in their ability to learn new software. Respondents mildly agree that their peers have embraced the change to

the new technology. They also agree that the new technologies are easy to use and that they are useful for their job.

Furthermore, they agree that training was offered and they are satisfied with the training. Consistency of perceptions is confirmed as respondents *disagree* that transitioning was a mistake and that the new technology was difficult to learn.

Figure 3 depicts how frequently faculty utilize the new technologies introduced at the university and the amount of training that they attended for each of the new technologies. As the researchers anticipated, Gmail was used most often, with the Moodle course management system next highest in usage. As illustrated in Figure 4, respondents invested the least amount of structured training time for the Gmail switch. Overall, respondents invested the most training time for the Moodle course management system out of the five software changes in the study.

When the researchers looked at the breakdown of responses by technology (see Figure 5), they identified that differences in faculty perceptions manifest. Faculty perceptions regarding Banner and Digital Measures are rather positive. They agree that change was needed and that the change has improved information management. They feel capable of utilizing these technologies and that their peers have embraced the change. Additionally, they find the software easy to use and useful for their job. Along the same lines, they do not find these technologies difficult to use nor do they feel that either was a mistake. These opinions may be partially due to the amount of time faculty spend using these software

products. Most faculty have limited need to utilize Banner other than entering final grades, accessing class lists, and advising students. Moreover, many of the budgeting and purchasing processes that are done through Banner are more often carried out by administrative staff rather than faculty. Similarly, Digital Measures is software that is not frequently used. Faculty must enter information into this system for annual evaluation purposes; therefore, many faculty may use it only each January. From the faculty's perspective, these systems appear to be an improvement over the software previously used for these purposes.

Perceptions related to Gmail are more positive than all other technologies. This is not surprising since Gmail is powered by Google—which prides itself on developing software that is intuitive, easy to use, and user friendly. This point is reinforced by Gmail receiving the highest ratings for faculty feeling capable, peers embracing change, ease of use, and usefulness—all despite receiving the lowest level of training with the software. This system is also the one that is most used by faculty, and they seem to be very happy with the change to this system. One particularly positive note received from faculty is that Gmail provides them with much more storage space than our previous email system. Faculty no longer have to be concerned with archiving and deleting old emails. Cutting out this tedious process has surely positively affected faculty opinion. In addition, the switch to Gmail has also provided the faculty with easier web and mobile device access to email and access to Google Docs.

Faculty, by-and-large, do not utilize LiveText. Only 38 of the 123 of the faculty responding (30.9%) report any usage of the system. Moreover, of those, only 10 (26%) utilize the system at least monthly. The survey results indicate that faculty feel that, of the systems thus far considered (Banner, Digital Measures, and Gmail), this system is the first that was not needed and their peers have not accepted the change to this system. With LiveText, we also see a higher level of agreement with the statement that "management made a mistake in transitioning to this system" (although as a whole, they still disagree with this statement—there is just less disagreement). These negative feelings may be in part indicative of a need for faculty to accept the "culture of assessment" that is being pushed upon higher education—as this system is designed to aid the university in managing its assessment process.

When it comes to systems that are strongly disliked by faculty, Moodle is at the top of that "negative" list. Moodle serves as the university's classroom management system, and it recently replaced Blackboard, which had been used for the previous 10 years, in this role. It is not surprising, therefore, that faculty utilize this software very frequently. Eighty-one percent use the system more than five times per week, and 55% use the system multiple times per day. Except for Gmail, this is the most frequently used system. Based on survey responses, faculty seem to resent being forced to use this system. Moodle received the lowest ratings of any of the systems when considering whether change was required and whether information management was improved because of the change. It also received the lowest ratings when considering

whether faculty feel capable of utilizing the system and whether their peers have embraced the change to this system. It received markedly lower ratings for ease of use and markedly higher ratings related to it being difficult to learn. Moodle was the only system where faculty "agreed" (on average) that transitioning to this system was a mistake and that it is difficult to use. These perceptions exist despite Moodle being the technology where faculty attended the most training classes. Ninety percent of faculty responding attended training for Moodle (and 36% attended at least three training events). This is particularly significant because less than 50% of the respondents attended training for the other technologies. Perhaps such a large percentage of faculty attended training after realizing that they would not be able to figure out the system on their own. The negative opinions shared may indicate that they are still struggling with it.

Details of means and standard deviations for respondent characteristics of gender, age, and years of teaching experience, as well as each of the technology perceptions for each software change are provided in Tables 6 and 7.

Perception Differences Among Groups

In examining the survey responses, the researchers performed analysis to determine whether any statistically significant differences exist among various groups of faculty members. Groupings investigated were based on gender, age, and years of teaching experience. Few differences were found. Those that were are summarized in

Table 3. The details of the statistical procedures performed follow. Footnotes used in the table indicate the statistical procedure that identified this difference as significant (1-t-tests, 2-ANOVA, 3-Pearson correlation).

Independent Samples t-test

Relating to the 45 software-related questions on the survey to the data collected during the spring 2012 semester, the researchers formulated hypotheses (H1-H45) about the differences in the mean of the dependent variables by **gender**.

As presented in Table 4, seven hypotheses in this grouping were found to be statistically significant. The first hypothesis was males feel the same about the statement *"Overall, I find Digital Measures is useful in my job"* as females. Males had a mean of 2.85 while females had a mean of 3.31. Equal variances were assumed (sig. = .504) and the hypothesis of equal means was rejected (sig. = .022).

The second hypothesis was males feel the same about the statement *"I think that management made a mistake by introducing this change to Digital Measures"* as females. Males had a mean of 2.56 while females had a mean of 2.20. Equal variances were assumed (sig. = .176) and the hypothesis of equal means was rejected (sig. = .042).

The third hypothesis was males feel the same about the statement *"Digital Measures was difficult to learn how to use"* as females. Males had a mean of 2.44 while females had a mean of 1.94. Equal variances not were not assumed (sig. = .008) and the hypothesis of equal means was rejected (sig. = .006).

The fourth hypothesis was males feel the same about the statement *"Overall, I find Banner is useful in my job"* as females. Males had a mean of 3.55 while females had a mean of 3.93. Equal variances were not assumed (sig. = .031) and the hypothesis of equal means was rejected (sig. = .041).

The fifth hypothesis was males feel the same about the statement *"Nicholls needed to change to Gmail to improve effectiveness"* as females. Males had a mean of 3.78 while females had a mean of 3.16. Equal variances were assumed (sig. = .954) and the hypothesis of equal means was rejected (sig. = .007).

The sixth hypothesis was males feel the same about the statement *"The change to Gmail is improving Nicholls' information management"* as females. Males had a mean of 3.82 while females had a mean of 3.30. Equal variances were assumed (sig. = .055) and the hypothesis of equal means was rejected (sig. = .014).

The final hypothesis was males feel the same about the statement *"I am capable of fully utilizing LiveText in my job"* as females. Males had a mean of 3.33 while females had a mean of 4.12. Equal variances not were assumed (sig. = .000) and the hypothesis of equal means was rejected (sig. = .079).

Analysis of Variance

The researchers established 45 ANOVA tests, where the 45 Likert-type statements were the factors and **age** was the variable. As presented in Table 5, only three of the hypotheses related to **Gmail** questions were found to be statistically significant. For the statement, "*I am capable of fully*

transitioning to Gmail in my job," there was a statistically significant difference between groups as determined by one-way ANOVA ($F(3,116) = 2.928$, $p = .037$). Because of unequal group sizes, Fisher's LSD post hoc test was used to determine the nature of the difference between the age of the faculty; this analysis revealed that there was a statistically significant difference between the mean of the faculty of ages 30-39 ($M = 4.71$, $SD = .463$) and the mean of the faculty ages 50 and above ($M = 4.16$, $SD = .910$, $p = .006$). There were no other statistically significant differences between the other age groups' means.

For the statement, "*Overall, I believe Gmail is easy to use,*" there was a statistically significant difference between groups as determined by one-way ANOVA ($F(3,115) = 2.933$, $p = .036$). Because of unequal group sizes, Fisher's LSD post hoc test was used to determine the nature of the difference between the age of the faculty; this analysis revealed that there was a statistically significant difference between the mean of the faculty of ages 30-39 ($M = 4.62$, $SD = .498$) and the mean of the faculty ages 50 and above ($M = 3.96$, $SD = 1.017$, $p = .005$). There were no other statically significant differences between the other age groups' means.

For the statement, "*Training classes were offered to help me learn how to use Gmail,*" there was a statistically significant difference between groups as determined by one-way ANOVA ($F(3,112) = 2.897$, $p = .038$). Because of unequal group sizes, Fisher's LSD post hoc test was used to determine the nature of the difference between the age of the faculty; this analysis revealed that

there was a statistically significant difference between the mean of the faculty of ages 30-39 ($M = 2.67$, $SD = .840$) and the mean of the faculty ages 50 and above ($M = 3.23$, $SD = .763$, $p = .018$), the mean of the faculty of ages 40-49 ($M = 2.80$, $SD = .994$) and the mean of the faculty ages 50 and above ($M = 3.23$, $SD = .763$, $p = .023$). There were no other statically significant differences between the other age groups' means.

The researchers also formulated 45 ANOVA tests, where the 45 Likert-type statements were the factors and **total years teaching experience** was the variable. The means of the faculty having different years of total teaching experience (0-5 years, 6-10 years, 11-15 years, 16-20 years, and 21 or more years) were compared using a one-way ANOVA. The faculty having different total years of teaching experience did not differ significantly in their opinions on the 45 Likert-type dependent variable statements.

Pearson Correlations

Pearson Correlations were also run on the data gathered, and a few correlations are worth noting in relation to gender, age, and teaching experience.

Gender. Gender was positively correlated with one statement regarding Digital Measures, one Banner statement, and one LiveText statement. In regards to the Digital Measures statement, "*Overall, I find Digital Measures is useful in my job*" (.213), females agreed more strongly than their male counterparts that the software was useful in the job. In regards to the Banner statement, "*Overall, I find Banner is useful in my job*" (.196), again females agreed with this statement more

strongly than their male counterparts did. Lastly, for the LiveText statement, "*I am capable of fully transitioning to LiveText in my job" (.382),* females agreed more strongly than males. The researchers note that LiveText was first implemented in the College of Education, in which the majority of faculty members are female.

Gender was negatively correlated with two statements regarding Digital Measures. In regards to the Digital Measures statements, "*I think that management made a mistake by introducing this change to Digital Measures*" (-.191), and "*Digital Measures was difficult to learn how to use"* (-.270), males agreed more strongly that it was a mistake and difficult to learn.

Age. Age was positively correlated with two Gmail statements and one LiveText statement. In regards to the Gmail statements, "*I think that management made a mistake by introducing this change to Gmail*" (.239), and "*Training classes were offered to help me learn how to use Gmail*" (.226), participants in the 50 and above category agreed with these statements the strongest. For the LiveText statement, "*Most of my respected peers have embraced the change to LiveText" (.352),* participants under 30 years of age disagree with this statement the most, while participants in the 50 and above category agreed with the statement the strongest.

Age was negatively correlated with one Banner statement and three Gmail statements. In regards to the Banner statement, "*I am capable of fully transitioning to Banner in my job" (-.221),* participants in the 50 and above category agreed with this statement the

least. In regards to the Gmail statements, "*I am capable of fully transitioning to Gmail in my job*" (-.225), "*Overall, I believe Gmail is easy to use*" (-.243), and *"Overall, I find Gmail is useful in my job*" (-.212), participants in the 50 and above category agreed with this statement the least.

Teaching Experience. Teaching Experience was positively correlated with one statement regarding Banner, one Gmail, and one LiveText. In regards to the Banner statement, *"I think that management made a mistake by introducing this change to Banner"* (.213), participants with 21 or more years of teaching experience agreed the most that Banner was a mistake to introduce. In regards to the Gmail statement, "*I think that management made a mistake by introducing this change to Gmail*" (.192), participants with 0 – 5 years of experience disagree with this statement the most, while, participants with 21 or more years of experience agree with it the most. Lastly, in regards to the LiveText statement, "*Most of my respected peers have embraced the change to LiveText" (.399), p*articipants with between 16 – 20 years teaching experience agree with this statement the most, while participants with 0 – 5 years of experience disagree agreed with the statement the strongest.

Teaching Experience was negatively correlated with one statement regarding Banner and one Gmail statement. Regarding the Banner statement, "*Overall, I believe Banner is easy to use" (-.224), p*articipants with 21 or more years of teaching experience agreed the least that Banner was easy to use and they agreed the most that is was a mistake to introduce. In regards to the

Gmail statement, "*I am capable of fully transitioning to Gmail in my job*" (-.208), *a*gain, participants with 21 or more years of teaching experience agreed the least that they were capable of fully transitioning to Gmail.

CONCLUSIONS

Over a period of two years, faculty at the researchers' university were subjected to a series of changes in technology. Administration decided to transition to five new systems during this short period of time— including an annual evaluation system, a student information system, an email system, a course management system, and an assessment of student learning system. The researchers surveyed faculty at their university to gauge their opinions and perceptions related to this series of technology changes. By and large, faculty were comfortable with the changes. Particularly favorable responses were received for transitioning to Gmail as an email system. However, the faculty expressed a considerably disagreeable attitude towards using Moodle as a course management system. Concerning the switch to Moodle from the previous course management system, the researchers note that this was the fourth major change in the short time frame. As Rafferty and Griffin (2006) noted, very frequent change can contribute to people feeling fatigued and increasing their anxiety levels. This may be contributing to the more negative perceptions reported by faculty regarding the switch to Moodle. This reasoning would lead one to believe faculty would have even more negative feelings towards the final technology change to LiveText as a system for recording assessment of student learning information. However, we do not see this happening. One explanation is that all faculty have had to adapt to Moodle, whereas a much smaller group reports being required to adopt LiveText as of the time of the survey.

In our research, statistical procedures were carried out to determine if differences in opinion existed among gender, age, and years of teaching experience. While a few statistically significant differences for particular measures related to particular technology changes were found, no interesting patterns emerge among the various groupings of faculty considered.

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Figure 1: Timeline of Software Changes

System	...	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
				2009									2010												2011					
Faculty Evaluations	Custom System						Digital Measures																							
Student Info Sys	SIS									Banner																				
Email	Groupwise																	Gmail												
Course Mngt	Blackboard																												Moodle	
Accreditation																													LiveText	

Table 1: Characteristics of Respondents

Respondent Characteristic	No.	Percentage
Gender		
Females	71	57.72
Males	51	41.46
No response	1	0.81
Age		
Under 30	8	6.50
30 - 39	21	17.07
40 - 49	36	29.27
50 and above	57	46.34
No response	1	0.81
Teaching Experience		
5 years or less	23	18.70
6 – 10 years	26	21.14
11 – 15 years	23	18.70
16 – 20 years	11	8.94
21 or more years	36	29.27
No response	4	3.25
Online Teaching Background		
Never	32	26.02
Less than 1 year	21	17.07
1 to 2 years	25	20.33
3 or more years	44	35.77
No response	1	0.81

Table 2: Software Learning Confidence and Adoption Speed

| Respondent Self-Reporting	No.	Percentage
Confidence in learning software		
Very little confidence	1	0.81
Little confidence	5	4.07
Neutral	8	6.50
Some confidence	50	40.65
High confidence	58	47.15
No response	1	0.81
Speed in adopting new technology		
Within first third	72	58.54
Within middle third	35	28.46
Within last third	15	12.20
No response	1	0.81

Figure 2: Faculty's Overall Opinions [For All Technologies]
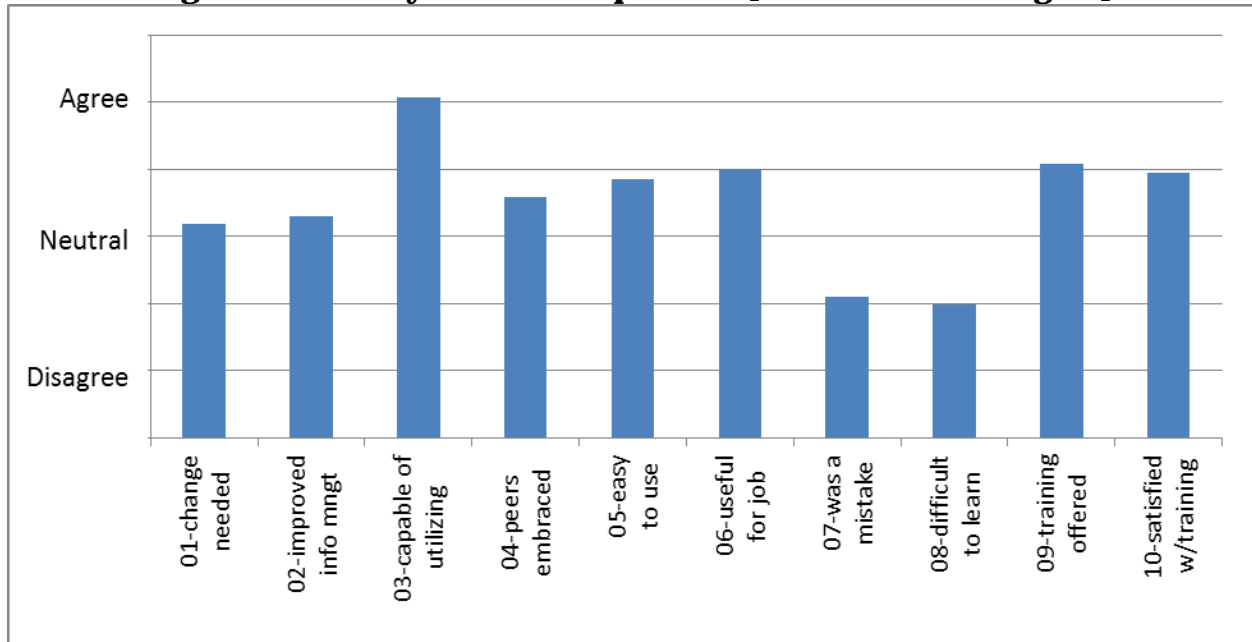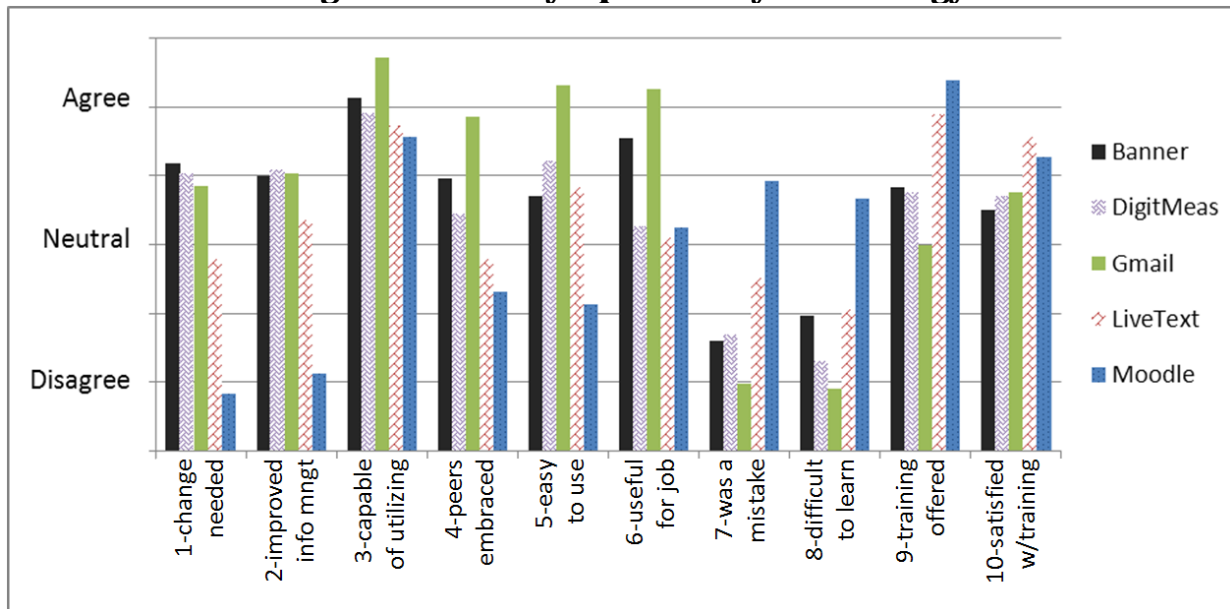
Figure 3: Technology Usage by Faculty
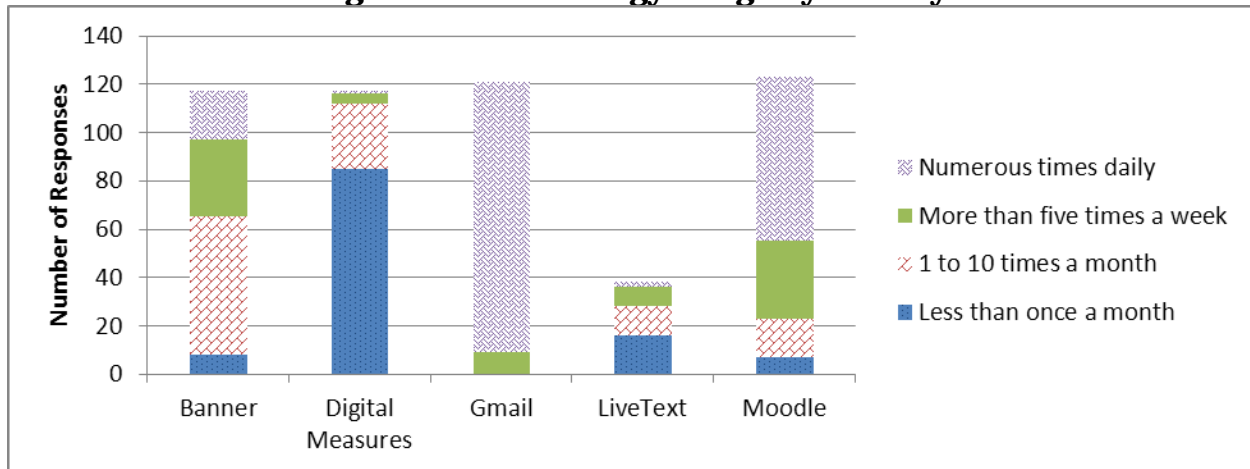
Figure 4: Training Sessions Attended by Faculty
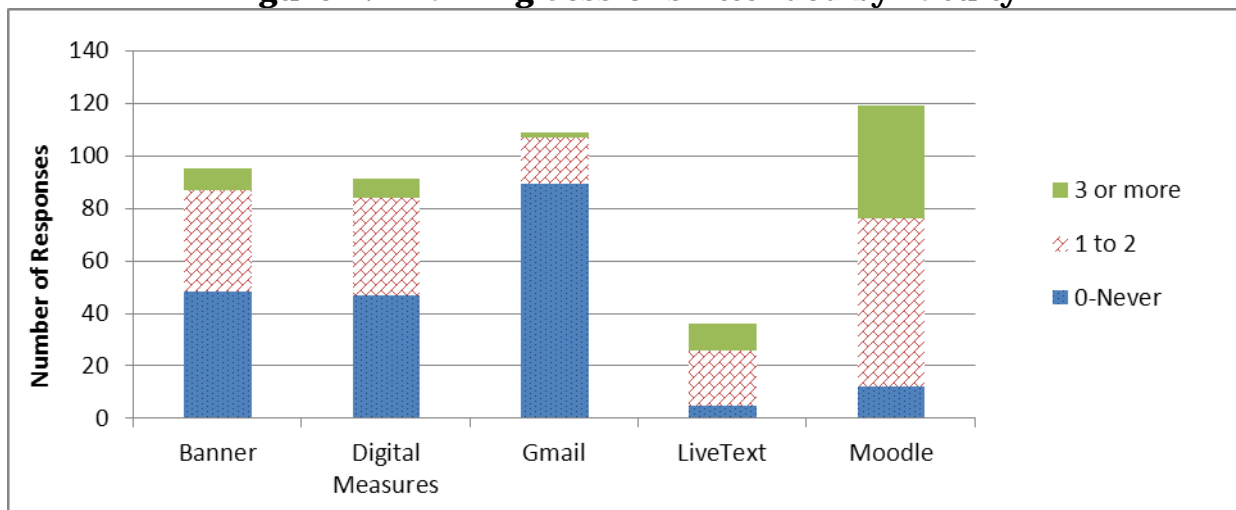
Figure 5: Faculty Opinions by Technology

Table 3: Summary Table of Significant Differences among Groups

System	Measure	Gender	Age	Teaching Experience
Digital Measures	Usefulness	Females find system more useful.[1,3]		
	Was a Mistake	Males feel more strongly that it was a mistake.[1,3]		
	Difficult to Learn	Males find it more difficult to use.[1,3]		
Banner	Usefulness	Females find it more useful.[1,3]		
	Easy to Use			More experienced faculty find system more difficult to use.[3]
	Was a Mistake			More experienced faculty more often find system to be a mistake.[3]
	Capable of Utilizing		Younger faculty feel more capable than older faculty.[3]	
Gmail	Needed to change	Males see more need for change.[1,3]		
	Improved Info Mngt	Males feel more strongly that info mngt was improved.[1,3]		
	Capable of Utilizing		Younger faculty feel more capable than older faculty.[2,3]	More experienced faculty feel more capable.[3]
	Easy to Use		Younger faculty find system easier to use.[2,3]	More experienced faculty find system easier to use.[3]
	Usefulness		Older faculty find the system more useful.[3]	
	Was a Mistake		Older faculty feel it was more of a mistake.[3]	
	Training Classes		Older faculty feel more strongly that helpful training classes were offered.[2,3]	
LiveText	Capable of Utilizing	Females feel more capable of utilizing.[1,3]		
	Peers Embraced		Older faculty feel that peers have embraced change more than younger faculty.[3]	More experienced faculty more strongly agree that peers have embraced the system.[3]

([1] t-tests, [2] anova, [3] pearson correlation)

Table 4: Independent Samples t-test Grouped by Gender

Hypothesis	Met Test Assumption	Test Outcome	Sig. Level	N
H_o: Mean of *"Overall, I find **Digital Measures** is useful in my job"* for Males = Mean of "*Overall, I find Digital Measures is useful in my job*" for Females	Yes, equal variances assumed	Reject H_o	.022	115
H_o: Mean of *"I think that management made a mistake by introducing this change to **Digital Measures**"* for Males = Mean of "*I think that management made a mistake by introducing this change to Digital Measures*" for Females	Yes, equal variances assumed	Reject H_o	.042	114
H_o: Mean of *"**Digital Measures** was difficult to learn how to use"* for Males = Mean of "*Digital Measures was difficult to learn how to use*" for Females	No, equal variances were not assumed	Reject H_o	.006	113
H_o: Mean of *"Overall, I find **Banner** is useful in my job"* for Males = Mean of "*Overall, I find Digital Measures is useful in my job*" for Females	No, equal variances were not assumed	Reject H_o	.041	117
H_o: Mean of *"Nicholls needed to change to **Gmail** to improve effectiveness"* for Males = Mean of "*Nicholls needed to change to Gmail to improve effectiveness*" for Females	Yes, equal variances assumed	Reject H_o	.007	118
H_o: Mean of *"The change to **Gmail** is improving Nicholls' information management"* for Males = Mean of "*The change to Gmail is improving Nicholls' information management*" for Females	Yes, equal variances assumed	Reject H_o	.014	120
H_o: Mean of *"I am capable of fully utilizing **LiveText** in my job"* for Males = Mean of "*I am capable of fully utilizing LiveText in my job*" for Females	No, equal variances were not assumed	Reject H_o	.079	37

Table 5 – ANOVA Significant Difference Findings

		Sum of Squares	df	Mean Square	F	Sig. Level
*I am capable of fully transitioning to **Gmail** in my job.*	Between Groups	5.341	3	1.780	2.928	.037
	Within Groups	70.526	116	.608		
	Total	75.867	119			
*Overall, I believe **Gmail** is easy to use.*	Between Groups	7.105	3	2.368	2.933	.036
	Within Groups	92.861	115	.807		
	Total	99.966	118			
*Training classes were offered to help me learn how to use **Gmail**.*	Between Groups	6.552	3	2.184	2.897	.038
	Within Groups	84.439	112	.754		
	Total	90.991	115			

Table 6: General Descriptive Statistics

Item	Mean	Std Dev	N
Gender	1.58	0.495	122
Age	3.18	0.918	122
Teaching Experience	3.09	1.518	119

Table 7: Descriptive Statistics for Survey Questions

Technology	Statistic	Change Needed	Improved Info Mngt	Capable of Utilizing	Peers Embraced	Easy to Use	Useful for Job	Was a Mistake	Difficult to Learn	Training Offered
Banner	Mean	3.6	3.5	4.1	3.5	3.4	3.8	2.3	2.5	3.4
	Std Dev	1	1.1	0.9	1	1.2	0.9	1	1.1	0.9
	N	119	117	119	119	117	118	117	121	115
Digital Measures	Mean	3.5	3.5	4	3.2	3.6	3.1	2.4	2.2	3.4
	Std Dev	1	1	1	1	1.1	1.1	0.9	0.9	0.9
	N	120	116	119	115	114	116	115	114	111
Gmail	Mean	3.4	3.5	4.4	3.9	4.2	4.1	2	2	3
	Std Dev	1.2	1.1	0.8	0.9	0.9	0.9	1	1	0.9
	N	119	121	121	122	120	119	119	120	117
LiveText	Mean	2.9	3.2	3.9	2.9	3.4	3.1	2.8	2.5	4
	Std Dev	1.2	1.2	1	1.1	1.2	1.3	1.1	1.1	0.7
	N	38	38	38	38	36	38	37	36	37
Moodle	Mean	1.9	2.1	3.8	2.7	2.6	3.1	3.5	3.3	4.2
	Std Dev	1	1.1	1.2	1.2	1.3	1.2	1.3	1.2	0.9
	N	122	122	121	121	119	120	122	121	119

NOTES

A DOZEN APPS IN THE LIFE OF A PROFESSOR

Lori Soule, Nicholls State University

ABSTRACT

Technology is constantly changing. Years ago, people were impressed by the portable calculators that switched from batteries to solar power so one would never have a dead calculator again. Then there were the portable computers, about the size of fairly large suitcase and weighed over 25 pounds. Today, the MacBook Air has a weight of less than three pounds. While the MacBook Air and similar computers are a great addition to one's technology collection, an iPad can be used to complete a variety of tasks and is even more portable. This paper will discuss 12 apps that, when incorporated in daily tasks, can help a faculty member become more productive in their day-to-day activities.

INTRODUCTION

But is the iPad something that faculty can "sink their teeth into?" In a study by Oklahoma State University, the data show the use of an iPad can "have a positive impact for faculty" (Oklahoma State University, 2011, "iPad Study Released by Oklahoma State University," para. 4). Melhuish and Falloon (2010) state that an iPad is an ideal portable learning device because of its size and weight.

Technology expert Steve Wheeler believes that within the next couple of years, iPads and similar devices will become a staple for learning within organizations (Training Journal, 2012). Mike Stanford, executive director of the

Partnership Program at IMD in Lausanne, Switzerland concurs with Wheeler's opinion on iPads, "The iPad has become an especially useful learning tool," (Bisoux, 2012, para. 9). The iPads "have originally been created for other purposes, either military or business even classroom technologies like over-head projectors and PowerPoint slides" (Bates, 2003, p. 8). Murphy and Williams (2011) concur about the use of an iPad when making a presentation, "...the iPad would make a good classroom presentation platform" (para. 3).

In a recent study by Churchill, Fox, and King (2012) found that faculty are downloading iPad apps that classified in the following categories: (a) productivity tools, (b) teaching tools, (c) notes tools, (d) communication tools, (e) drives, (f) blogging tools, and (g) content accessing tools. Because of the attentiveness of the app designers/programmers, most problems/bugs that occur when using an app are quickly resolved. When reviewing apps, Palser (2011) focuses on best practices because "...apps are evolving so quickly that today's flaws could be erased with tomorrow's update" (para. 3).

Using an iPad expands the boundaries of the classroom. Manuguerra and Petocz (2011) suggest using an iPad for grading student work. Melhuish and Falloon (2010) reported of anecdotal evidence of the iPad being easier to work with in groups and in fieldwork. Murphy and Williams (2011) suggest using an iPad as "an alternative to a

tablet or notebook computer", (para. 3). Online study sessions can be held using apps such as the Google+ App, FaceTime, and Skype (Bradley, 2012).

PURPOSE OF THE STUDY

The author was given an iPad to use in November 2010 and has incorporated the iPad into activities both on campus and at home several times a week. Recently, the author purchased the latest version of the iPad for additional use in a personal setting. While there are thousands of apps available for iPad, through the use of trial and error, the author settled up a few apps that are a welcomed addition to the iPad.

As of April 2012, Apple reported over 250,000 apps was available for the iPad (Crook, 2012). Apps fall into one of three groups: (a) free app and content, (b) free app but charge for the downloading of content, and (c) fee to download app (Palser, 2011). Because of the tremendous number of apps available and the author's interest in incorporating an iPad into everyday activities, this paper summarizes a dozen apps that can make an educator more productive in corresponding with colleagues and students, organizing and editing of files, taking of notes, surfing the web, and reading. The author uses most, if not all, of these apps several times a week.

REVIEW OF THE APPS

 Dropbox is a free cloud service that can be accessed via computers, phones, and the Dropbox website. Files of different types—photos, documents, and videos—can be saved to Dropbox. Using the installed Dropbox app on an iPad or

smartphone makes for easy access to saved files. The iPad app for Dropbox is free. As long as a person has access to the Internet, they have access to their files. Folders in a Dropbox account can be shared with others and links to specific files can be sent to others. There is practically no learning curve when starting to use Dropbox. Once Dropbox is installed on a computer, files can be accessed through the My Dropbox folder in My Documents on a Windows computer or the Dropbox folder in Finder on a Mac. An entry level account, 2GB, is free and additional space, up to 18GB, can be earned by sending out referrals. Each referral is worth 500MB. Larger account space can be purchase by a monthly fee. The Dropbox website is located at https://www.dropbox.com/ .

The author began using Dropbox a couple of years ago as a means of having access to files both at home and at school. A jumpdrive was very convenient for "carrying" files back and forth until the day it was left at school and a paper had a midnight deadline. Since then, Dropbox is used in both a school and home setting. With the ease of using and variety of access to Dropbox, the access to and sharing of files makes Dropbox a very good choice of apps.

 Google Drive is also a free cloud service that can be accessed via computers, smartphones, and the Google Drive website. Using the Google Drive app, one can access and open files stored in Google Drive, create new files in Google Drive, access files stored in Google Drive from an app outside of Google Drive, save a file to Google Drive from an app outside of Google Drive,

and share files of any type including those created with the Google Drive app. The Google Drive app for iPad is free. Like Dropbox, Google Drive can be installed on a computer and is accessible through My Documents or Finder. The initial free storage space in Google Drive is 5GB for synced and uploaded files. Additional storage space can be purchased for a monthly fee. The website to get started with Google Drive is http://drive.google.com/start .

The author recently began using Google Drive in a school setting. The campus email is through Gmail so the addition of Google Drive as a cloud service was a logical choice. As more people on campus are beginning to use Google Drive, the sharing of documents with colleagues is occurring more often. Since the author shares the chair of a particular committee with a colleague, both individuals update a single document in Google Drive that serves as the agenda for an upcoming meeting. This is one of many examples of how the author is using Google Drive.

QuickOffice Pro HD for iPad allows a person to edit Microsoft 1997-2010 Word documents (.doc and .docx), Excel spreadsheets (.xls and .xlsx), and PowerPoint presentations (.ppt and .pptx). Files can be saved as PDFs and be printed using iOS AirPrint. QuickOffice has integrated access with MobileMe, Dropbox, Google Docs, Box.net, SugarSync, Evernote, and other cloud services. Even though files stored in the various cloud services can be opened, depending on what was used to create the file will determine whether or not the file will be readable. For example, a file created with Microsoft Office and stored in Google Drive can be

opened and read. But a file created with Google Docs and stored on Google Drive will produce an error when attempting to open the file. The app is available thru iTunes and has a price of $19.99. The website for QuickOffice is http://www.quickoffice.com/ .

The author began using QuickOffice Pro HD to edit Microsoft Word documents. The interface of this app is simple and less cluttered than the interface for CloudOn. Most of the author's comments in this paper was typed using QuickOffice. The one drawback of this app is the inability to edit documents created by Google Docs.

CloudOn brings Microsoft Office to a person's iPad. Besides being to edit Word, Excel, and PowerPoint files, a person can open email attachments, view PDFs, and fill out PDF forms from an iPad. The "look and feel" of the app is very similar to the 2010 version of Microsoft Office with the use of ribbons, tabs, and dialog boxes. Some of the capabilities include tracking changes in Word documents, using pivot tables and formulas in Excel spreadsheets, and displaying and editing of transitions in PowerPoint slides. CloudOn will connect to Dropbox, Box.net, and Google Drive accounts and a person can rename, delete, email, and manage the documents in these accounts using CloudOn. Files are not stored on any of the CloudOn's servers. The CloudOn app is free. The website for CloudOn is http://site.cloudon.com/ .

The author recently began using CloudOn for editing files created with Microsoft Office. In order to accurately access the items in the ribbons, the author chooses to use a stylus.

Otherwise, the author is inadvertently hitting the wrong part of the ribbon or the app is not responding as wanted. This inconvenience is a small price to pay for the ability to do advanced editing while using an iPad.

Evernote is a simple and free app that will help a person remember things across all of the devices they might use. By using Evernote, some things a person can do include create and edit text notes, save/sync and share files, record voice and audio notes, take pictures, and save webpages. All content can be grouped into notebooks. In addition, tags can be assigned to the content thus allowing for future searches by tag. The free account has a limit of uploading 60MB per month. If additional uploading capacity is needed, for a monthly or yearly fee, a person can boost their monthly uploads to 1GB and receive other benefits. Notes can be emailed through Evernote. Evernote integrates with other Evernote-related apps such as Penultimate and Skitch. The website for Evernote is http://evernote.com/ .

The author chooses to use Evernote to type notes when attending conferences or meetings. The notes can be flagged by topic. In addition, the notes can be grouped together by notebooks. If the author sees something at a conference worth investigating at a later date/time, a picture is taken of the document, item, or website and is filed within the conference notebook. Agendas for meetings are stored within the notebook for a particular committee. Evernote is an excellent app for organizing content.

Penultimate is a handwriting app that is very easy to use. A choice of pen widths and colors is available. In addition, Penultimate has automatic Wrist Protection mode that prevents erroneous marks from appearing on your paper. Pictures can be loaded into notebooks from photos or taken with the camera. There is a choice of paper backgrounds—graph, lined, or plain. The entire notebook can be emailed. A single page can be emailed, printed, or sent to photos, Dropbox, or Evernote. Dropbox can be used as an automated backup system to Penultimate notebooks. Penultimate for iPad has a cost of $0.99. The Penultimate website is located at http://evernote.com/penultimate/ .

The author realizes there are times when being able to draw a diagram or write out formula is needed. Penultimate is a great app when the ability to "handwrite" is needed; Penultimate accepts the challenge and is the author's chosen app for writing. Occasionally, instead of typing notes in a committee meeting, the author chooses to write out notes because of the speed of the talking and the content of the notes; typing text will not work. Notes created with Penultimate are then sent to Evernote for possible later access. The author does use a stylus for writing, but will write with a fingertip if a stylus is not available.

Neu.Annotate+ PDF is an app that provides annotation tools for PDF documents. Using a selected pen color or text color and font, annotations can be moved, resized, and rotated. Documents can have tags associated with it. The page of a document can be emailed as a PNG, JPEG, or PDF files. In addition, the documents can be saved to photos. Photos, stamps, and shapes can be

added to a document. Using the magnifier, parts of a paged can be enlarged. The entire document can be emailed as a PDF or sent to iTunes. Documents can be imported or exported to Dropbox. Restrictions can be placed on documents including passcode and expiration date. Both documents and pages within a document can be duplicated. The app sells for $1.99. The website for Neu.Annotate+ PDF is http://www.neupen.com/ .

The author uses Neu.Annotate+ PDF to read and highlight articles for research. As the author locates possible resources for a paper, the articles are saved into a Dropbox account. When it comes time to write the literature review, the author will locate the resources to be read and opens them up in Neu.Annotate+ PDF. Using the highlighter within the app, the author highlights parts of the article and makes notes to self about the resource. Highlighted articles reside in the app until the paper is completed.

Gmail is the official Gmail app. Using this app, one can receive email notifications, read threaded conversations, send and receive attachments, and search through the mailbox. In addition, when using this app, one can use archiving, labeling, starring, and deleting conversations can organize entries. This app is free and the website is http://mail.google.com .

Since the author's university uses Gmail for campus email, the use of the Gmail app is an obvious choice. The author likes having the ability to label emails with a tag, to search saved emails, or to place emails in folders. In addition, the app allows for access to existing folders

with a Gmail account. This is a solid app for any Gmail user.

Puffin Web Browser is a very fast browser that provides Adobe Flash support. Because of this Flash support, one can watch Flash videos, play Flash games, and access an endless amount of Flash content. The browser delivers a full web experience by allowing mobile users the ability to access full-featured websites instead of reduced mobile versions. In addition, the Puffin browser includes virtual mouse technology allowing a user to activate a trackpad at any time. There is a free version of the browser and the premium version sells for $2.99. The website is http://www.puffinbrowser.com/ .

The author uses the Puffin browser whenever content contains flash. Whether it is a video on a website for a local newspaper or an animated menu for a restaurant, the ability to fully access the website is needed and Puffin brings this needed functionality to the iPad.

Chrome is a browser that extends the desktop experience to mobile. The Chrome app for iPad is free. Using Chrome, searches are fast, multiple tabs can be opened, and switching between the tabs is accomplished by swiping from edge to edge. If a person signs into Chrome, open tabs, bookmarks, passwords, and other data can be shared between mobile devices and desktop computers. Chrome allows for private browsing resulting in no browsing history. To learn more about Chrome, visit the website http://www.google.com/chrome.

The author uses Chrome as the browser of choice when not viewing a website containing flash. The access time for retrieving a webpage is very fast. In addition, the ability to open incognito tabs for times when a person wants to browse in private (gift shopping) makes Chrome a great choice over the standard Safari browser for surfing.

Flipboard is a social, personalized news magazine. Using Flipboard, one can flip through a Facebook newsfeed, tweets from Twitter, videos from YouTube, and much more by using the free iPad app. Articles are "flipped through" with the swipe of a finger. Resources for Flipboard include news, business, technology and science, audio, video, photos and design, entertainment, sports, travel, and much more. Besides Facebook and Twitter, Flipboard will connect with Google Reader, Google+, LinkedIn, Instagram, Flicker, and other accounts. Articles can be saved for later offline reader. Visit the Flipboard website at http://flipboard.com/ .

Flipboard is an app that allows one to keep up with news, sports, politics, social media, and other topics of interest. The ability to have a variety of content a "flip" away is exciting. When the author knows there will be some future down time with little or no Internet access, the author will scan the different headlines and save the interesting articles for later viewing in an offline setting. This feature, along with the variety of articles offered, makes Flipboard the author's favorite app.

Apps Gone Free is a listing of paid apps that are temporarily free. Only the very best apps are listed. With the release of version 2.0, AppBump is a new feature that allows users to vote for an app to go free. If the app gets enough votes, it will go free. Like the apps Apps Gone Free advertises, this app is free. To find out more about this app, visit http://appadvice.com/appnn/tag/apps-gone-free .

The author checks this app every for possible deals. There are various types of apps presented each day—health/fitness, games, productivity, weather, and much more. Some of the apps are free until midnight of the day they are presented while others are free for a few days. A notification is sent when the app is updated. This is definitely an app worth trying.

CONCLUDING THOUGHTS

The iPad has been a great addition to the author's technology tools. With the variety of apps available for the iPad, there are almost unlimited possibilities of what can be accomplished with an iPad. This paper discussed twelve apps that the author spent less than thirty dollars to purchase. The iPad has become the author's "go to" tool both at home and school. As technology continues to evolve, the future of the iPad is exciting and the author looks forward to continue to test different apps in an effort to become a better educator.

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NOTES

ASSESSMENT OF ONLINE INSTRUCTORS:
AN ESSENTIAL COMPONENT OF QUALITY INSTRUCTION?

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ABSTRACT

This research was conducted to investigate assessment of instructor delivery of online education based on current literature and interviews with business faculty and university administrators involved in online education. The majority of the literature relating to online instruction focuses on quality in online course design, with much less emphasis on assessing actual course delivery. Paralleling this literature theme, all of the institutions included in this research also apply quality standards to course design with no direct peer or administrator assessment of course delivery. Since online enrollment is projected to surpass that of face-to-face enrollment in educational institutions within the next five years, educators must take the lead in ensuring quality in online delivery. Otherwise, external groups or agencies are likely to perform this role.

BACKGROUND TO THE STUDY

The latest "state of online education" report of the Babson Survey Research Group indicated that in fall 2010 over 6.1 million students were taking an online course; the annual growth rate for online enrollments was 10 percent (Allen & Seaman, 2011). The report noted that one-third of all university students take at least one course online. In analyzing enrollment changes in online programs by discipline, the report indicated that business and computer and information science experienced steady online enrollments. Ambient Insight, LLC. (2011), an international market research firm, reported even higher levels of online enrollment, with a projection that by 2015 25 million post-secondary students in the United States will be enrolled in online education. With this rate of growth, by 2018 more students will be enrolled in online than on-campus courses.

Parallel with the growth in online education is the increasing demand that quality of online delivery be assessed. The next step may well be regulations by accrediting associations requiring direct assessment of online course delivery/faculty instruction. The literature reflects that most educational institutions have relied upon faculty training for online delivery and quality course design to assure that actual course delivery met the traditional standards of quality teaching and learning. The increasing role that online education plays in higher education, however, demands that direct evaluation of faculty performance in course delivery be assessed.

Overall the literature reflects limited examples of and emphasis on assessing actual instructor performance in online course delivery beyond stages of course design. Gaytan (2009) proposed a validated framework for planning,

delivering, and assessing online instruction. Although course valuation was discussed in the context of institutional commitment, instructor assessment was not addressed. Parietti and Turi (2011) proposed that an online quality assurance process be based upon self- and peer-evaluation of online course delivery using predetermined specific measures of quality. The researchers proposed a rubric for evaluating components of the online course, addressing four areas: syllabus, access to campus services, online lectures, and assignments. In addition, they included assessment of online instruction based on the virtual office, interaction in online assignments, and the assignment grading process. The AACSB report "Quality Issues in Distance Learning" (2007) placed responsibility for evaluating instructional effectiveness on faculty; the report indicated that "well-defined criteria" should be used to evaluate faculty: "Recommendation: Develop and implement systematic evaluation of faculty engaged in all aspects of distance learning program (e.g. preparation of learning experiences, delivery of learning experiences and assessment of learning, etc.)" (p. 9). Perreault (2011) indicates that "the faculty evaluative process as it relates to online teaching needs definition and detail within the annual review and the promotion and tenure decision making process" (p. 188).

PURPOSE OF THE STUDY

This research was designed to analyze assessment of instructor delivery of online education and to develop a metric for assessing online instructor

performance. The following questions relating to quality of online course delivery were posed:

1. Is assessment of online instructors essential in assuring quality online instruction?
2. Are faculty training and course design/content review (such as through Quality Matters) prior to course delivery sufficient to assure quality online course delivery?
3. Should peer review of faculty course delivery be assessed?
4. What course delivery criteria should be used in faculty performance assessment?

This paper documents findings from a research project conducted to investigate the extent to which select universities assess faculty performance in online course delivery and to identify specific performance criteria that online instructors and administrators feel should be assessed to assure quality online course delivery.

QUALITATIVE RESEARCH PROCESS

A literature analysis regarding quality in online education was conducted to identify factors of quality and current online delivery standards/requirements of accrediting associations. This knowledge base provided a foundation for face-to-face interviews at seven regional universities in the following states: Arkansas, Indiana, Louisiana, North Carolina, Tennessee, and Texas. At each university one business faculty member who had taught online for more than one year and one university-level online administrator (outside of the

Business unit) were interviewed. The following issues were discussed:

1. How do you define quality in online course delivery?
2. What are the most significant quality components of your programs?
3. Do any of your programs enforce quality controls in course design and delivery?
4. What minimum standards of course design and delivery should be enforced?
5. What standards do you project accrediting associations will enforce?

Based on the literature review and research findings, an assessment guide for evaluating online course design and delivery was developed. The purpose of the document was to provide a foundation for assessing faculty delivery of an online course.

FINDINGS LEADING TO DEVELOPMENT OF ONLINE FACULTY INSTRUCTION ASSESSMENT METRIC

The faculty and administrators interviewed during the research provided very consistent approaches and philosophies relating to the delivery of quality online courses. Some of the consistent themes identified are shown in Figure 1. These "factors of quality" do match the current literature on the topic.

One surprising finding was that at not one of the institutions involved in the study did administrators or peers directly assess instructor online delivery performance. The sole mechanisms used to assure quality delivery were faculty incentives and training and quality course design—not actual factors of course delivery. The administrators interviewed (from university online division) indicated that they had no authority for direct involvement in faculty evaluation; politically the issue was out of their domain. Two of the administrators were involved in discussions at the state/national level relating to online delivery standards. Each administrator interviewed indicated he or she predicted accrediting associations would soon begin evaluating or expecting delivery units to self-evaluate actual online course delivery. Based on these analyses, a document titled "Online Course Policies to Assure Student Achievement and Persistence" (Figure 2) was developed to guide assessment of faculty online course delivery.

CONCLUSION AND RECOMMENDATIONS

The design of online courses based on standards of quality, such as Quality Matters, is observed to now be universally accepted in higher education. Educators and administrators seem to be much less willing, however, to broach the topic of assessing online course delivery. Will this stance result in the implementation of punitive standards and controls by the external stakeholders of universities?

Based on this study, the following recommendations are proposed to ensure that educators continue to self-govern course design and delivery:

1. Educators must develop a comprehensive plan for quality assurance in online education—quality in both online course design and delivery.
2. Specific online course delivery standards should be based upon localized needs and requirements of external stakeholders.
3. Educators must act to govern the system of quality control rather than relinquishing this right to external stakeholders.

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Figure 1
Identified Factors Impacting Quality of Online Course Delivery

1. Perceived instructor credibility as a facilitator
   a. Be perceived by students as approachable
   b. Be responsive to students using multiple media

2. Appropriately designed, sequenced, and paced course
   a. Apply quality standards of design
   b. Use simplistic/straight-forward design
   c. Provide clear expectations
   d. Assure sufficient original content
   e. Use multiple learning approaches/tools to parallel diverse student needs
   f. Assure ADA compliance
   g. Avoid static site

3. Strong community of learners
   a. Assure continual engagement with instructor and peers
   b. Encourage cooperation among students
   c. Use open discussion forum for student self-help
   d. Assign projects requiring community input
   e. Provide consistent and detailed instructor facilitation

to assure appropriate direction and depth of learning

4. Standardized protocols
   a. Calendar entries
   b. Weekly checklists of activities
   c. Consistent response to emails/inquiries
   d. Consistent due dates
   e. Consistent instructor feedback

5. Focus on authentic assessment
   a. Count quizzes/exams as minor portion of course grade
   b. Emphasize active learning through discussions, projects, journals and/or other products reflecting mastery of subject matter

6. Administrative support
   a. Provide instructor incentives
   b. Provide extensive ongoing training
   c. Limit enrollment to a manageable number of students to allow instructor-led facilitation of learning
   d. Allow flexibility in approach to facilitation of student learning

Figure 2
Online Course Guidelines to Assure Student Achievement and Persistence

1. Course overview/introduction
   a. Begin with a "welcome" email including a teacher self-introduction
   b. Provide students required textbook purchase information sufficiently in advance to meet needs of course
   c. Include an ice breaker/introduction activity at beginning of course to promote community within the course
      (1) Consider a quiz assessing knowledge of course policies, Blackboard manipulation, etc.
      (2) Survey students to get their phone numbers, best times of virtual office hours, technical or other skill sets needed in the course, etc.
      (3) Respond to students individually
   d. Provide instructions on how to navigate the course shell (course "tour," scavenger hunt)
   e. Provide assistance in developing a plan for meeting course goals, developing study habits/time management
   f. Set high expectations for course
      (1) Provide detailed course calendar with clear delineation of expectations, especially for students who may not have taken an online course;
      (2) Provide specific policies relating to due dates, submission/participation instructions; be very clear
   g. Specifically state course policies regarding dishonest behavior and consequences

2. Learning objectives
   a. Provide course objectives, written from a student perspective, that describe measurable outcomes
   b. Provide module/unit objectives, written from a student perspective, that describe measurable outcomes
   c. Require students to self-monitor/reflect periodically throughout the course
      (1) Formative self-assessments (prior to exams)
      (2) Record study time/involvement in course
      (3) Evaluate course regarding assignment clarity, learning that is occurring
      (4) Predict exam/project scores

3. Assessment and measurement
   a. Provide practice assessment assignments with timely feedback to students
      (1) Provide students multiple opportunities to assess their learning (draft

submissions, self-mastery quizzes, practices quizzes, peer reviews, model papers, self-scoring practice quizzes)
b. Use multiple assessment strategies
  (1) Incorporate authentic assessment opportunities (versus online exams)
c. Provide rubrics for all major graded activities
d. Require students to provide reflection on exam results
e. Employ technical mechanisms to detect dishonest activity (disallow printing, plagiarism detection services)

4. Learner engagement
a. Require self-directed learning activities
b. Incorporate a minimum of 5 interactive activities in the course (discussion forum, blog, wiki, podcast, etc.)
  (1) Provide high level of instructor facilitation
c. Integrate interactive technologies (chat room, Blackboard Collaborate, blog, wiki, discussion forum, podcast)

5. Instructor involvement/feedback
a. Maintain all due dates for assignments, assessments (detailed calendar)
b. Respond to email within 48 hours of receipt
c. Hold cyber office hours online each week
d. Provide communication/ feedback to each individual student at least once every three weeks (discussion feedback, graded assignment, quiz analysis, recorded message, etc.)
e. Give immediate and thorough feedback on assignments
  (1) Set specific time expectation for grading/feedback (such as within one week)
f. Send general emails throughout course to give additional information/explanation for projects, updates

NOTES

EFFECTIVE USE OF TECHNOLOGY TO IMPROVE DIVERSE STUDENT INTERACTION IN ONLINE COURSES FOR WORKPLACE SUCCESS

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ABSTRACT

The aim of this empirical and quantitative research is to study how well online education prepares students for the 21st century workplace. Through the use of online survey, we investigated the significant link between workers with online education to their work success at the workplace. This study is derived from the fact that many employers are known to question the value of online education compared to classroom education. It is also know in research that many employers treat applicants with online education less favorably than applicants with classroom education because they feel that online education lacks adequate engagement and interaction between instructor and students, as well as among students. The issue of engagement and interaction is a cultural and controversial one among people, which creeps into our classes and affects the active learning environment negatively. This paper focuses on the elimination of online cultural biases in class as a strategy to make online learning as engaged and interactive as possible to 21st century employers. Since how we interact, engage, and perceive each other at both work and school is based on culture, the six strategies addressed in the paper to tackle online disengagement in classes are through the effective class facilitation based on (a) race (ethnicity), (b) culture, (c) gender, (d) age, (e) disability, and (f) online access.

Keywords: Diversity, active learning, engaged learning, interactive learning, online learning, online teaching

INTRODUCTION

Svinicki & McKeachie (2011) define experiential learning as a context in which students are able to transfer their learning into real-life situations, which is possible if students learn in conditions that resembles the real world or workplace. So active or experiential learning must lead towards the real world or workplace of today, which is about diversity of people, including diverse knowledge, skills, culture, ethnicity, gender, and age. For active learning to be achieved, the diverse students must be engaged to understand and appreciate their differences through class discussions and small-group learning. Not embracing diversity in a center of learning is equivalent to being unprepared for the workplace that is diverse, and to be unprepared for a diverse workplace is not to have learned actively.

It is a well-known fact that many workplaces in the United States treat online education degrees like degrees received from institutions that are not

accredited. Bill (2006) says that the quality of online degrees from an institution depends on the quality of its on-site degree programs, which will be considered meaningless if the institution already has on-site degree programs that are questionable. The issue becomes the value of online degrees that are given by institutions that have no on-site degree program at all. Adams & DeFleur (2006) observe that hiring executives do not treat the qualifications of an applicant that has an online degree the same way as applicants that have a degree from a face-to-face, on-site, or traditional institution.

The paper aims to study the setbacks of online learning and compare it with what makes face-to-face or classroom learning the most acceptable form of learning for many hiring managers, which is assumed to have some level of engagement and interaction between instructor and students. Also, online learning will be explored to see if it can replicate classroom models or methods in order to eliminate the negative stigma associated with it. Since online learning requires technology utilization, it would be necessary to also explore the role technology plays in elevating the value of online learning to the level that it would be embraced by most hiring managers.

According to Onlineeducation.org, it is because online education has inconsistent and substandard policies when it comes to the issue of accreditation that makes the quality of online education and instruction questionable. Course content may not be as rigorous as courses taught in classroom. Instructors with inadequate technology skills and technical know-how usually do not tailor lessons to ensure active learning, and

students unfamiliar with digital and software programs spend more time understanding the technology instead of actively focusing on the learning. It also says that online students have limited social contact and interact less frequently with educators and peers as compared to classroom learning. The website also adds that the National Center for Education Statistics reports that only 27% of online education institutions in 2000-2001 academic year offered less than 10 courses, 25% offered between 11-30 courses, and only 15% offered over 100 courses.

Onlineeducation.org also states that people interested in online education are full-time workers, those hospitalized, and those unable to attend traditional classroom. Shaffer (2011) says that over 5.6 million students study online, which was a 19% increase since 2005, compared to a 1.8% increases for traditional or classroom education. Shaffer also states that the online education graduation rate is 71%, and for-profit universities will lead the charge for the continuous growth of online learning. This is why hiring managers question the quality of online learning and degrees. It appears that online learning is for students who really do not have the time to dedicate to their studies and yet its enrollment is increasing.

Brantley (2006) gives reasons as to why any individual would want to enroll in online education. They have the flexibility to do assignments at anytime, work a descent full-time job while going to school, be a parent, get pregnant, and do house work as a student, as well as attend any school from any location. Shaffer (2011) adds the fact that people

prefer online education because of its flexibility (family situations, inability to travel, and scheduling conflicts) as well as people who travel a lot for work, and people who want to graduate early by taking more classes even during summer breaks. Shaffer also suggest the fact that online education is more for people who want to learn at their own pace, work ahead, staying up all night, and studying early mornings. Onlineeducation.org also includes people who have been suspended from school, are drop-outs, or are home-schooled to people who are interested in online education. Ali (2003) adds that some setback of online learning include anxiety about the use of technology instead of going to the classroom, and learning distraction because of family and work. Ali also suggests instructors rejecting technology because it diminishes their importance as managers of learning, and it leads to a change in pedagogy design and technology skill development. So online learning and degrees are for people in the society whose lifestyles and conditions are busy, hectic, graduating with less educator guidance, as well as have no social or peers learning interaction to create room for active learning.

Samarawickrema & Stacey (2007) state that adopting web-based learning and teaching through management learning systems have made it possible for both classroom and online learning to become feasible. The authors say that the institutions of higher learning usually provide faculty with little consideration and strategic planning assistance. They also found that instructor's technology skills had little to do with how they adopt technology as a tool for teaching, but rather, it was their level of motivation,

approach to change, as well as their learning and application of the new processes. The authors insist that many educators who adopted technology did not do so just for the sake of improving learning, but rather, for the politics of faculty promotion, getting grants, and directives from top management. These are some of the reason why the hiring managers are skeptical of online learning and degrees, because even many of the online educators do not have faith in online learning or its use for teaching. Some educators submit to online teaching because of the politics to keep their jobs, appear favorable to their bosses, and get grants. Some educators do this without adequate support from the institution to make sure that their educators are well equipped to facilitate active learning in an online learning system.

Burdett (2003) says that the systematic integration of IT in universities is not a matter of choice for their teaching and learning, but rather, a necessity for their future, operation, and survival. The author also states the fact that many educators are resistant to the use of technology and those who tend to adopt it are the risk takers who are interested in the technology. Burdett says that some students fear leaving their ideas on discussion boards to eliminate any future regrets, some students do not like to share their ideas except for a grade, and many students would rather send e-mails to instructors than to use the discussion board unless it was tied to assessment. Also, Burdett says that the purpose of some students participating in active learning online was more for the grades rather than the actual learning process. Educators also complain about the time to plan and prepare for class, maintain

their online class, check e-mails and discussions regularly, not seeing online learning as a valuable alternative to classroom learning, as well as making their students lazier and dumber in terms of reading, researching, thinking, and creating knowledge (Burdett, 2003). So students as well as instructors of online learning do not even trust the foundation of online learning as a valuable platform to learn actively, but are participants only for getting a degree or class credits.

Many hiring managers tend to value classroom learning because it is not just the traditional form of learning environment, but it is also conducive for active learning. Active learning is not just based on the interaction between instructor and students, but also interaction among students, where knowledge is exchanged effectively. Some would argue that true learning is based on an effective and efficient exchange of information that is based on class participation, class discussions, small-group activities, and utilization of office hours for mentoring. Many would also include guest speakers or instructors, class presentation of projects, peer tutoring, social skills, regular class attendance, and the student doing the work instead of others perhaps doing it. Unfortunately, these benefits of active learning are the perceived setbacks of online learning in many workplaces that promotes the belief that the individual with the online degree is not as equipped as an individual with classroom learning experiences. Therefore those with online degrees are perceived as not having the necessary knowledge, skills, and qualifications to be at their workplace.

This paper addresses these shortcomings of online learning from the perspective of classroom learning as well as utilizing technology to overcome these shortcomings by eliminating our cultural biases. Each of these cultural biases will be explored as negative factors that technology can eliminate in order to bridge the gap between classroom learning and online learning from the perspective of the workplace.

The rest of the paper is organized in the following manner. The literature review on online learning diversity is discussed in the first section and it is followed by the methodology. The model for dealing with online learning diversity based on our cultural biases is presented in the third section, the result for the survey and discussion is the fourth section, and the suggested teaching strategies to deal with the six factors of active learning for the success in the workplace is addressed. The implication of study and future research, as well as the conclusion and limitations of the work are outlined at the end.

LITERATURE REVIEW FOR ONLINE EDUCATION

Algozzine, Beattie, Bray, Flowers, Gretes, Howley, Mohanty, & Spooner (2004) say that the primary purpose of educational evaluation is to improve learning and employment decisions. Educational evaluations are not merely for grades or learning, but rather, to also make students equipped and prepared for the 21st century workplace, which is based on diversity of people, skills, and knowledge. While overcoming diversity during learning may prepare students for the workplace academically and socially, not

overcoming it may lead to many students being left out of active learning processes due to the inability of the instructor to reach out to them adequately. This is why cultural diversity is used in this paper as a natural hindrance against active learning and to see how well technology for online learning can match the preferred classroom learning by hiring managers.

Distance learning can eliminate physical boundaries for learning by increasing exposure to diverse experiences, cultures, and knowledge (Lagier, 2003), but it can also lead to the isolation of students that lack the visual benefits of classroom interaction (Wilhelm, Rodehorst, Young, Jensen, & Stepans, 2003). It is this lack of classroom interaction that leads to the basis of many classroom incivilities by both instructor and students. The inability to read body language, see eye-to-eye, and express oneself adequately can lead to low student attendance and participation, as well as instructors not giving adequate feedbacks to students.

Lack of engagement of students could lead to online incivility such as rudeness, impoliteness, and unkind communication (Rieck & Crouch, 2007). Online incivility could be defined as lack of consideration for others as well as disruptive and discourteous behaviors (Lasley and DeMeneses, 2001). Incivility could be resolved strategically by private emails, verbal warnings, or disciplinary hearings (Lasley and DeMeneses, 2001). Some students feel left out of class processes and do not have the technical ability to express themselves adequately. This may result in them becoming verbally abusive, disruptive, and impolite; after all, these types of students may already feel isolated from the class anyway.

As regards to uncivil communication, 35% of the students typically experienced incivility with their peers, 60% with their instructors, 63% felt the instructor handled the incivility ineffectively, and 49% felt that offending students should be addressed privately (Rieck & Crouch, 2007). Instructors are supposed to resolve this issue electronically, but usually the instructor also lacks the interest of becoming more technically savvy on the computer or lacks the patience to communicate professionally to students that are unseen. This study above shows that students experience more incivility from their instructors than from their peers. In the bias view of the hiring managers, this justifies the inadequacies of online learning for the workplace because active learning cannot be taking place on a platform where the facilitators of learning are the most uncivil towards the learning environment.

Emails, faxes, phones, and online tools are very effective in facilitating discussions and creating a community for active learning (Rieck & Crouch, 2007). Promoting diverse ways of online discussion is a great strategy for engaged and interactive learning for students (Woods & Ebersol, 2003). It seems that the setbacks of online learning demands voice and fax assistance for online learning to be worthwhile.

Students progress through stages to become engaged and interactive in online learning by first getting online access, then technological competence and online interpersonal skills follows, and finally knowledge construction (Rieck & Crouch, 2007). Online access is a serious setback for many low-income and minority

students. This leads to all kinds of incivilities like lateness of work, non-attendance, non-participation, and extreme anger and rudeness whenever they get a chance to login to their class. So instructors can have such students to contact them by email privately, encourage the students to utilize their local libraries, or even write a local community center with a computer lab on their behalf.

Rieck & Crouch (2007) state that in peer interaction, 41% of students preferred face-to-face meeting at the beginning of the semester, 52% felt that online discussion increased active learning, and 30% felt that face-to-face instruction should be included with online courses. The authors also say that 17% of students recommended social strategies, 16% felt that any form of discussion was helpful, and 15% felt course design was important. It seems hybrid learning, where classroom and online classes are blended may be the best option for online learning or students get to meet with their instructors once or twice a semester since the need for face-to-face interaction is highly demanded. Another method to keep classes totally online is to make use of video conferencing or YouTube often, where students can see their professors answer questions and professors can see their students present group projects.

Rieck & Crouch (2007) state that in instructor-peer interaction, 71% of students felt that punctual response to email, assignment, and discussion by instructor increased active learning. The authors also state that 62% of students preferred to meet their instructor at the beginning of the semester and 32% of them preferred to use phones to answer

questions. This shows that instructor incivility is the root of online incivility. It is the instructor's lack of punctual feedback and inadequate class facilitation that leads students to yearn for face-to-face sessions and phone conversations, and not the inefficiencies of online learning tools or online learning systems. Feedback is a good learning engagement strategy from the instructor to help students gain skill proficiency and apply knowledge to diverse situations (Bonnel, 2008). Lack of instructor feedback can lead to different forms of incivility from students that include procrastination, failure, lateness, loss of interest, non-attendance, and non-participation (Miller & Corley, 2001). The success of online learning and its acceptance by the hiring managers solely lies in the hands of how the instructor facilitates the online class. For online learning to become as credible as classroom learning to employers, online institutions need to make sure that their online instructors are adequately trained in online learning tools and online learning systems. Also, instructors need to be trained on professional communication and feedback techniques to keep the students actively engaged in their interactive learning. Table 1 (see appendix) presents some of the issues of diversity in online learning and some strategies needed to enhance active learning in online classes.

Thurmond & Wambach (2004) define online feedback as information exchange between students and instructor about class procedure in order to facilitate the students' understanding of what they are expected to learn. According to Bonnel (2008), feedback strategies could be course design such as making participation through response

mandatory, faculty roles such as using positive tones for weekly feedback, and creating interesting discussions. The author also includes student participation such as taking active discussant role and requesting feedback. For online incivility to be minimized or eliminated, it is the instructor that must first have an effective course design, provide adequate feedback, and facilitate interesting discussions. Students can then be interested in attending and participating in class, as well as submitting assignment on time and be non-disruptive in class.

LITERATURE REVIEW FOR DIVERSITY

Based on our study, it is clear that 55.3% of the respondents felt that their online education prepared them adequately for the 21st century workplace. Despite this finding, online education needs to be improved through active learning strategies in order to increase the level of human interaction towards preparing students for the workplace. Below are some common strategies that need to be emphasized by online institutions and curriculum in order to make online education as efficient as possible for the 21st century workplace:

Active Learning Based on Race (Ethnicity)

McGregor (2006) states that teaching and mentoring students of diverse background is very important, especially for minorities. Lee (1999) says that minorities felt that it was less important to have a mentor of their own background than any mentor that truly cared and understands their situation. This shows that students need mentors that care to

make their learning experience a success without regards to racial or ethnic similarities. Mentors should provide students with both psychosocial (empathy, counseling, and role model) and instrumental (coaching and networking opportunities) support for their students (McGregor, 2006). It should be part of an instructor's responsibility to be aware of and be interested in students' ethnic, cultural, gender, social-economic, and disability differences as well as challenges. Instructors should be able to accommodate these differences and their effects on learning for both individual students and the entire class.

Barnes, Christensen, & Hansen (1994) states that teaching with cases encourages the instructor to lead the case discussion, master the details of the case, and enable students to develop their own approach to problems. The authors also suggest that cases allow both instructor and students to get connected to real life problems, and they are efficient for large groups. With this kind of active learning facilitated by the instructor, diverse student from all ethnic background should benefit from it with proper evaluations that encourages working together. According to Barnes, Christensen, and Hansen (1994), it is recommended for instructors to form alliance with students and allow the syllabus to enhance dual instructional competency. Aside from promoting active learning, the syllabus should show that class participation, class attendance, as well as small-group projects makes about 50% of the grades, not just structured exam and quizzes. According to Murray (1990), the aim of alternative testing or evaluation is to focus on the learning rather than the grade. Table 2

(see appendix) shows online teaching tips that address racial and ethnic issues in online classes.

H₁: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their race relations at the workplace

Active Learning Based on Culture

Hurtado (1996) suggests that alternative methods of teaching were necessary to meet the sensitive needs of minority students and cross-cultural issues. It also stated that students who felt that their academic environment was student-focused tended to have a better learning experience across diverse groups and had engaged process of learning. Svinicki & McKeachie (2011) says that instructors should be patient and understanding when it comes to cultural and communication differences from other cultures. This includes nonverbal communication (looking away from instructor or silence may be considered respectful), verbal communication (linear versus circular response), cultural motivation (individual versus family achievement), cultural stressors (underachievement based on feeling insignificant as a minority), and acculturation anxiety (fears of losing cultural identity in the new world). If instructors want their diverse students to be successful in their learning, it is imperative that these students see how the instructor facilitates the class to accommodate their cultural differences. It should be helpful to ask various students how the topic been discuss is done in their country in class, even how the math problem would be solved. To

the surprise of other students, it may just be easier and clearer. Table 3 (see appendix) shows online teaching tips that address cultural issues in online classes.

H₂: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their cultural relations at the workplace

Kunselman & Johnson (2004) states that students that are actively engaged while learning tend to retain more information, learn from their peers, and increases the process of learning. With students from various cultures actively learning to achieve a common goal and get a group result, it breaks all forms of cultural barriers amongst students and prepares them for the real world of the workplace. Instructors are encouraged to be good facilitators and evaluators to promote active learning.

Active Learning Based on Gender

Some of the reason given by Brantley (2006) as to why people may prefer online education include being a parent, are pregnant, and want to do house work as a student. Some of these reasons resemble what many women in our society may say when it comes to balancing work with children and the home. Instructors have power over the lives of their students and the students even give instructors more power than necessary (Svinicki & McKeachie, 2011). So by encouraging women to participate in class discussion and debates, as well as knowing them by name, career goal, or work experience can make them feel that the instructor care about their success in class and could become their mentor.

Peterson & Miller (2004) makes it clear that the overall learning experience was greater during the cooperative learning (small groups) than in large group instruction. This is because students were more focus on the direct or related task, had higher task engagement, viewed the task as important, and felt more challenged. All students, especially women, must be encouraged by instructors to be part of the active learning process and be able to influence the class by their experiences. Table 4 (see appendix) shows online teaching tips that address gender issues in online classes.

H₃: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their gender relations at the workplace

Active Learning Based on Age

In the next three decades, there will be an increase in the elderly population, which is a prosperity problem and people are living longer (Sluiter, 2006). If people are living longer, need to work to keep active, and may return to school as non-traditional students, then centers of learning should be prepared to accommodate their needs. Their experiences and ideas may be different from that of the traditional students, but it is beneficial to the younger students to know from a classmate how technology, mindsets, work ethics, social life, and business culture have evolved through time. The older students can also benefit from the younger ones in terms of what is needed to compete in today's workforce in the same criteria. Table 5 (see appendix)

shows online teaching tips that address age issues in online classes.

H₄: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their relations with co-workers above the age of 50 at the workplace

Active Learning Based on Disability

Due to lack of available research references on online teaching and disability, the main issue of disability in online learning in our estimation would be more of a visual issue than auditory, verbal, or inability to use their limbs effectively. It is imperative that the background color for the online class be white or a very light color that allows every student to read the information legibly. Students who are visually impaired may have to take a video conferencing class. Students who may have difficulty with typing daily (intellectual, learning, or physical disabilities) on the online discussion board may paste links of their YouTube video weekly to express their views for the week on the discussion board. Instructors should encourage all students to watch the YouTube video as part of class participation and active learning. Table 6 (see appendix) shows online teaching tips that address disability issues in online classes.

H₅: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their relations with co-workers with disability at the workplace

Active Learning Based on Online Access and Use

Technology influences instructor's teaching experience in the amount of time for planning and teaching, as well as the instructor's view of his or her role in teaching and learning (Zhu & Kaplan, 2011). For students, the technology influence is the exposure and access to technology as well as their preferred learning styles (Zhu & Kaplan, 2011). Prieger (2008) says there is a huge gap or digital divide between various groups in internet accessibility, as well as in income, time, and learning levels. Some students tend to have many issues that range from access to computers, access to the internet, lack of time, lack of income, lack of proper learning, as well as differences that may impede their learning experiences. So online instructors should be aware of these realities and be prepared to work with these students as much as possible. Instructors can always use the syllabus to recommended testing centers, tutoring centers, and local libraries to student. Counseling and advising services, as well as disability services should also be recommended to students that may need these services, as well as advice these students to send e-mail whenever they need assistance.

D'Angelo (2009) found that modern teaching methods (PowerPoint and videos) were more effective than traditional style (chalkboard and overhead projectors), which was more effective than the techno style (online courses and blackboard online). It also says that students are more accepting of technology when they understand the purpose of it for class. This shows that majority of students still prefer classroom learning to online learning, so students taking online classes most likely do it for convenience reasons because of work and maybe time. Instructors must do whatever it takes to make online learning conducive, engaged, and interactive as much as possible for online learning to be worthwhile.

Students can now use technology and social networks to interact with peers and develop the skills needed to collaborate effectively with people of various distance, backgrounds, and culture (Zhu & Kaplan, 2011). Students can also use technology to solve real-world problems, take risk, discuss issues, and think critically (Zhu & Kaplan, 2011). This means that all students in an online class should be encouraged by online instructors to make time to find access to the internet in order to be involved in active learning as much as possible. Table 7 (see appendix) shows online teaching tips that address online issues in online classes.

H_6: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their online access and use for the workplace

RELATIONSHIP AND MODEL

Figure 1 (see appendix) shows a model of how online learning through an adequately facilitated class can get students actively engaged and interactive in learning regardless of our cultural biases based on race (ethnicity), culture, gender, age, disability, and online access. The model is based on the concept that the primary purpose of evaluation in

education is to improve learning and employment decisions (Algozzine et al., 2004).

This model encourages the instructor to be confident in the use of technology for teaching online and embraces frequent training on the use of the latest online teaching tools available.   Also, the instructor as the facilitator of the class accepts the responsibility of ensuring all students available in class are learning interactively with the obvious online teaching techniques discussed later. These techniques are packaged to make employers, instructors, and potential students understand that online learning is as engaged and interactive as classroom learning.

From the model, instructors are to encourage racial, ethnic, feminine, and cultural views that show everyone's experiences to the subject matter. Modern ways of doing things can be compared to older or unique ways, where non-traditional students or students with disability can lead the class sometimes in discussions. More options should be provided for students with disability and students that have low online access when it comes to submission of work and deadlines.   The ultimate goal is to graduate students that are confident in the quality of their learning and are able to transfer their interactive learning into a successful workplace experience.

The model below discusses teaching strategies that are meant to prepare interactive and engaged students in an online active learning environment for the workplace. The model captures how students need to deal with race through racial and ethnic discussions, as well as

deal with cultures by comparing the benefits of various cultures. The model also shows to deal with gender by allowing women lead discussion and bridge their experiences to other minority issues. Non-traditional students can help contrast the new era with their time, students with disability can often share experiences of survival that may relate to other minority disadvantages, and students with little or no online access can inform the class of diverse economic and political dimensions to the issues been discussed.

METHODOLOGY AND RESULTS

The research is based on the concept that the primary purpose of evaluation in education is to improve learning and employment decisions (Algozzine et al, 2004). After all, the purpose of education and getting degrees in today's world is not just to learn, but to also succeed in employment or at the workplace. A survey with 15 questions on a five-point scale was conducted to investigate how employed people felt towards their online education as well as how successful they felt at their employment because of it. Ultimately, the investigation is to evaluate our online educational system's efficiency for the 21st century workplace and to observe if there is any significant link between online learning and success at the workplace. The results are based on how students that were satisfied with their online learning felt it was responsible for their success at work based on race, cultural, gender, age, disability, as well as online access and use.

SurveyMonkey.com was used to collect data from respondent within the United

States who were employed, above 21 years of age, and have graduated from college (any level). Our response scale was never, slightly, moderately, highly, and extremely. The last three responses (moderately, highly, and extremely) were our main focus for the study of workers being satisfied with their online education towards a successful career. Students without any online learning were told to choose "classroom/web enhanced/broadcast" option instead of the hybrid, partly, and fully online options. From a total of 128 respondents, 52 respondents had only classroom education and were removed from the study. This left 76 respondents that had online education (SurveyMonkey.com could not target only people with online education, so we opened it up to both and separated them).

Those respondents that choose moderately, highly, and extremely (option 3, 4, & 5) were considered satisfied at all levels. Option 1 was the least and option 5 was the highest. These were the main seven questions that were asked on the survey aside from demographic questions:

1) How much did your online education improve your race relations with co-workers at the workplace?

2) How much did your online education improve your cultural relations with co-workers at the workplace?

3) How much did your online education improve your gender relations with co-workers at the workplace?

4) How much did your online education improve your relations with co-workers above age 50 at the workplace?

5) How much did your online education improve your relations with co-workers with disability at the workplace?

6) How much did your online education improve your online access and use?

7) How much did your online education contribute to your success at the workplace?

Microsoft Excel was used to analyze and sort the data, while SPSS was used for regression and correlation of the data. Table 8 (see appendix) shows the demographics of the data collected.

There were a total of 128 responses, but only 117 were filled out completely. One of the responses was empty while 10 of them only filled out less than 12 questions of the 15 provided. These may have been people who have neither taken an online class or have never utilized any form of technology in their classroom courses, so they had to quit the survey because the survey did not really apply to them. Only 76 of the 117 were utilized in this study because they were the ones who took online education and the rest had classroom experience. The women were above 50%; about 46% of the respondents were above 50 years of age, and over 50% made less than $60,000 annually. Also, about 60% had a Bachelors degree or below, while over 47% took fully online learning.

From the 76 completed online education responses, 55.3% (42) of them were satisfied with the fact that their online

education contributed to their employment success. Online Education had a significance of .225 and Fully Online Education had .125 both at $\alpha = 0.05$ towards success at the workplace. They were both insignificant to success at the workplace. This shows that our online education needs to do more towards preparing students or graduates for the workplace rather than just learning and grades. From the 76 responses, only 55.6% of the males and 55.0% of the females were satisfied with their online education for the workplace (male and female ratio), which was equivalent to 26.3% and 29.0% of all online education respondents respectively.

In the satisfied group, about 45% (19/42) of those satisfied were above 50 years of age, those making less than $60,000 annually made up about 64% (27/42), those with at a Bachelors degree or below made almost 62% (26/42), and those with fully online learning were about 50% (21/42). Table 9 (see appendix) shows the demographics of only the satisfied respondents to the total respondents. The female and male ratios in the table shows ratio of the satisfied to the total in each gender.

The table shows that men found online learning to be more satisfying to their success in the workplace than women did and non-traditional students did not need online learning more than the traditional students for employment. Also, graduates with lower income felt that their online learning experience was necessary for employment success. Workers with lesser education found online learning to be satisfying towards their careers, and workers with fully online learning were more satisfied with

their employment success than those who took partly and hybrid online courses.

The simple regression and ANOVA result in Table 10 (see appendix) shows that all six variables were significant to graduates feeling successful at their workplace through single linear regression. The six factors explained 44.1% of the data in relation to success at the workplace for graduates.

The multiple regressions of all variables show that an Age and Gender relation are insignificant, but culture despite being significant, has a negative B result.

Simple Linear Regression:

Model 1: Work Success = $B_0 + B_x$

Work Success = $1.951 + .399(X_1)$ (Culture)

Work Success = $1.807 + .518(X_2)$ (Age)

Work Success = $1.779 + .506(X_3)$ (Gender)

Work Success = $1.823 + .500(X_4)$ (Race)

Work Success = $1.788 + .513(X_5)$ (Disability)

Work Success = $1.148 + .550(X_6)$ (Online Access & Use)

In addressing the six hypotheses:

H$_1$: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their race relations at the workplace

This hypotheses was found to be significant because p = .000 < α =0.05.

H₂: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their cultural relations at the workplace

This hypotheses was found to be significant because p = .002 < α =0.05.

H₃: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their gender relations at the workplace

This hypotheses was found to be significant because p = .000 < α =0.05.

H₄: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their relations with co-workers above age 50 at the workplace

This hypotheses was found to be significant because p = .000 < α =0.05.

H₅: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their relations with co-workers with disability at the workplace

This hypotheses was found to be significant because p = .000 < α =0.05.

H₆: Workers that are satisfied with the contribution of their online education towards their career success are also satisfied with their

online access and use for the workplace

This hypotheses was found to be significant because p = .000 < α =0.05.

In an attempt to explain why cultural relation in the study is negatively significant to work success, we did the cross-tabulation of the four significant variables as well as the tests for conditional independence. In the cross-tabulation in Table 11 (see appendix), the result for culture is similar to that of race and disability relations.

A look at the tests for conditional independence in Table 12 (see appendix) shows that cultural relations had the lowest chi-square score in both tests, so its "goodness-of-fit" test for the Cochran's test and the homogeneity of repeated tests of independence in the Mantel-Haenszel test could be questionable, but it is similar to the result of race relations. Despite the negative significance of cultural relations, it will be best to include it in the regression model.

Multiple Linear Regressions:

Model 2: Work Success = $B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4$, where X_1 = Culture, X_2 = Race, X_3 = Disability, X_4 = Online Access & Use. The best multiple regression equation for work success without gender and age is:

Work Success = .761 - .795X_1 + .685X_2 + .477X_3 + .495X_4

In Table 13 (see appendix), all the six factors that lead to a successful workplace correlated with Work success between 35.5% to 55.3%, with improved online

access and use as its highest and improved cultural relations as the lowest. Online access correlated with the other factors with improved gender relations as the highest at 50.8%. Improved Disability relations, improved gender relations, improved age relation, and improved cultural relations had very high correlations among each other. Their correlation ranges were from 73.4% to 90.8%. Satisfied online students that were also satisfied with their work success did so because it improved their online access and use, as well as their disability and race relations significantly. Culture was negatively significant.

LIMITATIONS

This paper did not focus on technical views of the subject matter because the aim was to make the reader see and appreciate online learning to be as adequate as classroom learning. There are many ways to categorize students that may not be engaged or actively learning, but diversity was chosen for this paper as a natural barrier that hinders active learning. Following all of these steps may not guarantee active learning, but it shows that workplaces cannot belittle online learning and education as inadequate compared to classroom learning when it come to active learning. The success of these methods is based on instructors and students being motivated and trained adequately for online learning. Also, a larger sample could have been utilized for better results, especially in addressing the negative significance of cultural relations to work success.

IMPLICATION OF STUDY AND FUTURE RESEARCH

The implication of study for employers, instructors, and students is to make them aware of the fact that online learning is not less engaging or less interactive than classroom learning. It also makes learning available for ambitious people who may be restricted by distance, health, family, work, or income to get the learning they rightly deserve.

Employers must understand that many firms use online training sessions to keep their employees certified and qualified to operate various machineries and computer software in order to keep their businesses flourishing. The same online learning can make applicants as qualified and certified as their valuable employees. Moreover, many online students are already employees somewhere with lots of experience and only utilized online learning because time and distance became a factor due to their work. Reading is as powerful as hearing. While students may do more listening in classroom interaction, online students are doing more of reading in the online environment. In the education field, auditory learners are considered equal to visual and kinesthetic learners.

Instructors should realize that they play a major role in making online learning credible to the workplace. They are expected to get the latest and frequent training on the best available software for online learning as well as embrace the right attitude in keeping their students engaged and interactive online. Instructors are to be confident in their technology skills, prepare for class adequately ahead of time, know their

students, and facilitate the online class effectively. The online syllabus should be welcoming, caring, understandable, and the grading style must be linked to online behavior. Minority students and women should be encouraged to lead class sessions and give feedback. Instructors should also give feedbacks frequently and timely.

Students and potential employees should be able to sell themselves to any employer at any interview based on the quality of their online learning, how they were engaged and interacted in the online class, as well as link it to their years of experience. Students as applicants should be able to speak about their technology skills, participative skills, punctuality skills, and attendance skills, which are very relevant to the workplace.

More research is needed to measure the productivity of the average employee with an online learning with the productivity of the average employees with classroom learning at work. We also need to research the engaging and interactive abilities of both kinds of employees at the workplace. We need to see if there are obvious advantages from an employee who learned visually or auditory in an online class compared to an employee from a classroom environment at work.

CONCLUSION

The perception of courses helping in diversity is significantly related to the perception of success on the job with online courses. Successful instructors who can foster diversity are directly helping in the perception of success at the workplace. In order to make online learning and education acceptable in the workplace, online instructors and institutions must make active learning as rigorous as it is expected in classroom learning by workplaces. Despite the fact that many online students are working or are career people, they must be encouraged to utilize the discussion board daily for questions and answers, as well as be able to use class e-mails to organize their group in order to lead class discussions every other month. Technology should be utilized to facilitate an effective syllabus, course content, discussion methods, variation of lecture styles, collaborative or corporative learning, teaching with cases, matching skills with task, testing to enhance learning, evaluation to promote learning instead of grades, embracing diversity, and discouraging dishonesty. As long as online learning can accomplish all these and more, then the workplace should be able to appreciate the fact that online learning is as good as classroom learning.

Online instructors should be aware that cultural diversity must be embraced and appreciated for effective and productive learning to take place actively. Among students, there are big economic, learning, social, and time availability gaps in terms of ethnicity, culture, gender, age, disability, and online access. As a center of learning, these gaps need to be bridged among the students for active learning to take place by instructors, who should create the environment as the culture for learning.

The ability to facilitate diversity in the classroom will not just provide the mentors needed by diverse students, but also, it will teach students to be engaged through discussions, small-groups, debate, or online interaction on the class

discussion board. Unfortunately, students will not benefit from active learning if the instructors are not motivated to embrace diversity by the institution.

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Table 1. **Teaching Tips for Cultural Diversity in Online Active Learning**

Diversity Issues in Online Learning	Online Teaching Tips
Preparing students for the workplace	Use students' diversity to facilitate the discussion board
Learning to broaden ideas	Encourage students by name to personalize and lead discussions
Transferring knowledge to workplace	Utilize small group for projects or assignments for active learning

Table 2. Online Teaching Tips for Racial (Ethnic) Diversity

Ethnicity Issues in Online Learning	Online Teaching Tips
Showing minority and ethnic students that they are welcome	Use discussion board to request racial and ethnic views on subject matter
Providing psychological & instrumental support	Use mass emails and announcement to show interest in ethnic opinions
Encouraging non-ethnic instructors to be mentors	Syllabus & discussions should encourage ethnic students' involvement

Table 3. Online Teaching Tips for Cultural Diversity

Culture Issues in Online Learning	Online Teaching Tips
Silence as a form of respect	Use discussion board to ask students by name to give cultural views on issues
Inferiority complex for being different	Syllabus and announcement should show appreciation for cultural contributions
Fear of losing cultural identity	Students should be asked to compare their world with the new to improve views

Table 4. **Online Teaching Tips for Gender Diversity**

Gender Issues in Online Learning	Online Teaching Tips
Encouraging women to participate	Encourage women to lead discussion in small groups & on discussion board
Understanding women experiences	Have women share their experiences as women and mothers on subject matter
Collaborating women and minorities	Let non-minority women contribute to diverse ethnic and cultural perspectives

Table 5. **Online Teaching Tips for Age Diversity**

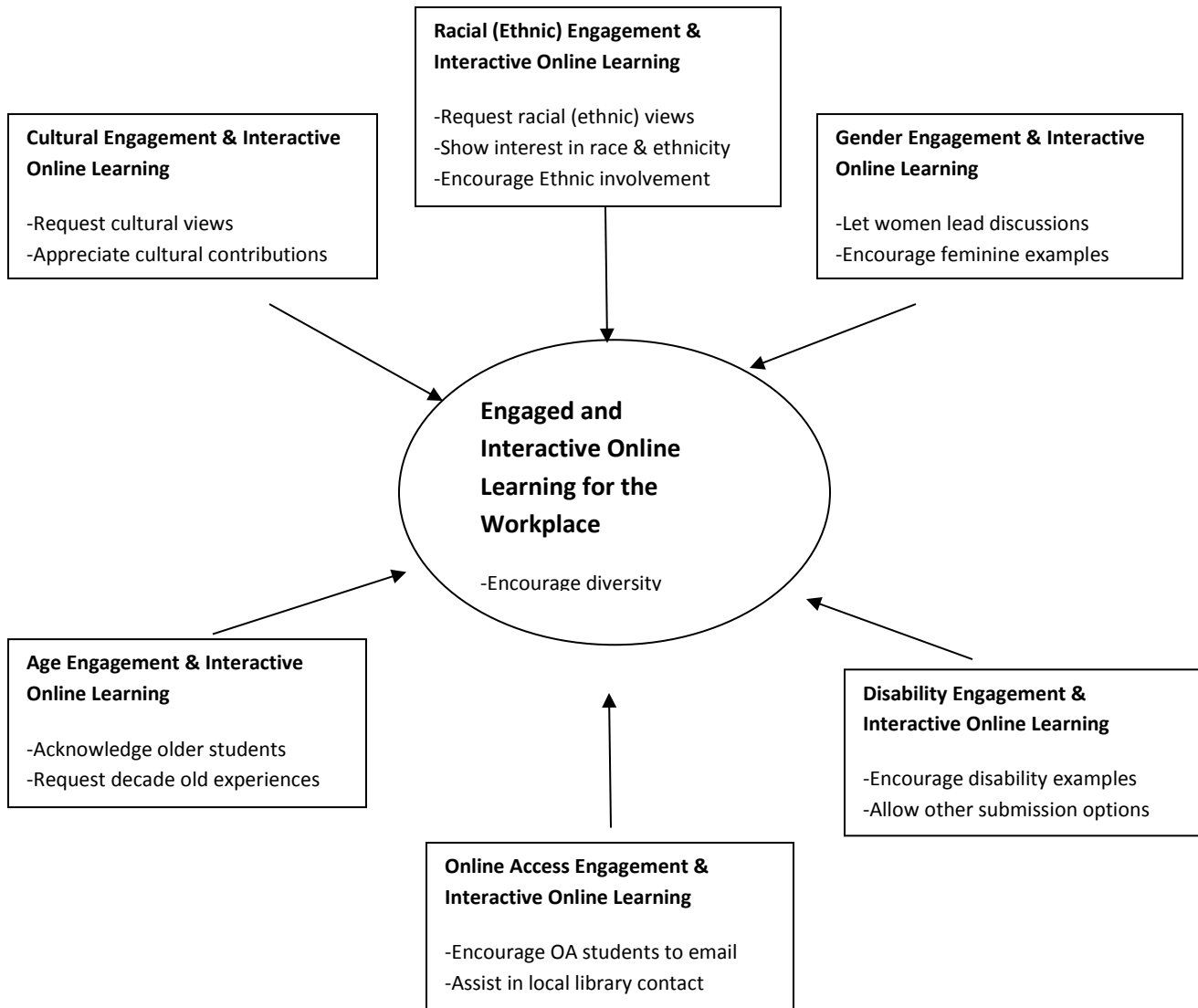| Age Issues in Online Learning	Online Teaching Tips
Make non-traditional students comfortable	Use online orientation week to acknowledge any non-traditional student
Create value for non-traditional students	Use discussion board to ask older students to share experiences on subject
Connect non-traditional students to class	Encourage older students to compare their time with the current issue

Table 6. **Online Teaching Tips for Disability Diversity**

Disability Issues in Online Learning	Online Teaching Tips
Welcoming students with disability	Syllabus should include information for disability services for the school
Leaving doors open for accommodation	Ask for orientation email; email them during project for request; YouTube okay
Getting students with disability involved	Use discussion board to encourage disability perspective on subject matter

Table 7. **Online Teaching Tips for Online Access Diversity**

Online Issues in Online Learning	Online Teaching Tips
Identifying those with online access issues	Syllabus should encourage those with online access issue to email instructor
A plan for online access	Inform students to use local library or help send email to local college for them
Tackling deadline dilemma	Entire class or affected student can start project early to meet deadline

Figure 1. Model of getting diverse students engaged and interactive in online learning

Racial (Ethnic) Engagement & Interactive Online Learning

-Request racial (ethnic) views
-Show interest in race & ethnicity
-Encourage Ethnic involvement

Cultural Engagement & Interactive Online Learning

-Request cultural views
-Appreciate cultural contributions

Gender Engagement & Interactive Online Learning

-Let women lead discussions
-Encourage feminine examples

Engaged and Interactive Online Learning for the Workplace

-Encourage diversity

Age Engagement & Interactive Online Learning

-Acknowledge older students
-Request decade old experiences

Disability Engagement & Interactive Online Learning

-Encourage disability examples
-Allow other submission options

Online Access Engagement & Interactive Online Learning

-Encourage OA students to email
-Assist in local library contact

Table 8. Demographics of Survey Respondents (N = 76)

Gender	Female	Male			
	52.6% (40)	47.4% (36)			
Age	**21-29**	**30-39**	**40-49**	**50-59**	**> 60**
	15.8% (12)	13.2% (10)	25.0% (19)	30.3% (23)	15.8% (12)
Income	**< $30k**	**$30k - $60k**	**$60k - $90k**	**$90k - $120k**	**> $120k**
	15.8% (12)	35.5% (27)	30.3% (23)	9.2% (7)	9.2% (7)
Education Level	**MS / HS**	**Vocational**	**Bachelors**	**Masters**	**Doctorate**
	18.4% (14)	6.6% (5)	42.1% (32)	25.0% (19)	7.9% (6)
Educational Experience	**Fully Online**	**Partly Online**	**Hybrid Online**		
	47.2% (34)	42.1% (32)	13.2% (10)		

Table 9. Demographics of Satisfied Respondents (N = 76)

Total Satisfied	55.3% (42)				
Gender	**Female**	**Male**	**Female Ratio**	**Male Ratio**	
	29.0% (22)	26.3% (20)	55.0% (22)	55.6% (20)	
Age	**21-29**	**30-39**	**40-49**	**50-59**	**> 60**
	10.5% (8)	4.0% (3)	15.8% (12)	17.1% (13)	7.9% (6)
Income	**< $30k**	**$30k - $60k**	**$60k - $90k**	**$90k - $120k**	**> $120k**
	11.8% (9)	23.7% (18)	10.5% (8)	5.3% (4)	4.0% (3)
Education Level	**MS/HS**	**Vocational**	**Bachelors**	**Masters**	**Doctorate**
	10.5% (8)	2.6% (2)	23.7% (18)	15.8% (12)	2.6% (2)
Educational Experience	**Fully Online**	**Partly Online**	**Hybrid Online**		
	27.6% (21)	21.1% (16)	6.6% (5)		

Table 10. Simple & multiple linear regressions with ANOVA for the variables

Variables	Simple Regression					Multiple Regression		
	B	R²	F	t	Sig	B	t	Sig
Culture	.399	.126	10.642	3.262	.002	-.817	-2.775	.007
Age	.518	.158	13.855	3.722	.000	-.060	-.249	.804
Gender	.506	.213	20.052	4.478	.000	.096	.328	.744
Race	.500	.171	15.257	3.906	.000	.658	2.370	.021
Disability	.513	.195	17.898	4.231	.000	.480	2.086	.041
Online Access & Use	.550	.305	32.539	5.704	.000	.485	4.511	.000

Table 11. Cross-tabulation of Race, Culture, Disability, and Online Access & Use

		Race				Culture				Disability				Online Access/Use		
		0	1	T		0	1	T		0	1	T		0	1	T
Work	0	33	1	34	0	32	2	34	0	33	1	34	0	20	14	34
Success	1	31	11	42	1	29	13	42	1	28	14	42	1	11	31	42
Total		64	12	76		61	15	76		61	15	76		31	45	76

(Unsatisfied = 0, Satisfied = 1, & T = Total)

Table 12. Tests for Conditional Independence: Race, Culture, Disability, and Online Access & Use

Variables	Tests	Chi-SQ	df	Sig
Race	Cochran's	7.638	1	0.006
	Mantel-Haenszel	5.911	1	0.015
Culture	Cochran's	7.455	1	0.006
	Mantel-Haenszel	5.878	1	0.015
Disability	Cochran's	10.956	1	0.001
	Mantel-Haenszel	9.001	1	0.003
Online Access/Use	Cochran's	8.285	1	0.004
	Mantel-Haenszel	6.897	1	0.009

Table 13. Correlation for all six variables

Variables	Culture	Age	Gender	Race	Disability	Online Access	Work Success
Culture	1	.811	.908	.897	.818	.435	.355
Age		1	.798	.766	.841	.405	.397
Gender			1	.881	.830	.508	.462
Race				1	.734	.359	.413
Disability					1	.388	.441
Online Access						1	.553
Work Success							1

Correlation is significant at .01 levels (2-tailed)

NOTES

HEAD IN A CLOUD? A PRELIMINARY STUDY OF WHAT BUSINESS STUDENTS KNOW ABOUT CLOUD COMPUTING

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INTRODUCTION

The term "cloud computing" was first used by an information systems professor, Ramnath Chellappa, in 1997. At that time, the term only referred to storing electronic files on an off-site hard drive or using web-based applications and accessing them through an online connection via PC, tablet or mobile phone. Files could actually be stored in another state or country (Miley, 2012).

A central file server, an external hard drive and an online backup service used to be enough to get employees the files and data they need and protect them from disaster. However, within a few years, companies began switching from hardware to cloud services because they were attracted to benefits like a reduction in cost as well as a reduction in IT staff. But the main benefit companies cite is efficiency ("The History...", 2011).

Life is easier with your head in the clouds, right? *Perhaps!* In a recent survey by the NPD Group, 76% of the respondents had used web-based email, tax-preparation, and photo-sharing websites. However, only 22% were aware that they were already using cloud computing. Alarming statistics when you analyze the consequences of not understanding the potential risks of cloud computing. For example, Dropbox has become a popular cloud computing website for data storage. Dropbox had a data breach in 2011 in which 25 million accounts were compromised (Miley, 2012).

Some of the most discussed risks with using cloud computing include security, privacy, availability, performance, access, regulation compliance, recovery, costs, legal implications, and continuation of service ('Top Ten...", 2011).

Cloud computing has become an integral part of mobile and web-based technology. The extent of the penetration of this technology will become even more pervasive as more technology companies rely on cloud computing as a more cost efficient storage alternative.

To one extent, saying "no" to cloud computing would mean avoiding many of the mobile phone and web-based applications. Yet, many users may have their head in a cloud and may not be aware of the risks involved. A balance of knowledge about the technology and risk awareness is a desirable balance.

While "the cloud" may be the tech buzzword of the year, many Americans are hazy on what the cloud actually is. According to a new study by Wakefield Research for Citrix, there is a significant disconnect between what Americans

know, and what they actually do, when it comes to cloud computing ("Citrix Cloud Survey...", 2012). Is this also true for business students?

PURPOSE OF THIS STUDY

The purpose of this study is to determine the level of knowledge that business students have about cloud computing.

RESEARCH DESIGN

The research design for this study will include primary and secondary research. The secondary research is discussed in this preliminary study. The primary research will be discussed in the final study.

The secondary research is a review of related literature. There are thousands of articles and information posted on websites that have been written concerning the benefits and risks of Cloud computing.

The primary research will be a survey of business students in the College of Business at the University of Central Arkansas. With permission from Wakefield Research and Centrix, Inc., the survey instrument will be a questionnaire that was used in August 2012 to survey over 1,000 people in America to determine what they know about Cloud Computing. This study is mentioned in the Introduction and results are discussed in the Related Literature section of the paper. Three of the references can point you to documents and articles about the original study.

RELATED LITERATURE

This related literature section contains a sampling of the myriad of websites, white papers, articles, brochures, and other types of information that has been published in the last few years concerning cloud computing. The information cited has been divided into sections for ease of reading.

Cloud Computing Surveys

A survey conducted in 2012 by the Future of cloud computing identified five areas in which cloud computing is being used. These survey results are from their 2nd Annual Survey. While not noted in every category, most of the usage in each category grew exponentially during the 12-month period since their first survey was conducted. These categories are examples of the impact that cloud computing is having on various realms of technology:

Media and Entertainment. Cloud computing has made media and entertainment a fundamentally engrained, pervasive part of our daily experience and it's shaping new generations of users who expect rich content on demand from the cloud to whatever device they're using whether it's their iPad via iCloud/iTunes or their TV via Roku and Netflix or their Mobile Phone via Spotify.

Social and Collaboration. Facebook is the world's largest social network and an example of what is now available in social media that has enhanced social collaboration and sets the bar for expected ease of connection, collaboration, reach and scale in cloud based applications. For example,

Acquia's community-driven applications are used as the basis for tremendous value being realized by companies as diverse as Twitter, Mercedes and even the United States Government.

Mobile and Location. Cloud-delivered services in the form of content, applications, apps, video and games contribute to smart phones. Today, smart phones are not only always with us. they are becoming the primary on-ramp to the cloud as people connect to everything from their email to their business processes. And as personal GPS devices, they provide continuous location data.

E-Commerce and Payments.
Mobile commerce occurs when location-based offers are served up at the point of need. This type of "situational commerce" takes target segmentation to new levels. The payments cloud is forming more slowly as the politics of control between merchants, banks and consumers is not an easy one to resolve. However the cloud is a key enabler as everything can be connected, validated and certified via the cloud.

Big Data and Analytics. Cloud computing generates and relies upon massive volumes of so called "Big Data" like profile and behavioral data, which needs to be stored, managed and analyzed on demand. This survey points to Big Data as the software category most open to disruption by the cloud. The survey also found that "cloud vault" is a concept that is gaining interest for mission critical application. Another interesting finding is that Software as a Service (SaaS) is the primary type of investment. PaaS (Platform as a Service) is also gaining interest as companies begin to use PaaS as the platform for

new applications ("2012 Future of Cloud...", 202).

In 2012, Tech Soup Global and its network of partners conducted a survey of nonprofits, and charities around the world. The goal was to better understand the current state of their tech infrastructure and their future plans for adopting cloud technologies. More than 10,500 respondents in 88 countries responded to the survey. Survey results include the following findings:

- 90% of respondents worldwide are using at least one cloud computing application.
- 53% report plans to move a "significant portion" of their IT to the cloud within three years.
- 60% say lack of knowledge is the greatest barrier to greater use of the cloud.
- 79% say the greatest advantage is easier software or hardware administration.
- 47% say cost-related changes and ease of setup would be the greatest motivators for moving their IT to the cloud.
- NGOs in Egypt, Mexico, India, and South Africa have the most accelerated timetables for moving their IT to the cloud ("2012 Global Cloud computing...", 2012).

The average American consumer doesn't understand what Cloud computing is or how it works, according to a national survey of 1,000 participants by Wakefield Research and commissioned by cloud-technology firm Citrix showed:

- 51 percent of respondents, including a majority of Millennials, believe stormy

weather can interfere with cloud computing.

- 95 percent are actually using cloud services today via online shopping, banking, social networking and file sharing, even though a third believe it to be a "thing of the future".
- 59 percent believe the "workplace of the future" will exist entirely in the cloud.

However, those that want to appear more knowledgeable aren't against pretending. Twenty-two percent admitted to feigning knowledge about cloud computing -- one third faking in the office and 14 percent during a job interview. Strangely enough, 17 percent pretended to know about cloud computing during a first date. Americans under 29 years of age were most likely to know what the cloud is and how it works (36 percent). In comparison, only 18 percent of those 30 or older had a functional knowledge of 0the cloud. 26 percent of the Gen-Y believe that the cloud could spur on job growth, whereas only 19 percent of Baby Boomers felt the same way. A slight majority of Americans claimed never to use cloud computing, although most of them don't realize that they do, as these results prove:

- 65 percent bank online
- 63 percent shop online
- 58 percent use social networking sites such as Facebook or Twitter
- 45 percent have played online games
- 29 percent store photos online
- 22 percent store music or videos online
- 19 percent use online file-sharing (Osborne, 2012)

Kim DeCarlis, Vice President of Corporate Marketing at Centrix, remarked about the survey, "The most important takeaway from this survey is that the cloud is viewed favorably by the majority of Americans, and when people learn more about the cloud they understand it can vastly improve the balance between their work and personal lives" ("Most Americans Confused...", 2012).

Risks and Benefits of Cloud Computing

Abby Shagin discussed some of the benefits and risks of Cloud computing on the SAP website:

<u>Risk 1: Network Dependency.</u> Cloud computing is dependent on the internet. The most basic drawback of cloud computing is that you need internet connection to access the cloud and this direct tie to the internet means that this system is prone to outages and service interruptions at any time.

<u>Benefit 1: Flexibility.</u> Network deependency may mean being dependent on the internet, but it means independence from the office.

<u>Risk 2: Difficulty in Creating Hybrid Systems.</u> This pertains especially to those organizations that hold sensitive information. Organizations like government offices and financial institutions usually have their own IT services and will not take their data offsite despite the benefits of efficiency and performance.

<u>Benefit 2: Cost Reduction and Increased Efficiency.</u> The low barrier of entry and the pay-per-use model by cloud computing makes it very versatile.

It is scalable for large corporations and affordable for. small ones.

Risk 3: Centralization. Organizations usually outsource data and application services to a centralized provider. In cloud computing, we know that network dependency is a drawback due to outages. Centralized data can certainly add another risk to cloud computing.

Benefit 3: Reliability. While internet connectivity and the provider itself being subject to outages is a scary fact of the nature of cloud computing, there is still more reliability in comparison to in-house systems.

Risk 4: Data Integrity/Security. There is already a huge risk with data hosted in-house, so it's no secret that data offsite sits at even higher risk.

Benefit 4: Security Gains. The traditional, in-house data storage system comes with risks as well. The cloud provider already provides the hardware and knowledge for the most current security measures (Shagin, 2012).

A survey of the benefits and risks of Cloud computing by IT Policy found that best performing organizations are predominantly made up of larger organizations, with many of these organizations using Cloud computing. The Cloud computing Profile of Best-in-Class Organizations shows:

- Revenue and profits that are much higher than average
- Business disruptions that are much lower than average
- Data loss or theft incidents that are much lower than average
- Audit deficiencies that are much lower than average
- Spending on IT that is 1.5 to 1.7 times higher than average
- Spending on information security that is 1.4 to 1.5 times higher than average
- Measurement and assessments of controls and risks occur at least weekly
- Reporting on the status of prioritized risks occurs at least weekly
- More involvement of IT, information security, legal counsel and internal audit
- Broader and larger numbers of IT and information security controls
- Focused on flexibility, agility and adaptability as the primary benefits of Cloud computing ("Managing the Benefits...", 2013).

IMPLICATIONS OF THE STUDY

At the present time, there is only one course, Managing Systems and Technology, in the college of business where the researchers teach MIS courses, that even mentions cloud computing. There is no meaningful emphasis being given to this topic in the BBA curriculum.

The results of this study may suggest a change in curriculum is needed to add a course that focuses on cutting-edge technology for business students in the college of business.

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MILLENNIALS: TECHNOLOGIES AND EXPECTATIONS

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Over the past 30 years higher education has experienced dramatic changes. Not only have tools, technologies, and methodologies changed and transformed the college classrooms so have the students entering college. Students leaving high schools and entering colleges and universities are reported to be the digitally literate generation. This group of students, born between 1981 and 2001, has been labeled as the net generation (Berk, 2009; Jones, D. C., 2007; Oblinger, D., & Oblinger, J., 2006; Skiba, D., & Barton, A., 2006). This net generation is often referred to as the millennial students or "millennials". In a recent report, the market research firm, Frank N. Magid Associates (2012) describes the millennial generation as "the first generation of increasing power in the twenty-first century." These students are the first generation to grow up with technology (Ajjan & Hartshorne, 2008; Black, 2010, Prensky, 2007). These students often bring their laptops to class rather than paper and pen and have access to tablets, smartphones, and other mobile devices (Berk, 2009; Glenn & D'Agostino, 2008). It would seem sometimes that these students are "wired" to technology.

Since it appears that many students have grown up with technology; they seem to feel confident with the use of technology. They can use an iPod, text with a cell phone while watching streaming television on their laptops. That is, these students may have confidence in their digital literacy simply because they have successfully mastered a small portion of the available technology. ("A Digital Decade", 2007; Berk, 2009; Hargittai, 2005; Oblinger, & Hawkins, 2006; Oblinger, D. & Oblinger, J., 2006)

Apparently a gap does exist between those who have grown up surrounded by technology gadgets and those who have not. Not every student has a computer and connectivity. Even though these students may have grown up with and feel confident using technology, one can still question whether these millennials really expect our college classrooms to use these new emerging technologies as learning tools?

The purpose of this research was threefold. We wanted to determine what technologies current students have been exposed to in the secondary setting, what technologies they personally use, and what technologies they expected their college classrooms and instructors to use. Specific questions of the study are (1) What technologies do the students have available for personal use? (2) What technologies did they have available for use in the high school classroom? and, (3) What technologies do they expect to be essential to their college classrooms?

INSTRUMENT

The survey instrument was developed by adapting items from the 2011 CDW-G 21st Century Classroom Assessment Tool (CDWG, 2011). The CDWG questionnaire is an assessment tool designed to assess students' perceptions about technology used in both secondary and higher education and is free to download. The assessment was originally developed by O'Keef & Company. An adaptation of the 2010 version of this survey was used by researcher Karen-Martin Jones (2011) in her dissertation study directed by major professor Dr. Lisa Gueldenzoph Snyder of North Carolina A&T State University. That study also looked at millennials and their perceptions and use of technology.

The survey administered for our study was voluntary and the students were not asked any personal or identifiable information. The modified instrument was divided into 27 questions. Some of the original questions from the CDWG instrument were left off and some had the wording changed a bit to better fit our study. Twenty-four questions were related to students' uses, perceptions and expectations of technology. The other three gathered generic demographic information. A copy of the adapted survey can be provided upon request.

POPULATION

The target population of the study is defined as college students in higher education who have recently graduated from high school. The accessible population of the study was operationally defined as university students enrolled in Business Administration 1800 during the fall semester of 2012. This course is an introductory computer applications course designed for entering freshmen, at a small regionally accredited four-year university. There were 222 students enrolled in the nine sections of this course offered during the fall 2012 semester.

PROCEDURE

During the fall of 2012 those university students enrolled in the university's School of Business freshmen Introduction to Computers Applications course (BUAD 1800), both face-to-face and online sections, were surveyed. Students were asked to voluntarily submit answers to the survey. Students enrolled in face-to-face sections were given the survey in class, while students enrolled in online sections were asked to submit their surveys by a due date.

The researchers prepared the survey using Survey Monkey. A link to the survey was provided using Moodle. The researchers informed the students in the BUAD 1800 course sections that a survey had been launched on Moodle (Moodle is a web-based course management system used as a component of all courses taught at the University). The students were informed that their participation in the study was voluntary and confidential. Verbal directions were provided about the study to all face-to-face sections. Written directions were given to online sections. Students were asked to capture a screenshot of the last page of the survey and submit it to the instructor. Instructors used these screenshots to assign bonus points to the students who participated.

DATA ANALYSIS AND RESULTS

The data collected is reported in aggregate form only. Only the data obtained pertaining to the subject of this study was analyzed and reported. The appropriate descriptive statistics were used in this exploratory study. Means, percentages and frequencies were used. This paper includes data from selected questions only and will not report answers to all 27 questions. Specifically, information about the technologies the students used in their personal lives and during their high school tenure was reported. Data about their expectations from higher education was also analyzed and reported.

Two hundred twenty-two students were enrolled in the introductory computer applications course (BUAD 1800) during the fall 2012 semester. A total of 181 students elected to participate in the survey. Of those, 138 or 76% graduated in the years 2007 – 2012, which according to current literature, classifies them as millennial students. Another 25 or 14% graduated between 2000 and 2006, still defined as millennials by most research. Eighteen (10%) graduated prior to the year 2000.

To help determine the technologies the students had available for personal use the following question was asked, "Which of the following technologies/Internet tools do you use for personal use (e.g., to connect with friends/family, or for hobbies, extracurricular activities or relaxation)?" Students were given a list of 20 items and were asked to check all that applied. Wireless network/Internet (90.1%), personal computer (82.9%), and smartphones (76.2%) were the top three choices as shown in Table 1. Use of

iPod/MP3 players and access to social sites such as Facebook and Twitter were also used by over 50% of the population. Berk (2009) reported similar findings in an article about this generation of students.

Next, we wanted to know which of these same technologies the students had available for use in the secondary/high school classroom. We posed a question about the technologies offered by their high schools. We gave the students the same list of 20 items from the previous question and asked them to select all that applied. Wireless network/Internet (52.5%) and interactive whiteboards (33.1%) were the top two answers. Use of the internet in high school was the only technology used by over 50% of the population, as shown in Table 1. A follow-up question about the students' use of technology while in high school shed a bit more light on how much they actually used technology during their high school tenure. The item on the survey asked students to indicate how strongly they agreed or disagreed with the following statement: "I used technology more outside of school than I did in class." All of the 181 students answered the question. Most (66.2%) of the students indicated that they agreed with this statement. Only about 11% of the respondents indicated that they disagreed with this statement. See Table 2.

Table 2

Answer Options	Response Percent	Response Count
Strongly agree	33.1%	60
Agree	33.1%	60
Neutral	22.7%	41
Disagree	8.3%	15
Strongly disagree	2.8%	5

When comparing the answers to the two questions, it does seem that these students are using technology much more at home than they are at the high school/secondary level. This idea led us to look at the results from another question on the survey. We asked how strongly the students agreed or disagreed with the following statement: "My high school prepared me to use technology successfully in college and/or when I enter the workforce." Only 53% of these students indicated that they agreed that their high school had prepared them for using technology in the college setting. See Table 3. This finding indicated to the researchers that we have as much as 47% of incoming freshmen who will need some instruction in the use of current technology.

Table 3

Answer Options	Response Percent
Strongly agree	16.0%
Agree	37.0%
Neutral	24.3%
Disagree	17.7%
Strongly disagree	5.0%

Finally, we addressed the issues of what technologies these students expected to be essential to their college classrooms and just how important the availability of these technologies were when they made their choice of a higher education institution. To address the first issue, the same list of 20 items was provided and the students were asked to check all that applied. Access to the internet (92.3%), computers (77.3%), and course management systems (50.3%) were ranked as the top three technologies essential to the college classroom. See Table 4. To determine the importance of these technologies in the college selection process, we asked "How important was the institution's technology offerings to you, including equipment and access to that equipment?" One hundred thirty three (73.5%) of the 181 students said that it was somewhat to very important. Only 7.7% indicated that it was "not at all important".

CONCLUSIONS

In summary, millennial students are being introduced to some technology at the high school level, but not to the degree we may have thought. Wireless network/Internet (52.5%) and interactive whiteboards (33.1%) were the top two answers, but even these were not that widely used. The students general use of technology at the secondary level seems to be quite restricted if use of the internet in high school was the only technology used by over 50% of the population. Another conclusion that can be drawn from this research is that the instructors of this introductory computer applications course may have to do some "remedial" work with these students as only 53% of them feel they were prepared for using technology when they reached us at the post-secondary level. Instructors cannot assume these students have been

exposed to the technologies we currently use at our institution.

As to their personal use of technology, these millennials seem to have a bit more experience. Wireless network/Internet (90.1%), personal computer (82.9%), and smartphones (76.2%) were the top three technologies used. When comparing the percentages, the students' home uses for these technologies were higher than their high school uses. For example, 52.5% of the students reported using the internet at school, while 90.1% of the students used it at home.

As to whether our millennials expect us to have a technological classroom ready for them, the answer is yes. Access to the internet (92.3%), computers (77.3%), and course management systems (50.3%) were ranked as the top three technologies essential to the college classroom. College classrooms need to have internet capabilities and there should also be access to computers readily available to students. As instructors, we must seek to understand the workings of our course management system and strive to use it to its full potential. We must remember that less that 8% of the students surveyed said that the institution's technology offering, including equipment and access to that equipment was "not at all important". So, as a recruiting tool, we need to be able to say that we are using current technologies to their fullest potential.

The overall goal of this study was to gather data to explore the perceptions and opinions about the use of different technologies by college freshmen in higher education. This information should help to provide faculty from the

school of business a framework to address the technology experience and needs of students, specifically "millennial" students. The faculty needs to stay abreast of the expectations that the students have about emerging technologies and make any changes necessary to teaching methodologies. If necessary, faculty need to be willing to learn from these "millennial" students and become more technologically savvy in the classroom. It might also be helpful to know this information should money for new technology become available.

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Table 1

Answer Options	Used at Home/Personal ResponsePercent	Used in High School ResponsePercent
Wireless network/Internet	**90.1%**	**52.5%**
Personal computer (e.g., laptop, tablet, netbook, desktop)	**82.9%**	32.6%
iPod/MP3 player	**53.0%**	6.6%
E-reader device (e.g., Kindle, Nook, Sony Reader)	17.7%	5.5%
Media tablet (e.g., iPad, Samsung Galaxy)	28.7%	4.4%
Smartphone (e.g., BlackBerry, Droid phone, iPhone)	**76.2%**	7.7%
Video and/or Web conferencing	17.1%	13.8%
Digital content (e.g., online books, material available online for download in electronic form)	18.8%	11.0%
Open source applications (e.g., Google Apps, OpenOffice)	24.3%	18.8%
Blogs/wikis	14.4%	6.1%
Podcasts/vodcasts	10.5%	3.9%
Course management system (e.g., Blackboard, Jenzabar, Moodle)	17.1%	22.1%
Student response systems (a.k.a. "clickers" or learning response systems)	6.1%	12.2%
Off-campus network access	24.3%	10.5%
Interactive whiteboards	6.6%	**33.1%**
Recorded class lectures	6.1%	7.7%
Access to social networking sites (e.g., Facebook, Twitter, LinkedIn, MySpace)	51.4%	6.6%
Instant message/video chat (e.g., AIM, Gchat, Skype)	35.4%	3.3%
Virtual learning, which delivers education to students who are not physically in the same location as the teacher and/or other students	9.4%	17.7%
Multimedia content streaming	18.2%	6.1%

Table 4

Answer Options	Response Percent
Wireless network/Internet	**92.3%**
Personal computer (e.g., laptop, tablet, netbook, desktop)	**77.3%**
iPod/MP3 player	28.7%
E-reader device (e.g., Kindle, Nook, Sony Reader)	39.2%
Media tablet (e.g., iPad, Samsung Galaxy)	47.5%
Smartphone (e.g., BlackBerry, Droid phone, iPhone)	**50.3%**
Video and/or Web conferencing	47.0%
Digital content (e.g., online books, material available online for download in electronic form)	48.6%
Open source applications (e.g., Google Apps, OpenOffice)	45.9%
Blogs/wikis	25.4%
Podcasts/vodcasts	21.5%
Course management system (e.g., Blackboard, Jenzabar, Moodle)	63.5%
Student response systems (a.k.a. "clickers" or learning response systems)	36.5%
Off-campus network access	**54.1%**
Interactive whiteboards	48.6%
Recorded class lectures	43.1%
Access to social networking sites (a.k.a. Facebook, Twitter, LinkedIn, MySpace)	26.5%
Instant message/video chat (e.g., AIM, Gchat, Skype)	29.8%
Virtual learning, which delivers education to students who are not physically in the same location as the teacher and/or other students	45.3%
Multimedia content streaming	34.3%

MODELING eJOB SHADOWING FOR TEACHING MIS STUDENTS WITH SIMULATION TECHNOLOGY

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ABSTRACT

Problem Statement:

Recently, higher education institutions in the United States have been criticized by legislators and in public reports such as ***Academically Adrift*** that college students are not well prepared to participate in the 21st century highly competitive global economy. Arum and Roksa (2011) surveyed 2,300 students in 24 unnamed institutions including state flagships and historically black and Hispanic-serving institutions and found that college students are not challenged to develop high-order critical thinking skills for solving real-world problems. Indeed, many freshman courses pack hundreds of students in a face-to-face classroom filled with advanced technologies that have potential to engage students in experiential learning. However, faculty members who are uncomfortable with technologies often resort to teacher-centered lectures despite the fact that today's young digital-natives, who grew up with immersive games, the Internet, and social networks, prefer learning through more active methods that are available to them anytime and anywhere (Montoya, Massey, & Lockwood, 2011).

Purpose Statement:

This study aims to address the issue of preparing college students for the future workforce with a simulated job shadowing model. The SIM model is based on the technological, contextual, and angragogical frameworks:

I. Technological Frameworks for Job Shadowing

Educators across the nation assert that that critical problem solving, innovation skills, information social media, technology skills, life-long learning, and career skills must be fully realized in order to better prepare college students for their successful participation in the highly competitive global economy (Bronack et al., 2008). The job shadowing is designed to simulate learning environments with real-world scenarios. The simulated learning environment has built-in learning tool for students to acquire skills and solve problems at anytime and anywhere. Emerging technologies that will be used include information communication technology (ICT), Web.Alive 3-D virtual environments, learning management system (Desire to Learn), Camtasia, and Cloud computing.

II. Contextual Frameworks

Cybercrimes will be the learning context. Students will play the role of digital examiners. Students will be engaged in the problem-solving process and have access to a virtual network. Students can view online tutorials for how to download the forensic toolkit, search criminal databases, collect digital evidence, and turn in written reports. This approach also enables learners to make mistakes and receive feedback

within endangering the lives of people or damaging important property or information.

III. Andragogical frameworks for Integrating Web-based Tutorials

The teaching frameworks are based on Knowles' "andragogy" (the art of helping adult learners learn), Cognitive and Constructive Learning and scaffolding, Social Learning Theory, and Bloom Taxonomy (1980)

METHODOLOGY

The research design of the proposed eJob Shadowing study is quasi-experiment. The research method of the proposed study is quantitative. The time dimension of the research is cross-sectional since the study will only be conducted during the 2012-2013 academic year. Table 1 outlines two instruments, *Technical Competency Assessment (TCA)* and *Immersive Environment Survey* (IES), which will be used to collect and measure project data. These two instruments are designed to collect quantitative data. The TCA instrument will consists of closed-ended, multiple-choice questions that can provide the researchers with interval data. The IES survey will consist of three sections: (1) demographic questions with pre-defined values (e.g., male or female for gender), (2) visual, auditory, or kinesthetic (VAK) model with multiple-choice, and (3) closed-ended questions with pre-defined Likert-type scales (i.e., *strongly disagree, disagree, undecided, agree, and strongly agree*). *(See Table 1: Research Plans for Data Collection & Analytical Methods)*

Target Population & Sample:

Researchers will target a population of college students who are enrolled in the Management Information Systems (MIS) courses at one university in the Southwest region during 2012-2013 academic years. The sample will include students who voluntarily consent to participate in the study. A computer program will be used to randomly assign into two groups: (1) The control group will interact in a traditional face-to-face classroom and (2) the treatment group will be provided with URL links to interact in the simulated learning environment.

TCA will be administered to both groups as pretests and posttests. The objective of the pretests is to establish the baseline of prior forensics knowledge. The objective of the posttests is to determine any knowledge that is gained by students after reviewing discipline-specific contents. The score differences from the pretests and posttests will form the basis to compare differences in student learning outcomes for both groups. Likewise, IES will be administered to both groups and will be measured to determine student *satisfaction with learning.*

RESEARCH QUESTIONS & HYPOTHESES

Project data, which will be collected with both instruments, will be downloaded from the Survey Monkey server and imported into PI's computer. Data will be analyzed to form the basis for answering the following research questions (RQ) and hypotheses.

RQ1: What is the effect of *eJob Shadowing* on MIS student learning outcomes as measured

by the *Technical Competency Assessment?*

RQ$_2$: What is the effect of *eJob Shadowing* on MIS student learning satisfaction as measured by the *Immersive Environment Survey*?

H$_1$: The use of *eJob Shadowing* has a positive effect on MIS student learning outcomes.

H$_2$: The use of *eJob Shadowing* has a positive effect MIS student satisfaction with learning.

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Table 1. *Research Plans for data Collection & Analytical Methods*

Instrument	Timeline	Dependent Variable	Data	Analytical Method
TCA	Before & after each simulated module	Learning Outcome	Quantitative	multivariate analysis of variance (MANOVA)
IES	End of simulation	Satisfaction with Learning	Quantitative	T-test & Chi-Square (VAK)

NOTES

SOCIAL MEDIA: DON'T OVER SOCIALIZE!

Marcel M. Robles, Eastern Kentucky University

STATEMENT OF THE PROBLEM

This paper discusses the pros and cons of using social media in the education setting.

REVIEW OF RELATED LITERATURE

Social networking sites, such as Facebook and MySpace, can be valuable communication tools, but they can also wreak havoc in an individual's personal or professional life (Hemmi, Sayne, & Land, 2009; Ryberg, 2009). There are legal and ethical implications in using social media sites, as well as issues of physical safety, professionalism, and etiquette. The primary concern of social media is that people open themselves to public scrutiny of their personas and also can risk physical safety by providing too much information (Cain, 2008). Oftentimes, students will put information or pictures on their sites even when they are uncomfortable with the possibility of their employers seeing their posts (Peluchette & Karl, 2008). Others caution that educators might use social media just so they seem cool to their students, rather than for an intended learning purpose (Young, 2010). Regardless of the reasons for social networking, users need to be aware of the permanency, lack of privacy, implications, and repercussions for having a social media website.

Bohnert and Ross (2010) researched social networking websites that portrayed an emphasis on drinking alcohol, family orientation, or professional focus. Increasingly, employers are accessing these Web sites to screen job candidates (Bohnert & Ross, 2010). Job applicants with either a family-oriented or a professional-focus website were perceived as more conscientious and more suitable for the job, and were more likely to be interviewed, than those applicants with alcohol-emphasized sites; and if hired, those applicants were also more apt to be offered significantly higher starting salaries.

In 2010, approximately 38 percent of employers used social networking sites to screen applicants (Bohnert & Ross, 2010).

One-third of employers have not offered at least one job applicant a job on the basis of finding unprofessional material about the applicant online because people who are perceived as creating their own problems [e.g., drunkenness] are viewed as less desirable employees (Bohnert & Ross, 2010).

Of course, an applicant's qualifications continue to be strong criteria in the decision whether to interview or hire a job candidate, but social websites do impact how the applicant is evaluated.

Information disclosure must be carefully managed online because an unprofessional Web site can cost an applicant both a job opportunity and salary (Bohnert & Ross, 2010).

Managers and potential job applicants must be aware of the influence that social networking websites can have on their future job prospects (Bohnert & Ross, 2010).

Some of the negative aspects that have been seen with social networking sites include inappropriate content, cyberbullying, privacy issues, and security problems (Griffith & Liyanage, 2008).

Facebook was founded in early 2004 by Mark Zuckerberg (Griffith & Liyanage, 2008).

The user only needs a valid email address to join Facebook.

Facebook includes the following features:

- Like – friends can "like" a status.
- Wall – messages can be posted on a friend's profile page.
- Status Update – information can be posted as to what you are currently doing, thinking, wanting.
- News Feeds – profile changes, birthdays, and announcements can be linked.
- Photo/Video Upload – friends can upload photos and videos for others to view.
- Online Chat – friends can chat with other friends who are currently online.

Boyd and Ellison (2007) define social network sites as web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system.

Easy to connect with people who are attracted to their special interest groups.

Helps students in their studies for teamwork, study groups, research projects, and academic support.

Promotes interaction between teacher and student.

Increasing in popularity, social networking sites have become commonplace in everyday life for many individuals.

Social technologies including blogs, wikis, social bookmarking sites, photo sharing, video sharing and social networking sites (SNS) have been widely used to facilitate online social networking (OSN) (Hamid, Waycott, Kurnia, & Chang, 2010)

OSN has the potential to be appropriated and repurposed to support teaching and learning delivery in a formal learning environment (Hamid, Waycott, Kurnia, & Chang, 2010)

This paper examines the use of social networking sites for use in higher education.

Much discussion has occurred regarding the uses of social media in higher education (Dale & Pymm, 2009; Hamid, Waycott, Kurnia, & Chang 2010; Hemmi, Bayne, & Land, 2009; Land & Bayne, 2008) .

Facilitate students to create and share their work--interaction and collaboration.

Users can generate and share their own content and opinion.

ADVANTAGES

- Increasing student engagement, especially with shy
- Improving motivation of student learning and performing (Crook et al., 2008; Rifkin, Longnecker, Leach, Davis & Orthia 2009).
- Providing more personalized information to teachers about students they teach (Griffith & Liyanage, 2008) so they can implement student interests into assignments.
- Encouraging inquiry-based study
- Promoting collaborative activities
- Attracting student interest with technology they use (especially younger generations) (Ellison et al., 2007).

DISADVANTAGES

(1) the separation of life and studying; (2) originality and copyright issues; (3) sense of
information flooded; (4) time constraint and (5) lecturers are not up-to-date and may not know how to integrate technology into learning Jones, Blackey, Fitzgibbon, & Chew (2010).

PROPOSED PRESENTATION

Discussion will include the following:

- Privacy settings – keeping your information secure
- Cloud control – using helpful sites such as twtrland.com to track what people can see about you
- Google yourself – managing your online brand identity

- Blog it – posting positive comments about yourself
- Connect yourself – joining sites in your profession
- Invite caveat – knowing with whom you are "friends"
- Time stealer – managing the amount of time you spend "socializing"
- Hash research – keeping sites limited to your interests
- Cyberstalking – ensuring your safety

Examples of unethical and illegal use of social media sites will be provided. Some tips for teachers and students will be shared as well as some classroom activities that facilitate the instructional use of social media.

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NOTES

SPREADSHEET PROFICIENCY IN BUSINESS SCHOOL STUDENTS: A PRELIMINARY STUDY OF STUDENT JOB PREPAREDNESS

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ABSTRACT

A research study was conducted to determine the level of spreadsheet proficiency in junior business students. Over the last ten years, the authors have noticed fewer students have enrolled in software skills classes and fewer administrators believe that these courses are important. And yet, industry demands for specific software skills remain strong. An instrument was developed using simulation software to test the spreadsheet skills of junior business students. Twenty-nine core skills were included on the exam. The overall average for task completion on the exam was 33.48%, indicating that students perform at the beginner level in spreadsheet skills. Additional results are given and the implications for business education programs are discussed.

INTRODUCTION

Over the past ten years, the authors have noticed a degradation of spreadsheet skills of junior level business students (Excel, OpenOffice Calc, etc.) in both public and private universities. Computer skills in general, and spreadsheet skills in particular, are necessary for the completion of course work in business classes at the universities. Further, industry requirements for spreadsheet skills remain strong and therefore should be considered essential for students to master. A search of Monster.com postings for both entry level and experienced (non-manager) business positions found over 1,000 that required Excel skills of qualified applicants (see Appendix 1).

Additionally, new transparency requirements are being instituted at one of the subject universities. Part of the new transparency policy includes a limited guarantee, which emphasizes the commitment to ensuring the competency of graduates. According to the guarantee, if an employer finds a graduate lacking in requisite core skills to perform the job for which he/she was hired, the university will re-educate any graduate deficient in core employment areas, at no cost to the employer or the graduate (CU, 2012). Consequently, if students graduate from the regional university business program without the spreadsheet skills required for the performance of their job, it could negatively impact the graduate, the faculty, and the university.

Based on these implications, the authors developed an instrument using simulation software to test the spreadsheet skills of junior business students. Twenty-nine core skills were included on the exam, with students self-ranking prior knowledge of spreadsheet software. For this research,

the use of the MyITlab access codes and simulation software was provided by Pearson (2012a).

LITERATURE REVIEW

Business and technology faculty want to believe students enter the business world with the knowledge and skills necessary to succeed, which includes the use of spreadsheet software. Spreadsheet software programs, like Excel and its predecessors, have been available to students for more than 25 years; however, business schools can easily assume their students have somehow mastered spreadsheet software programs. Unfortunately, many students' knowledge of spreadsheet software is insufficient when compared to potential employers' expectations. Potential reasons for the lack of student knowledge may be that "…business schools may be placing undue emphasis on current high-interest topics…" (Abraham & Karns, 2009, p. 355). In the current business environment, these high interest topics include ethics and global economics. Pincus (1997) fortifies the high interest topic belief, by stating that more emphasis on development of students' new skills and abilities will come at the loss…" (as cited by Springer & Borthick, 2007, p. 2). In addition, the Information Technology (IT) gap is worse at urban minority universities where many students are returning adults (which is the case at one of the subject universities); thus, new teaching methods must be developed to guide students in their learning (Sheu & Wong, 2006).

Students need "…to possess interdisciplinary [spreadsheet] knowledge in order to compete in an increasingly competitive marketplace" (Sheu & Wong, 2006, p. 223). This idea is fortified by a common complaint of employers who have stated that business school graduates lack technical skills, including spreadsheet knowledge, to complete basic tasks (Kros and Nadler, 2008). In order for graduates of business programs to succeed, students must have a high level of computerized knowledge according to Awasthi, Bee, DeMello-e-Souza, and Tinius (2010). Awasthi, et.al. (2010) continued by stating a knowledge of a software package [like Excel] enables employees to create a model of a problem situation and the ability to create plausible solutions in that model. In addition, Williams (2008) "reported that spreadsheets are still the most common budgeting and forecasting tool used…" (as cited by Awasthi, et. al., 2010). Thus, a student without a high level of spreadsheet knowledge is at a significant disadvantage in finding employment and in providing value to their employer.

METHODOLOGY

The authors met initially to discuss the problem of students' ability to use spreadsheets. Currently, at the private university, business students receive exposure to Excel as part of a one-hour Introduction to Business course. At the public university, business students obtain an exposure to spreadsheets in a required introductory computer literacy class. An additional class that teaches productivity software (specifically Microsoft Office Suite) is offered but is only required for Associate degree business students. Bachelor degree business students are not required to take the additional class. There has been declining enrollment among business

students in that class for some time. An advanced class in productivity software was previously taught, emphasizing case studies and critical thinking, as opposed to mostly learning software features. However, the class has not been offered in several years due to lack of student enrollment.

The authors then looked at possible methods to determine student abilities. The regional university was already using Pearson's MyITlab (2012) in the introductory course as well as the productivity software class. An example Excel screenshot taken by one of the author's is shown below in Figure 1. One of the authors approached Pearson and they provided 100 exam codes for this study. Fifty would be used each semester – divided equally between the two universities.

Figure 1: Example Excel Simulation Myitlab Screenshot
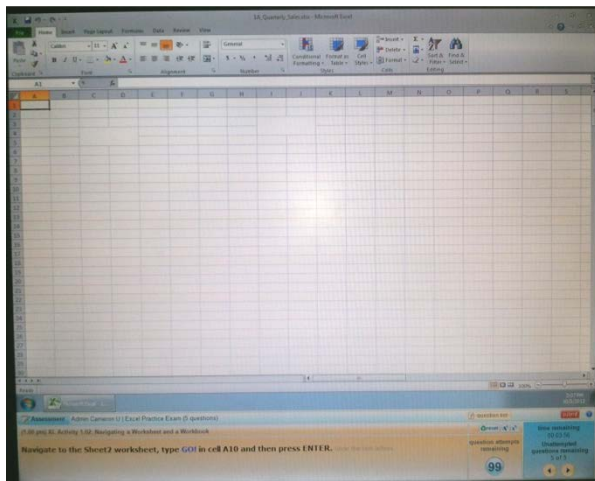
Next, the authors then met to decide what basic skills are required for business students at the junior level. After reviewing dozens of available questions, 29 subject matter questions were selected (as shown in Results), and 11 demographic questions were created.

The authors chose specific subject matter questions based on their experience in what students would need for future classes, as well as what employers and advisory council members have claimed are important. For example, the "Creating Custom Headers and Footers" question (which 0% of the students were able to accomplish) was chosen because accountants MUST describe what the financial statement (excel spreadsheet) represents. Whether the document is an internal or external report, the header tells the reader which company the report refers to, the type of report (i.e. Balance Sheet, Income Statement, etc.) and the report date (i.e. a period of time or a point in time). Without the header information, the report is just a set of numbers that a future reader may not be able to attribute to any particular entity. In addition, the headers are important to the preparer for filing by company, by report type, and by date. In effect, the headers and footers in excel enable students and professionals to be organized.

The authors agreed to use the following scale for determining student proficiency (see Table 1).

Table 1: Scale of Student Proficiency

Excel Skill Level	%
No Previous Experience	0 – 25%
Beginner	26 – 50%
Intermediate	51 – 75%
Mastery	> 75%

The exam was then given in the junior level Management Information Systems (MIS) class at the regional university, and since a junior level MIS class was not being taught at the private university that semester, the exam was offered to

junior level business students in various business classes. Out of 50 possible students, 31 completed the exam. An additional five students attempted to take the exam, but were unable to complete the exam due to server issues.

RESULTS

The results of the Excel exam are contained in Table 2 below. The overall average for all students completing the exam was 33.48%, which would rank these junior students as beginners in Excel use.

Table 2: Excel Exam Results

#	Skill	%
1	Entering Numbers	87.10%
2	Constructing a Formula and Using the SUM Function	48.39%
3	Copying a Formula by Using the Fill Handle	70.97%
4	Formatting Financial Numbers	35.48%
5	Charting Data in a Column Chart	41.94%
6	Displaying, Printing, and Hiding Formulas	58.06%
7	Using Arithmetic Operators	80.65%
8	Copying Formulas Containing Absolute Cell References	25.81%
9	Formatting Cells with the Percent Style	61.29%
10	Using the SUM and AVERAGE Functions	29.03%
11	Using the MIN and MAX Functions	41.94%
12	Using the COUNTIF Function	6.45%
13	Using the IF Function	22.58%
14	Freezing and Unfreezing Panes	6.45%
15	Creating an Excel Table	45.16%
16	Sorting and Filtering an Excel Table	22.58%
17	Entering and Formatting Dates	41.94%
18	Constructing Formulas Referring to Cells in Another Worksheet	29.03%
19	Creating a Pie Chart and a Chart Sheet	16.13%
20	Applying Percentages to Labels in a Pie Chart	12.90%
21	Formatting the Chart Area	9.68%
22	Inserting the PMT Financial Function	16.13%
23	Inserting the VLOOKUP Function	6.45%
24	Creating a Line Chart	25.81%
25	Protecting a Worksheet	19.35%
26	Creating a PivotTable Report	38.71%
27	Adding Fields to a PivotTable Report	22.58%
28	Unprotecting a Workbook	48.39%
29	Creating Custom Headers and Footers	0.00%
	Average	**33.48%**

The students were able to perform only two tasks at the mastery level (75% or greater success). These two tasks were entering numbers and using arithmetic operators, both representing very basic functionality in Excel. Three tasks were performed at the beginner level (26-50% success), including: Copying a formula by using the fill handle; displaying, printing, and hiding formulas; and formatting cells with the percent style. For the remainder of the tasks performed, students achieved beginner

level success on 12 tasks and had no previous experience with 12 other tasks. Interestingly, no students completing the exam had experience in creating custom headers and footers.

DISCUSSION

The findings of this study were not a surprise to the authors, especially in relation to junior level business student Excel skills leaning toward beginner levels. The authors have anecdotally noticed a trend in concentrated Excel training declining over a number of years at their respective public and private universities. Also, advisory councils regularly mention the importance of Excel usage. However, until the various job searches were conducted, the large number of business jobs requiring Excel proficiency was not well known to the authors. Taking everything into consideration, it is plausible that business students graduating without sufficient Excel expertise could have difficulty in finding employment upon graduation.

Based on these findings, several questions arose, including:

- Should more remedial courses be offered?
- Is a longer collegiate program needed (e.g., 5 years)?
- Should an undergraduate program only be designed to aid the student in gaining knowledge, not to train for the job?
- Should there be more intense spreadsheet training within multiple courses?
- Are business program goals too broad, or too focused on ethics, global issues, etc.? Do the goals need to be reviewed?

The authors plan to recreate this study during the upcoming semester, to see if the lack of Excel proficiency is seen again, or if it was just an occurrence during the current semester.

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Appendix 1

Nationwide Search from Monster.com

Number of hits job data was obtained on Monster.com using the search term "Excel" as a skills keyword area for both Experienced [Non-Manager] and Entry Level business positions. There was only a slight increase when replacing "Excel" with the term "Spreadsheet" (e.g., 3-7 hits). Therefore, hits only using the term "Excel" are reported below, since this term is most specific to the posted job qualifications.

Experienced (Non-Manager) Positions Requiring Excel, Category: Accounting, Finance, and Insurance

Advanced search results produced 1000+ hits using the following search parameters ... Skills/Keywords: Excel; Job Type: Full Time; Category: Accounting, Finance, and Insurance; Education Level: Bachelor's Degree; Total Years of Experience: Experienced [Non-Manager] (Monster, 2012a). See Figure 2 for a typical example.

When Excel was removed as a skills keyword, the number still showed 1000+ hits. Without knowing the total number of hits above 1000, there was no efficient way to determine the overall percentage of jobs requiring Excel, compared with jobs that do not require Excel. *What is known is that at least 1000 of the posted jobs required Excel.*

Figure 2: Example of Experienced (Non-Manager) Positions Requiring Excel Category: Accounting, Finance, and Insurance

Lead Financial Analyst - Dallas

Overall Purpose: Responsible for conducting and documenting more complex financial analysis projects, works on problems of diverse scope including the analysis of financial reports, trend, and opportunities.

Key Roles and Responsibilities: Evaluates and makes recommendations relating to business opportunities, investments, financial regulations, and similar financial projects or programs. Gathers, interprets, and evaluates financial information. Responsible for the analysis and interpretation of financial and other data. Develops recommendations to achieve the organizations financial objectives. Determines financial consequences of alternative methods, plans and strategies. Evaluates financial performance including cost or budget administration. Performs complex data modeling and financial analysis.

Job Contribution: Uses professional concepts and company objectives to resolve complex issues in effective ways. Works on complex issues where analysis of situations or data requires an in- depth evaluation of variable factors.

Experience: Typically requires 5-7 years experience.

Supervisory: No.

Required Qualifications:

- Bachelor's degree in Science, Engineering, Finance, or a technical related field
- Five years experience in accounting, financial analysis, or financial reporting
- Good communication skills.
- Excellent interpersonal communications and project management/leadership skills
- Excellent desktop skills (Excel, Word, PowerPoint, MS Access)

Desired Qualifications:

- Five or more years experience in Financial Analysis, modeling and forecasting
- MBA in Finance

AT&T is an Affirmative Action/Equal Opportunity Employer, and we are committed to hiring a diverse and talented workforce. EOE/AA/M/F/D/V

Experienced (Non-Manager) Positions Requiring Excel, Category: Business and Strategic Management

Advanced search results produced 288 hits using the following search parameters ... Skills/Keywords: Excel; Job Type: Full Time; Category: Business and Strategic Management; Education Level: Bachelor's Degree; Total Years of Experience: Experienced [Non-Manager] (Monster, 2012b). See Figure 3 for a typical example.

When the skills keyword "Excel" was removed, the total was 876 hits *(33% of posted jobs required Excel).*

Figure 3: Experienced (Non-Manager) Positions Requiring Excel Category: Business and Strategic Management

Experienced (Non-Manager) Positions Requiring Excel, Category: Marketing and Product

Advanced search results produced 435 hits using the following search parameters ... Skills/Keywords: Excel; Job Type: Full Time; Category: Marketing and Product; Education Level: Bachelor's Degree; Total Years of Experience: Experienced [Non-Manager] (Monster, 2012c). See Figure 4 for a typical example.

When Excel was removed as a skills keyword, the number of hits still showed 1000+. Without knowing the total number of hits above 1000, there was no efficient way to determine the overall percentage of jobs requiring Excel, compared with jobs that do not require Excel. *What is known is that at least 1000 of the posted jobs required Excel.*

Figure 4: Experienced (Non-Manager) Positions Requiring Excel Category: Marketing and Product

Product Marketing Specialist

JOB SUMMARY:

The Product Marketing Specialist will assist in the development and execution of marketing activities that competitively position T-System's products in the market, increase sales and grow market penetration. Marketing activities will include developing and managing product positioning, messaging, sales training and tools, and targeted marketing programs. This highly strategic and execution-focused role will require a high-energy, motivated individual that can understand the needs of the buyer, deliver measureable results and provide leadership and guidance to other team members. This position works both individually and with a team in recommending action, scheduling and planning projects, estimating cost and managing projects to completion. Excellent cross-department collaboration and communication is required for this position.

PRIMARY OBJECTIVES:

- Positioning, branding and messaging for new and existing products
- Develop and execute communication strategies for advancing internal and market awareness of products and messaging
- Design and drive lead generation activities for the support of T-System products and services
- Manage sales training and sales tools for key products and strategies

QUALIFICATIONS:

- 4-year degree in Marketing, Business or related field
- 4+ years of experience in marketing or product management
- Excellent verbal and written communication skills
- Strong organization and analytical abilities
- Proficient in Microsoft Office including Word, Excel and PowerPoint

Entry Level Positions Requiring Excel, Category: Accounting, Finance, and Insurance

Advanced search results produced 170 hits using the following search parameters ... Skills/Keywords: Excel; Job Type: Full Time; Category: Accounting, Finance, and Insurance;

Education Level: Bachelor's Degree; Total Years of Experience: Entry Level (Monster, 2012d). See Figure 5 for a typical example.

When the skills keyword "Excel" was removed, the total was 372 hits *(46% of posted jobs required Excel).*

**Figure 5: Entry Level Positions Requiring Excel
Category: Accounting, Finance, and Insurance**

Job Summary

Company
Dwellworks, LLC

Location
Cleveland, OH 44115

Industries
Real Estate/Property Management

Job Type
● Full Time
● Employee

Years of Experience
2+ to 5 Years

Education Level
Bachelor's Degree

Career Level
Entry Level

Contact Information
● Dwellworks, LLC
● https://home.eease.
adp.com/recruit/?id=
559472

Accountant 1

About the Job
To apply for this position click the link below:
https://home.eease.adp.com/recruit/?id=559472

Great opportunity for candidates with 3-5 years of accounting experience! Must have a degree in accounting to apply!

Position Summary
The Accountant I is responsible for the day-to-day financial management of a portfolio of properties.

Responsibilities
The responsibilities of the Accountant I include:
+ Reviewing and approving all accounts payable and expense processing
+ Processing and monitoring tenant transactions including collecting rent and lease reviews
+ Updating, reviewing and approving transactions in property management system
+ Reviewing and reconciling transactions in the accounting system
+ Creating monthly audits and owner statements
+ Assist in collection of owner receivable and compile owner payments
+ Processing and releasing owner payments
+ Assisting in monthly closings and the reconciliation of various Balance Sheet accounts

Qualifications
+ Education: Bachelor's Degree in Accounting Required
+ Required Experience: 3-5 years experience in an accounting environment Required
+ Other Skills and Abilities:
  + Strong analysis and decision making skills
  + Strong communication skills and the ability to work independently
  + Previous experience in property management or real estate a plus
  + Experience with Great Plains and/or property management software a plus
  + Strong Microsoft Office Skills; proficient in Excel

To apply for this position click the link below:
https://home.eease.adp.com/recruit/?id=559472

Entry Level Positions Requiring Excel, Category: Business and strategic Management

Advanced search results produced 22 hits using the following search parameters ... Skills/Keywords: Excel; Job Type: Full Time; Category: Business and Strategic Management; Education Level: Bachelor's Degree; Total Years of Experience: Entry Level (Monster, 2012e). See Figure 6 for a typical example.

When the skills keyword "Excel" was removed, the total was 98 hits *(22% of posted jobs required Excel).*

Figure 6: Entry Level Positions Requiring Excel
Category: Business and strategic Management

Job Summary

Company
Profit Recovery Partners

Location
Costa Mesa, CA 92626

Industries
Financial Services

Job Type
● Full Time
● Employee

Years of Experience
2+ to 5 Years

Education Level
Bachelor's Degree

Career Level
Entry Level

Salary
$40,000.00 - $50,000.00 / year
Depending on Experience

Job Reference Code
SMA0912

Solutions Management Analyst

About the Job
Company Description

Profit Recovery Partners LLC is a professional services firm that develops, implements and manages cost-reduction solutions for FORTUNE 1000 companies, law firms, private equity firms and private companies throughout North America. Our years of industry-direct experience, $2 billion in purchasing leverage as well as our program for ongoing support and verification, drive our continued commitment to award-winning service. Our spend management, supplier management and procurement strategies have resulted in more than $1.5 billion in client savings. Learn more at www.prpllc.com

Our Solutions Management Analysts work directly with the senior level staff of our customers and their business partners to strategize, implement, and support cost containment programs. The cost reduction process includes: The efficient collection and analysis of data, strategizing on sourcing solutions, contract negotiation, savings program implementation, and management of program performance.
- Collaboration with internal groups to receive, review, and compile all necessary work product on a timely basis
- Compile customized reporting for client meetings
- Work with customers on ad hoc requests to maintain top tier account satisfaction

This fast paced, service-oriented position provides exceptional career growth opportunities, learning and development opportunities and opportunity for advancement and autonomous/entrepreneurial work.

Desired Skills & Experience

Requisite Experience and Competencies:
Education:
Bachelor's degree is required. Finance/Economics degree is preferred.

Experience:
2 to 5 years prior work experience in the finance or consulting industry, or related field is preferred

Professional Qualities:
- Must have strong analytical skills
- Must have excellent attention to detail
- Must be able to work in a fast paced environment
- Must be available for some travel (10%).
- Must be proficient to expert with Microsoft Word, Excel, and Outlook
Personal Qualities:
- Must have strong verbal and written communications skills
- Must have strong interpersonal skills and be self-motivated
- Must be able to complete tasks accurately in a timely manner

Entry Level Positions Requiring Excel, Category: Marketing and Product

Advanced search results produced 83 hits using the following search parameters … Skills/Keywords: Excel; Job Type: Full Time; Category: Marketing and Product; Education

Level: Bachelor's Degree; Total Years of Experience: Entry Level (Monster, 2012f). See Figure 7 for a typical example.

When the skills keyword "Excel" was removed, the total was 273 hits *(30% of posted jobs required Excel).*

Figure 7: Entry Level Positions Requiring Excel
Category: Marketing and Product

Job Summary

Company
NPD Group

Location
Rosemont, IL

Industries
Advertising and PR
Services

Job Type
• Full Time
• Employee

Years of Experience
1+ to 2 Years

Education Level
Bachelor's Degree

Career Level
Entry Level

Job Reference Code
1030

Market Research Associate, Client Development

About the Job

The NPD Group, founded in 1966, is the leading global provider of consumer and retail market research information for a wide range of industries. We provide critical consumer behavior and point-of-sale (POS) information and industry expertise across more industries than any other market research company. Through our consumer panel, retail sales tracking services, special reports, and custom research, we help our clients understand and profit from consumer and retail trends. Our data tells them who is buying, what, where, and why at the international, national, and store levels.

The Account Associate builds relationships with and provides support to Foodservice clients to include restaurant operators and manufacturers. The Associate handles all day-to-day servicing, assists with product development and project management, helps to enhance existing products, and increases NPD's value with client contacts.

Overall Responsibilities:

• Providing day-to-day servicing support for our clients
• Conducting small group client training on NPD applications, both onsite and via WebEx
• Writing analytical summaries with manager's guidance
• Accurately interpreting data and clearly articulating issues and findings to both internal and external audiences in written and verbal formats
• Working with market data housed in a cross-tabular software system.

Qualifications:
• 0-2+ years experience in client servicing or consumer research
• Basic presentation skills and understanding of the selling process
• Excellent verbal and written communication skills
• Strong attention to detail
• Strong organizational and project management skills
• Proven ability to quickly learn proprietary software/database applications
• Expert in all MS Office products. (Strong Excel, PowerPoint, Word)
• Willingness to travel (typically 10%)
• Bachelor's degree

The NPD Group is an Equal Opportunity Employer.

NOTES

STUDENTS' ATTITUDES TOWARD EIGHT-WEEK COURSES IN COMPUTER LITERACY

Lori Soule, Nicholls State University
Kent White, Nicholls State University

ABSTRACT

Changing of the format of the computer literacy courses at the researchers' university was a task that took some manipulation and imagination to complete. Since students are a major stakeholder group, student satisfaction toward the changed format is important. The researchers surveyed their students over two semesters. Results were positive in the students' satisfaction toward the 8-week courses; most would like to see the necessary courses paired together as one course that would last for half of a semester instead of a pair of courses lasting the entire semester.

INTRODUCTION

Manipulating coursework to fit with a state-mandated 120 hours for a bachelor's degree is occurring at several universities. Some courses are being eliminated from the degree while others are having a reduction in hours. The researchers' university recently reduced the computer literacy requirements from three hours to two hours in order to comply with the 120-hour mandate (White and Soule, 2011). To help meet these changes, the computer science faculty changed the three-hour computer literacy to one-hour modules that allowed the various curriculums to choose the modules that best fit their curriculum. The modules chosen for computer literacy are: introductory word processing, advanced word processing, introductory spreadsheet, advanced spreadsheet, presentation software and database software. The biology department decided to maintain a three-hour credit course that covers four Microsoft Office components of Word, Excel, PowerPoint, and Access. The one-hour modules are taught in 8-week mini-session during a regular 16-week semester thus giving the student an opportunity to take the two required in one time slot in one semester. During the summer semester these one-hour modules are offered as a 4-week mini session.

Because of this type of scheduling, one of the problems that arose was the need to inform the students how the courses ran during the semester, as this was not the typical course duration for a semester. Advising for incoming university freshman is housed in University College (UC) and all entering freshman regardless of degree begin in this college so advising for these students is provided by a particular set of advisors. By informing these UC advisors of the course duration change, they could convey the unique arrangement of the courses to their advisees. The faculty for the courses also had to make the students aware at the beginning of the semester how the courses were being structured. Despite this type of scheduling, some students that were not freshman did register for the classes. Some of these non-freshmen did not realize that the two classes they registered for at different times were to

be taught during the same portion of the semester, either during the first eight weeks or the latter eight weeks. Seeing the confusion of the students caused by the mini session courses, the faculty made a point to email students at the beginning of the next semester to make the students aware of the length of the course and when the course would begin and end.

Another problem occurred when a student failed a course in the first mini-session that was a prerequisite for a class the student had registered for in the second mini-session. The student had to be dropped from this second class. In order to automate this process, the admissions office made a change that would allow these students to be automatically dropped from the second class if the first class requirement was not passed.

A third problem recently encountered occurred in the face-to-face courses. These courses are setup as a hybrid course. They initially meet on either Monday or Wednesday as a face-to-face component. Using this method, two classes can be assigned the same class time. The Friday meeting is then used as a makeup day where the students from both the Monday and Wednesday section come in for additional help or to makeup missed assignments. The lab is equipped with 30 computers but the two classes are limited to 20 students each. This allows 40 students to be serviced in only a 30-computer lab because not all students will need to make up work or need extra help for the class. The problem occurred when all 40 students showed up for an exam on Friday. The faculty member had to allow some students to return on Monday to take the exam.

One positive aspect of the short courses occurred in the summer semester. The researchers' university offers two mini 4-week sessions in the summer. The first session meets in June and the second in July. The summer school schedule was revised where each of the one-hour computer literacy modules was offered during the first summer mini-session and the advanced spreadsheet course was offered for the second mini-session of the summer. This allowed the classes for the introductory computer literacy class to fill up with students while also allowing those students that needed the advanced spreadsheet class a chance to get both classes in the summer.

REVIEW OF RELATED LITERATURE

Stein (2004) states the degree of structure, including clearly defined objectives, assignments, and deadlines, within a course will determine the level of student satisfaction. Having a positive perception toward technology and an autonomous learning mode will influence a student's satisfaction (Drennan, Kennedy, and Pisarski, 2005).

"Time frame most suitable for their own circumstance," was the most often cited reason for students enrolling in an online course, according to Watson and Rutledge (2005). Students noted that being able to complete coursework while at home was important to them. The students could care for family members, save on gasoline, complete assignments before and after work, and be at home more when enrolled in an online class. This convenience factor had an effect on their level of satisfaction.

The length of a course influenced a student's ability to perform in a course, according to Seamon (2004). Seamon (2004) found that students taking shortened, intense, face-to-face courses performed better than students enrolled in the longer, semester length courses. His study results showed that students enrolled in the intense courses performed better initially when compared to students taking the semester length courses. However, in later testing three years later, students who completed the semester length course outperformed the students who completed the shortened, intense course.

In a 2007 study by Anastasi, he found that student performance in an accelerated summer session was not poorer when compared to students taking a regular, 16-week course. In some cases, students in the summer courses outperformed students in the full-semester courses. In addition, teaching evaluations indicated the students reported the summer sessions to be more rigorous when compared to the same course taken in a regular session.

Allen et al., (1982) found that accelerated courses that contained group discussion, individual/small group projects, and out-of-class experiences resulted in significantly higher levels of student satisfaction than regular semester courses. Scott (2003) reports students in an intensive course experience the class different from students taking a traditional, semester-length course. They indicated that the instructor's enthusiasm, course knowledge, life experiences, and communication skills were essential for

a high-quality learning experience in an intensive course.

There are many studies on distance learning in the literature. Some studies cover student satisfaction with the course itself—student-student interaction, student-instructor interaction, course structure, others look at the convenience factor of distance learning. Even more studies look at student satisfaction in a semester-length online course versus student satisfaction on a semester-length face-to-face course.

The researchers were able to locate only one study that compared student satisfaction to a semester length online course to an accelerated online course. In a study by Ferguson and DeFelice (2010), students were more satisfied with their communications with other students in an intense course than students in a full semester course. But these same students were less satisfied with their communications with their instructor in an intense course than students in a full semester course. These results stress the importance of effective communication between students and the instructor in a successful online course. The instructor needs to be available to make quick responses to students' emails and online discussions. In addition, the use of chat room and blogs would provide opportunities for more communication.

PURPOSE OF THE STUDY

This study surveyed students enrolled in the one-hour modules during the fall 2011 and spring 2012 semesters. Even though the faculty encountered problems with the 8-week courses that had to be resolved, the researchers were

curious as to the attitudes of the students toward the modules.

RESEARCH QUESTIONS

The researchers posed the following questions:
- Were the students informed by their department/advisor as to which computer literacy 1-hour modules were needed in their course work?
- Were the students confused when trying to determine which 1-hour computer literacy courses they needed to take?
- Did the students like the half-semester courses?
- Did the students prefer the two computer literacy courses they needed being paired together into a single two-hour course that would last the entire semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course?
- Did the students prefer two computer literacy courses they needed being paired together into a single two-hour course that would last for one-half of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course?

DATA AND METHODOLOGY

Prior to the commencement of data collection for this study, an application was submitted to and approved by the university's Human Subjects Institutional Review Board. Data for this study were gathered with convenience sampling. A short instrument consisting of four demographic questions, five statements based upon a 4-point Likert scale (strongly disagree, disagree, agree, strongly agree), three choice questions, and one open-ended question was administered to nine online classes. The 4-point response scale was used specifically to prevent students from simply taking the "no opinion" or middle ground perspective in answering the questions. During the fall 2011 semester, four classes contained 119 students enrolled in a freshman level course. Seventy-two percent participation of students still participating in the classes in late September/early October 2011 was achieved among the five classes resulting in N = 86. During the spring 2012 semester, six classes contained 113 students enrolled in a freshman level. Eighty percent participation of students still participating in the classes in late February/early March 2012 was achieved among the six classes resulting in N = 90. These freshman level courses were an entry-level computer literacy course. Each student received a unique code that identified the student for awarding survey participation points. These participation points represented less than 0.03 points that the students were eligible to earn during the semester.

Independent Variables

Gender, age, college, classification, and number of modules enrolled in during the semester were used as independent variables.

Fall 2011. In the fall 2011 semester, 33.7% of the 86 respondents were male while 66.3% were female. Seventy-three point three percent were within the ages of 17-24 while the remaining 26.7% were

ages 25 and older. Thirty-nine point five percent were in the College of Allied Health and Nursing, 29.1% were in the College of Arts and Sciences, 7% were in the College of Business, 8.1% were in the College of Education, and the remaining 16.3% were in University College. Fifteen point one percent were freshmen, 41.9% were sophomores, 25.6% were juniors, and 17.4% were seniors. Thirty-six percent were enrolled in one computer literacy module for the semester while the remaining 64% were enrolled in two modules.

Spring 2012. In the spring 2012 semester, 27.8% of the 90 respondents were male while 72.2% were female. Eighty-three point three percent were within the ages of 17-24 while the remaining 16.7% were ages 25 and older. Forty-five point six percent were in the College of Allied Health and Nursing, 28.9% were in the College of Arts and Sciences, 8.9% were in the College of Education, and the remaining 16.73% were in University College. Twenty-eight point nine percent were freshmen, 38.9% were sophomores, 20.0% were juniors, and 12.2% were seniors. Forty-eight point nine percent were enrolled in one computer literacy module for the semester while the remaining 51.1% were enrolled in two modules.

Correlations in the Independent Variables

The researchers used correlation tools to look for relationships between the pairs of independent variable and between the independent and dependent variables. Correlations in the independent variables were analyzed for the two semesters.

Fall 2011. In fall 2011, classification was positively correlated to number of computer literacy modules enrolled in this semester (.282). The researchers speculate the positive correlation is due to the more experienced students believed they could successfully complete two modules in one semester.

Number of computer literacy modules enrolled in this semester was negatively correlated to the dependent variables, "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.*"   (-.409) and "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.*" (-.293). The researchers speculate the negative correlations are due to being confused as to which courses they should take to complete the computer literacy requirement.

College was negatively correlated to the dependent variable, "*I was confused when trying to determine which 1-hour computer literacy courses I needed to take.*" (-.257). The researchers speculate the negative correlation is due to some colleges specifically told the students which of the computer literacy module to take in order to complete their course requirements.

Classification was positively correlated to the dependent variable, "*I like taking these short half-semester courses.*" (.402). The researchers speculate the positive correlation is because the more experienced students want to complete

courses quicker because each course completed is a step closer to graduation.

Spring 2012. In spring 2012, gender was positively correlated to number of computer literacy modules enrolled in this semester (.237). The researchers could not speculate any reasons why this positive correlation exists. Age was positively correlated to classification (.478). The researchers speculate this positive correlated was due to students with more completed coursework were older than students just beginning their college careers.

Gender was positively correlated to the dependent variables, "*I was confused when trying to determine which 1-hour computer literacy courses I needed to take.*" (.263) and "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.*" (.240). The researchers could not speculate any reasons why either of these positive correlations exists.

Age was negatively correlated to the dependent variable, "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.*" (-.225). The researchers speculate this negative correlation was due to the older students did not want to take a course that would move at a faster pace.
College was positively correlated to the dependent variable, "*I wish the two*

computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course." (.033). The researchers speculate this positive correlation was due to numbers of University College students enrolled in the courses and their lack of college experience.

STATISTICAL ANALYSIS

The mean and standard deviation for each of the Likert-type dependent variables on the survey were computed for each semester (Table 1). The mean of the dependent variable "*My department/advisor notified me of which computer literacy one-hour modules were needed in my coursework.*" increased from the fall semester ($M = 3.07$, $SD = .764$) to the spring semester ($M = 3.11$, $SD = .999$). The mean of the dependent variable "*I was confused when trying to determine which 1-hour computer literacy courses I needed to take.*" also increased from the fall semester ($M = 1.76$, $SD = .718$) to the spring semester ($M = 1.83$, $SD = .838$). The mean of the dependent variable "*I like taking these short half-semester courses.*" decreased from the fall semester ($M = 3.45$, $SD = .777$) to the spring semester ($M = 3.41$, $SD = .923$). The mean of the dependent variable "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.*" also decreased from fall ($M = 2.07$, $SD = 1.003$) to spring ($M = 1.93$, $SD = 1.003$). The mean of the

dependent variable "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.*" increased from the fall semester (*M* = 2.58, *SD* = 1.079) to the spring semester (*M* = 2.64, *SD* = 1.154). *(See Table 1 below.)*

Comparisons by Gender, Age, Classification, College, and Number of Computer Literacy Modules Enrolled in This Semester

The researchers conducted additional tests on the responses from the two semesters. Independent samples t-tests were conducted to identify differences in responses by gender, age, and number of computer literacy modules enrolled in this semester.

Fall 2011 Analysis – Independent Samples t-tests. Relating to the five Likert-type questions on the survey to the data collected during the Fall 2011 semester, the researchers formulated five hypotheses about the differences in the mean of the dependent variables by **gender**. However, using independent samples t-test, none of the hypotheses were found to be statistically significant.

The researchers also formulated five hypotheses, again tested using independent samples t-tests, about the difference in the mean of the different dependent variables by **age**. As presented in Table 2, one hypothesis in this grouping was found to be statistically significant. The hypothesis was, do persons 17-24 years of age feel the same about the statement "*I like*

taking these short half-semester courses" as persons 25 years of age or older? Persons 17-24 years of age had a mean of 3.37 while the persons 25 years of age of older had a mean of 3.70. Equal variances were not assumed (.032) and the hypothesis of equal means was rejected (sig. = .026). *(See Table 2 below.)*

The researchers also formulated five hypotheses, again tested using independent samples t-tests, about the difference in the mean of the different dependent variables by **number of computer literacy modules enrolled in this semester**. As presented in Table 3, two hypotheses in this grouping were found to be statistically significant. The first hypothesis was, do persons enrolled in one computer literacy modules this semester feel the same about the statement "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" as persons enrolled in two modules? Persons enrolled in one computer literacy module had a mean of 2.61 while the persons enrolled in two modules had a mean of 1.76. Equal variances were not assumed (.029) and the hypothesis of equal means was rejected (sig. = .000).

For the statement, "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course,*" persons

enrolled in one computer literacy module had a mean of 3.00 while the persons enrolled in two modules had a mean of 2.35. Equal variances were assumed (.082) and the hypothesis of equal means was rejected (sig. = .006). *(See Table 31 below.)*

Spring 2012 Analysis – Independent Samples t-tests.
Relating to the five Likert-type questions on the survey to the data collected during the Spring 2012 semester, the researchers formulated five hypotheses about the differences in the mean of the dependent variables by **gender**. As presented in Table 4, two hypotheses in this grouping were found to be statistically significant. The hypothesis was do males feel the same about the statement "*I was confused when trying to determine which 1-hour computer literacy modules I needed to take*" as females? Males had a mean of 1.48 while females had a mean of 1.97. Equal variances were assumed (.497) and the hypothesis of equal means was rejected (sig. = .012).

For the statement, "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course,*" males had a mean of 2.20 while females had a mean of 2.82. Equal variances were assumed (.678) and the hypothesis of equal means was rejected (sig. = .023). *(See Table 4 below.)*

The researchers also formulated five hypotheses, again tested using independent samples t-tests, about the

difference in the mean of the different dependent variables by **age**. As presented in Table 5, one hypothesis in this grouping was found to be statistically significant. The hypothesis was do persons 17-24 years of age feel the same about the statement "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" as persons 25 years of age or older? Persons 17-24 years of age had a mean of 2.76 while the persons 25 years of age of older had a mean of 2.07. Equal variances were assumed (.538) and the hypothesis of equal means was rejected (sig. = .033). *(See Table 5 below.)*

The researchers also formulated five hypotheses, again tested using independent samples t-tests, about the difference in the mean of the different dependent variables by **number of computer literacy modules enrolled in this semester**. However, using independent samples t-test, none of the hypotheses were found to be statistically significant.

Fall 2011 Analysis – ANOVA.
The researchers established five ANOVA tests, where the five Likert-type statements were the factors and **college** was the variable. The means of the students from the different colleges were compared using a one-way ANOVA. The students from the different colleges did not differ significantly in their opinions on the five Likert-type dependent variable statements.
The researchers also formulated hypotheses, again using a one-way ANOVA, about the difference in the

mean of the different dependent variables by **classification.** As presented in Table 6, three of the hypotheses were found to be statistically significant. For the statement, "*I like taking these short half-semester courses,*" there was a statistically significant difference between groups as determined by one-way ANOVA ($F(3,82) = 9.029$, $p = .000$). Because of unequal group sizes, Fisher's LSD post hoc test was used to determine the nature of the difference between the classifications of students. This analysis revealed that there was a statically significant difference between the mean of the freshmen ($M = 2.62$, $SD = 1.193$) and the mean of the sophomores ($M = 3.44$, $SD = .652$, $p = .000$), the mean of the juniors ($M = 3.82$, $SD = .395$, $p = .000$), and the mean of the seniors ($M = 3.67$, $SD = .488$, $p = .000$). In addition, there was a statically significant difference between the mean of the sophomores ($M = 3.44$, $SD = .652$) and juniors ($M = 3.82$, $SD = .395$, $p = .047$). There were no other statically significant differences between the other classifications' means.

For the statement, "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course,*" there was a statistically significant difference between groups as determined by one-way ANOVA ($F(3,82) = 3.215$, $p = .027$). Using the LSD post hoc test to determine the nature of the difference between the classifications of students, this analysis revealed that there was a statically significant difference between the mean of the sophomores ($M = 2.44$, $SD =$

1.081) and the mean of the juniors ($M = 1.73$, $SD = .935$, $p = .007$) and the mean of the seniors ($M = 1.80$, $SD = .561$, $p = .033$). There were no other statically significant differences between the other classifications' means.

For the statement, "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course,*" there was a statistically significant difference between groups as determined by one-way ANOVA ($F(3,82) = 3.055$, $p = .033$). Using the LSD post hoc test to determine the nature of the difference between the classifications of students, this analysis revealed that there was a statically significant difference between the mean of the freshmen ($M = 2.08$, $SD = 1.038$) and the mean of the sophomores ($M = 2.89$, $SD = 1.036$, $p = .018$). Also, the mean of the sophomores ($M = 2.89$, $SD = 1.036$) and the mean of the seniors ($M = 2.13$, $SD = .743$, $p = .021$). There were no other statically significant differences between the other classifications' means. *(See Table 6 below.)*

Spring 2012 Analysis – ANOVA.
The researchers established five ANOVA tests, where the five Likert-type statements were the factors and **classification** was the variable. The means of the students having different undergraduate classifications were compared using a one-way ANOVA. The students with different classifications did not differ significantly in their opinions on the five Likert-type dependent variable statements.

The researchers also formulated hypotheses, again using a one-way ANOVA, about the difference in the mean of the different dependent variables by **college.** As presented in Table 7, two of the hypotheses were found to be statistically significant. For the statement, "*I like taking these short half-semester courses,*" there was a statistically significant difference between groups as determined by one-way ANOVA ($F(3,86) = 2.899$, $p = .040$). Using the LSD post hoc test to determine the nature of the difference between the colleges of students, this analysis revealed that there was a statically significant difference between the mean of the Arts and Sciences students ($M = 3.00$, $SD = 1.233$) and the mean of the Allied Health and Nursing students ($M = 3.66$, $SD = .728$, $p = .004$). There were no other statically significant differences between the other colleges' means.

For the statement, "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course,*" there was a statistically significant difference between groups as determined by one-way ANOVA ($F(3,86) = 5.806$, $p = .001$). Using the LSD post hoc test to determine the nature of the difference between the colleges of students, this analysis revealed that there was a statically significant difference between the mean of Allied Health and Nursing students ($M = 1.90$, $SD = .995$) and the mean of the Education students ($M = 3.00$, $SD = .756$, $p = .003$). Also, the mean of the Arts and Sciences students ($M = 1.50$, $SD = .860$) and the mean of the

Education students ($M = 3.00$, $SD = .756$, $p = .000$) and the mean of the University College students ($M = 2.20$, $SD = .941$, $p = .023$). There were no other statically significant differences between the other colleges' means. *(See Table 7 below.)*

Open Comments. Students were also invited to write open ended comments about what could be changed and/or added into the scheduling of the one-hour computer literacy modules that would help students enroll in the course(s) in future semesters. The written comments did, as expected, contain complaints about not being able to complete their assignments on a Mac, having videos to watch instead of printed handouts, and the pacing of the classes. Other suggestions included the following that could improve the courses:

- Fall 2011
  - I think it would be easier if the same teachers could be assigned for each class you take; I found it easier when I had the same teacher because I knew what was expected of me and how I would be graded
  - I loved this class because the half-semester course was a great experience
  - It would be nice if they were worth more than one credit hour.
  - I think that two of the classes could be added in one semester but taken one at a time over half of the semester

- Spring 2012
  - It may be beneficial to make all classes one semester long and group the 108 and 208 courses together
  - I would just change it from a one hour class back to the two hour class
  - I would change the way the class was separated in to half semester
  - I think scheduling was pretty self-explanatory this year
  - I enjoy the scheduling and course work in present form
  - If the courses were combined together for one semester, it would really help the students

CONCLUSIONS

As universities are coping with coursework reductions for degrees (Board of Regents, 2010), faculty are becoming imaginative in ways to meet these requirements. The researchers chose to divide the computer literacy courses into 8-week modules in order to meet the needs of the students.

The students' satisfaction in length of the courses, presentation of the course information, and knowledge of which courses are required in their degree are important components to the success of this course format change. Generally speaking, the students were informed by their department/advisor of which courses would be necessary to complete for their degree. Most students were not confused when determining the needed courses. The more experienced students preferred the short 8-week courses to semester length courses. More students would prefer to have the necessary courses paired together in an 8-week session instead of a full semester course.

These computer literacy courses are only a handful of courses offered in the 8-week format by the researchers' university. But in order to remain competitive with many of the large, private universities, more courses will need to be converted and offered in this accelerated 8-week format.

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Table 1. Mean and standard deviation of dependent variables, Fall 2011 and Spring 2012

Statements	Fall 2011 N=86		Spring 2012 N=90	
	Mean	STDV	Mean	STDV
My department/advisor notified me of which computer literacy one-hour modules were needed in my coursework.	3.07	.764	3.11	.999
I was confused when trying to determine which 1-hour computer literacy courses I needed to take.	1.76	.718	1.83	.838
I like taking these short half-semester courses.	3.45	.777	3.41	.923
I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.	2.07	1.003	1.93	1.003
I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.	2.58	1.079	2.64	1.154

Table 2. Fall 2011 Independent Samples t-tests grouped by age, N=86.

Hypothesis	Met Test Assumption	Test Outcome	Sig. Level
H$_o$: Mean of "*My department/advisor notified me of which computer literacy one-hour modules were needed in my coursework*" for persons 17-24 years of age = Mean of "*My department/advisor notified me of which computer literacy one-hour modules were needed in my coursework*" for persons 25 years of age or older		Fail to reject H$_o$	.253
H$_o$: Mean of "*I was confused when trying to determine which 1-hour computer literacy courses I needed to take*" for persons 17-24 years of age = Mean of "*I was confused when trying to determine which 1-hour computer literacy courses I needed to take*" for persons 25 years of age or older		Fail to reject H$_o$	.068
H$_o$: Mean of "*I like taking these short half-semester courses*" for persons 17-24 years of age = Mean of "*I like taking these short half-semester courses*" for persons 25 years of age or older	No, equal variances were not assumed	Reject H$_o$	.026
H$_o$: Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for persons 17-24 years of age = Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for persons 25 years of age or older		Fail to reject H$_o$	.175
H$_o$: Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.*" for persons 17-24 years of age = Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.*" for persons 25 years of age or older		Fail to reject H$_o$	.934

Table 3. Fall 2011 Independent Samples t-tests grouped by number of computer literacy modules enrolled in this semester, N=86.

Hypothesis	Met Test Assumption	Test Outcome	Sig. Level
H$_o$: Mean of "*My department/advisor notified me of which computer literacy one-hour modules were needed in my coursework*" for persons enrolled in one computer literacy module = Mean of "*My department/advisor notified me of which computer literacy one-hour modules were needed in my coursework*" for persons enrolled in two modules		Fail to reject H$_o$	.807
H$_o$: Mean of "*I was confused when trying to determine which 1-hour computer literacy courses I needed to take*" for persons enrolled in one computer literacy module = Mean of "*I was confused when trying to determine which 1-hour computer literacy courses I needed to take*" for persons enrolled in two modules		Fail to reject H$_o$	.082
H$_o$: Mean of "*I like taking these short half-semester courses*" for persons enrolled in one computer literacy module = Mean of "*I like taking these short half-semester courses*" for persons enrolled in two modules		Fail to reject H$_o$	.145
H$_o$: Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for persons enrolled in one computer literacy module = Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for persons enrolled in two modules	No, equal variances were not assumed	Reject H$_o$	.000
H$_o$: Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for persons enrolled in one computer literacy module = Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for persons enrolled in two modules	Yes, equal variances were assumed	Reject H$_o$	.006

Table 4. Spring 2012 Independent Samples t-tests grouped by gender, N=90.

Hypothesis	Met Test Assumption	Test Outcome	Sig. Level
H_o: Mean of "*My department/advisor notified me of which computer literacy one-hour modules were needed in my coursework*" for males = Mean of "*My department/advisor notified me of which computer literacy one-hour modules were needed in my coursework*" for females		Fail to reject H_o	.323
H_o: Mean of "*I was confused when trying to determine which 1-hour computer literacy modules I needed to take*" for males = Mean of "*I was confused when trying to determine which 1-hour computer literacy modules I needed to take*" for females	Yes, equal variances were assumed	Reject H_o	.012
H_o: Mean of "*I like taking these short half-semester courses*" for males = Mean of "*I like taking these short half-semester courses*" for females		Fail to reject H_o	.944
H_o: Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for males = Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for females		Fail to reject H_o	.698
H_o: Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for males = Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for females	Yes, equal variances were assumed	Reject H_o	.023

Table 5. Spring 2012 Independent Samples t-test grouped by age, N=90.

Hypothesis	Met Test Assumption	Test Outcome	Sig. Level
H$_o$: Mean of "*My department/advisor notified me of which computer literacy one-hour modules were needed in my coursework*" for persons 17-24 years of age = Mean of "*My department/advisor notified me of which computer literacy one-hour modules were needed in my coursework*" for persons 25 years of age or older		Fail to reject H$_o$	.640
H$_o$: Mean of "*I was confused when trying to determine which 1-hour computer literacy courses I needed to take*" for persons 17-24 years of age = Mean of "*I was confused when trying to determine which 1-hour computer literacy courses I needed to take*" for persons 25 years of age or older		Fail to reject H$_o$	.615
H$_o$: Mean of "*I like taking these short half-semester courses*" for persons 17-24 years of age = Mean of "*I like taking these short half-semester courses*" for persons 25 years of age or older		Fail to reject H$_o$	.510
H$_o$: Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for persons 17-24 years of age = Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for persons 25 years of age or older		Fail to reject H$_o$	.401
H$_o$: Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for persons 17-24 years of age = Mean of "*I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course*" for persons 25 years of age or older	Yes, equal variances were assumed	Reject H$_o$	.033

Table 6. Fall 2011 ANOVA results, N=86

		Sum of squares	df	Mean Square	F	Sig. Level
I like taking these short half-semester courses.	Between Groups	12.742	3	4.247	9.029	.000
	Within Groups	38.572	82	.470		
	Total	51.314	85			
I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.	Between Groups	9.006	3	3.002	3.215	.027
	Within Groups	76.576	82	.934		
	Total	85.581	85			
I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last for ONE-HALF of the semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.	Between Groups	9.946	3	3.315	3.055	.033
	Within Groups	88.985	82	1.085		
	Total	98.930	85			

Table 7. Spring 2012 ANOVA results, N=90

		Sum of squares	df	Mean Square	F	Sig. Level
I like taking these short half-semester courses.	Between Groups	6.961	3	2.320	2.899	.040
	Within Groups	68.828	86	.800		
	Total	75.789	89			
I wish the two computer literacy courses I needed were paired together into a single two-hour course that would last the ENTIRE semester—i.e. Word and Excel, Word and PowerPoint, Excel and Access, or Excel and Advanced Excel together in one course.	Between Groups	15.090	3	5.030	5.806	.001
	Within Groups	74.510	86	.866		
	Total	89.600	89			

NOTES

WHEN THE COURSE MANAGEMENT SYSTEM ISN'T ENOUGH

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INTRODUCTION

Many articles have been written extoling the need for interactivity in the online classroom. Zundel (2006) states that not only should interactivity be effectively integrated, but that it is essential for enhancing the learning in online courses just as interactivity is essential for on-campus learners. Mabrito (2004) contends that success is enhanced in online courses by engaging students as active learners rather than passive participants. Mabrito goes on to state that this engagement should include ample opportunities for students to interact with not only the course content, but also with the instructor and fellow classmates.

REVIEW OF LITERATURE

A review of the literature reveals multiple articles regarding online learning and the need the learner has for interactivity and collaboration tools. An example of this need stems directly from the growth of technology-based collaborative, team-based projects in business. A recent study (George, 2011) of 260 small businesses with 1,000 or fewer employees indicated one-third of the businesses increased spending in support of collaboration projects compared with expenditures the previous year, and only 15 percent cut spending. To fund technology needed for increased collaboration, 56 percent of businesses in the study expected information technology (IT) budgets to rise compared with the previous year,

and only 20 percent expected a cut. Schools of business preparing students to enter a work environment that increasingly depends on technology-dependent virtual teams increasingly use online learning to teach students team skills and interaction with team members; however, the higher education simulated environment often lacks the array of Web 2.0 technology tools needed to accurately portray virtual teams in the work place.

A common question asked by higher education instructors teaching in the online environment is, "How can I make my online class as interactive as my face-to-face class?" The problem faced by many online instructors is that they are expected to use a limited set of tools included in the course management system (CMS) or learning management system (LMS) to create opportunities for student interaction, group writing, and individual or group presentations that are equal in rigor and breadth to the opportunities provided students in the face-to-face environment. Sometimes, even sophisticated course management systems (CMS) do not offer the array of tools needed to provide cooperative, interactive components required for individual student learning or collaborative team editing in writing intensive courses.

The limitation of CMS tools is often overlooked by administrators, decision-makers, and other instructors who either choose not to use interactive synchronous or non-synchronous

learning tools or whose curriculum does not require group-based writing or business presentations. Though these experiences do present a challenge, this does not mean that these types of activities cannot be completed online; students, for the most part, are comfortable with using technologies not included in the CMS. The question often is whether the instructor is comfortable managing the additional technologies. For some faculty, online instruction itself is a challenge due to lack of technical mastery and teaching-style preference (Schoenberg, 2011).

de Pillis and Furumo (2007) found in a comparative study of 123 male and 78 female upper-division business students in virtual and face-to-face teams that learners in the virtual teams using only the WebCT course management system for collaboration "had lower average performance, less cohesion and satisfaction, more time spent on task, and more free-riders than face-to-face teams" (p. 95). Conversely, Hutchison, Kear, Robertson, and Woodthorpe (2010) conducted a study of students and tutors using wikis in place of formerly used forums for discussion, and the authors concluded that usability and sociability were key requirements of tools for interactivity.

Ubell (2010) wrote, "Education and training that take full advantage of virtual teams not only provides essential skills, but engage learners in one of today's most advanced workplace practices" (p. 53). The author added, "Opportunities to introduce virtual teaming are no longer limited by clunky technical means....you now have everything you need on your desktop or in your hand to participate in engaged collaboration on the job or in the class"

(p. 54). Freely available open-source technologies are commonly used to augment learning management systems and improve information sharing; "teams have adopted wikis as collaborative websites, permitting members to add and edit content" (Ubell, 2010, p. 56).

Schoenberg (2011) suggested collaboration "creates a sense of belonging to an online community, promotes communication, encourages critical thinking and cooperation among students, and reduces or eliminates isolation" (p. 81), and he advocated using collaborative tools or technologies such as Google Documents, Skype, Facebook, wikis, blogs, and video. Furthermore, Dittman, Hawkes, Deokar, and Sarnikar (2010) studied the effect of virtual team collaboration training among selected undergraduate courses at a small Midwest university and found the training was viewed as useful by study participants, and the training increased collaboration and development of relational links with teammates.

Despite the business community's growing emphasis on collaboration and use of collaborative technology (George, 2011), there are gaps in students' exposure to, and ability to use, Web 2.0 technologies in higher education settings. Bennett, Bishop, Dalgarno, Waycott, and Kennedy (2012) conducted research across three Australian universities of students' use of information and communication technologies to support their learning. Results of the study indicated most students had little prior experience with relevant technologies, and many struggled to see the value of using Web

2.0 technologies for learning and teaching.

In another 2012 study (Shea, Sherer, Quilling, & Blewett, 2012) of graduate students attending one university in the United States and students in their fourth year of study at a university in South Africa, Web 2.0 technologies were used to enable virtual teams to experience tasks similar to "a typically complex task conducted in global virtual teams today – focused and time-bound," (p. 304). The technologies included neXtrovert's discussion forum and wiki for collaborative writing and Skype for desktop video conferencing. Results of the study indicated 64 percent of the students said the project went "very well," while 15 percent said it did not go well. Specifically, the students commented, "The wiki was a great collaboration platform – it's nice to be able to add work, and edit the work of others, slowly molding and shaping text into a final product" (p. 307). Students also recommended more time be allowed for technical training, team introductions, and wiki development. Shea, Sherer, These authors noted many business students will likely be members of global virtual teams and also questioned how schools of business are preparing students to work effectively online, across time zones, and with other cultures.

METHODS AND PROCEDURES

For the purposes of the present study, instructors at a mid-sized, four-year public university, devised assignments requiring students enrolled in writing-intensive business communication courses to use technologies not associated with the campus-supported CMS. Students received guidelines for access to the technologies in the content of the course management system. These additional technologies included Wikispaces, YouSeeU, Dropbox, Blogger, Twitter, Facebook, Ning, and Second Life. For the purposes of this study, the discussion will focus on students' use of Wikispaces and YouSeeU. Students were assigned a username and password and were enrolled in the Wiki by the instructor to streamline the process for participation.

Wikispaces is a free-for-educators, cloud-based technology that enables simultaneous editing of a document. This application was chosen because it was free, it allowed for team-based writing, and it provided course instructors a detailed log of document changes. Instructors must set up the account and certify that it will be used only for educational purposes.

The other technology to be discussed is YouSeeU. YouSeeU was used for individual online student presentations. YouSeeU was developed by a business communication professor to address the scarcity of methods whereby online students could conduct a business presentation that required the same considerations as those of students presenting in the classroom. YouSeeU has unique features that allow for better student presentations of data as well as better feedback from the instructor. This is not, however, a free service. YouSeeU was purchased on a subscription basis only for online students; the university's additional fee for distance education courses covered the cost.

Purpose: The purpose of the presentation is to discuss student perceptions of using web-based tools for

interactivity and collaboration, as well as instructor perceptions of the issues encountered to incorporate these tools.

Procedures: The presenters have used a variety of tools to enhance the interactivity of their web-based offerings. A survey was developed to determine online students' prior familiarity and use of the online learning tools Wikis and YouSeeU. In addition, after requiring students to use these Web 2.0 tools, students were asked through the use of open-ended questions to provide their opinions of the value of these tools for the online class.

Findings: Students in online sections of business communication, administrative communication, and business communication technologies courses were required to use both Wikispaces and YouSeeU. Specific assignments, both individual and group, were made for the students to complete. Brief instructions were provided with the additional suggestion for students to study the online instructions for each platform. Assignments were different for the two courses, but included Wiki assignments for group collaboration on research and writing assignments and YouSeeU assignments for individual introductions, individual presentations, group presentations, and interview questions (the interview questions were set up like an oral exam in YouSeeU).

For this study students were surveyed to determine their prior experience with the two technologies. A total of 72 students responded to the survey. The respondents were 31% male and 69% female. When examining the knowledge and prior experience of recent students in the use of Wikis and the YouSeeU

platform, results indicated that 42 students (58%) had never heard of a Wiki before the class, and 63 (88%) had never heard of YouSeeU. When asked of their prior experience using these tools, 60 students (83%) had never used a Wiki and 63 students (88%) had never used YouSeeU. Of those who had used a Wiki or YouSeeU previously, the majority (67%) had used the tools in another online class.

Students were asked their opinions of the use of these technologies for the online class. The responses were generally very positive.

When discussing the use of Wikispaces, comments included:

- In the beginning it was confusing, but once I figured it out it seemed easy.
- I like how each assignment had its own discussion area so the conversations were kept separate from other assignments.
- I liked how the instructor could see who was posting so people got the grade they deserved.
- It is a good feature to use for classes because it does allow you the ability to get assignments done as a group when it is all online.
- Using the wiki for group work was a good experience and a great learning tool.
- Once familiar with the system, the technology became exceptionally helpful and the group efficiency rose tremendously.
- The site was very easy to use and navigate.
- Not having to email documents back and forth causing confusion on

which was the newest version was very helpful.

There were a few negative comments as well. These, however, referred more to team members' lack of participation.

When discussing the use of YouSeeU, comments included:

- It was exciting to visually do an assignment.
- It prepared us for future employment.
- The YouSeeU video was great practice for the interview question and practicing presentation skills.
- A benefit from using the YouSeeU technology was that we could see the other people in our class and know a little bit about them as well as the teacher.
- I am not a fan of making speeches in front of a class, so being able to record my presentation and then upload it was a better option for me.
- I enjoyed making the PowerPoints to go along with the videos.
- The interview question was a really good way to practice for an interview. The set-up of that oral exam was really good and even though I was nervous, I really liked that assignment.

The negative comments on the YouSeeU also had to do with the problems of group work in an online class.

For the instructors there were also pros and cons. Setting up the courses in a separate platform takes additional time. Fielding questions on software that the instructor does not have expertise in can be somewhat intimidating. There was some confusion on the part of the

students on exactly how to initially log in to each technology. For both of the applications discussed in this paper, however, instructors did find that students were, for the most part, self-sufficient once they initially accessed the technology's website.

In looking at student performance while using the tools, instructors felt they had more control in terms of understanding the amount of work performed by each student. In addition, some instructors commented that they felt the work submitted was of better quality than they had previously experienced with similar assignments in the same classes. All of the instructors who tried the two applications (Wikispaces and YouSeeU) who reported in the study have continued to use the tools in their courses.

CONCLUSIONS AND RECOMMENDATIONS

Based on the review of literature and the results of the current study, evidence seems to point to the advantages of adding additional avenues of interactivity to CLMs, or at least the CLMs of the participants of the study. This addition may provide enhanced interactivity not otherwise available for the course. Companies who design, manage, and sell various CLM products may not be aware of the needs for such interactive components.

The recommendation of this study is for educators to consider adding an additional tool to their current online course that will enhance interactivity. It is also recommended that faculty use the technology in cohort fashion to provide peer support when questions arise. In addition, it is recommended that those

responsible for working with the CLM companies discuss the various additional tools that are being used by their faculty. Having this conversation with the representatives who serve the campuses might be a step toward adding additional features to the traditional CLM.

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