ASSOCIATION OF BUSINESS INFORMATION SYSTEMS

2014 REFEREED PROCEEDINGS

FEDERATION OF BUSINESS DISCIPLINES

March 2014
Dallas, Texas

ASSOCIATION OF BUSINESS INFORMATION SYSTEMS

2014 Refereed Proceedings

Dallas, Texas

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ASSOCIATION OF BUSINESS INFORMATION SYSTEMS

March 13, 2014
(Thursday)

CONGRATULATIONS!

Recipient of the 2014 McGraw-Hill Distinguished Paper Award

How are High Schools Doing? Students' Perceptions about Their Education Use of Technology

Sarah Wright, Northwestern State University
Julie McDonald, Northwestern State University
Margaret S. Kilcoyne, Northwestern State University
Sue Champion, Northwestern State University

Recipient of the 2014 FBD Outstanding Education Award

Kimberly Merritt, Oklahoma Christian University

8:00 a.m. – 10:00 a.m. San Antonio Ballroom A

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: **Kimberly Merritt**, Oklahoma Christian University

Yearly Business Meeting: **Old and New Business of ABIS**

2014 McGraw-Hill Distinguished Paper Presentation

How are High Schools Doing? Students' Perceptions about Their Education Use of Technology

Sarah Wright, Northwestern State University
Julie McDonald, Northwestern State University
Margaret S. Kilcoyne, Northwestern State University
Sue Champion, Northwestern State University

10:00 a.m. - 10:30 a.m. Lone Star Ballroom

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.*

ASSOCIATION OF BUSINESS INFORMATION SYSTEMS

March 13, 2014
(Thursday)

10:30 a.m. – 12:00 p.m. San Antonio Ballroom A

SESSION A Online Teaching & Learning

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

Who Are These Online Students and Where Are They Coming From?
Lori Soule, Nicholls State University

Role of the video support in online classes to improve the cognition level of the students of higher education: Case study of Qatar.
Habib Ullah Khan, Qatar University

Are Web Bugs Bugging business faculty & students?
Carla J. Barber, University of Central Arkansas
Beverly Oswalt, University of Central Arkansas
Lea Anne Smith, University of Central Arkansas

Linoit: An Emerging Digital Technology in the Teaching of Business Communication
Skip Ward, Fort Hays State University

Noon – 1:30 pm Lunch on your own

1:30 p.m. – 3:00 p.m. San Antonio Ballroom A

SESSION A Social Media & Cloud Computing

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

Respectful Business Communication: A Project on Skype
Kemi Ogunyemi, Lagos Business School

The Role of Social Media in Business Communication: Why and how is social media use by employees being positively and successfully managed?
Marilyn Macik-Frey, Nicholls State University

Social Networking Site Attitudes and Behaviors: Examining the Role of Individualism-Collectivism Orientation and Emotional Intelligence
Anushri Rawat, Nicholls State University
En Mao, Nicholls State University

Knowledge of Cloud Computing Among College of Business Faculty and Students
Carla J. Barber, University of Central Arkansas
Beverly Oswalt, University of Central Arkansas
Lea Anne Smith, University of Central Arkansas

ASSOCIATION OF BUSINESS INFORMATION SYSTEMS

March 13, 2013
(Thursday)

3:00 p.m. – 3:30 p.m. Lone Star Ballroom

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 **3:15 p.m.** in the Exhibit Area. *Must be present to win.*

3:30 p.m. - 5:00 p.m. San Antonio Ballroom A

SESSION A Preparing Students for Success

Session Chair: Kimberly Merritt, Oklahoma Christian University

Leader Role Impact on Distributed Team Satisfaction
Joy Robinson, Georgia Institute of Technology

Strategies for the Virtual Team: Improving Team Effectiveness
Marsha L. Bayless & S. Ann Wilson, Nelson Rusche College of Business

A Simulated Government-Industry-University Job Shadowing Model for Building 21st Century Skills
Joselina Cheng, University of Central Oklahoma
Keia Atkinson, University of Central Oklahoma
Chris Graff, University of Central Oklahoma

A Bridge Program: A CSI Summer Academy for Promoting STEM Career Awareness & Interests
Joselina Cheng, University of Central Oklahoma
Keia Atkinson, University of Central Oklahoma
Chris Graff, University of Central Oklahoma

5:30 p.m. – 7:00 p.m. Lone Star Ballroom

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 sites.

ASSOCIATION OF BUSINESS INFORMATION SYSTEMS

March 14, 2013
(Friday)

7:30 a.m. – 8:30 a.m. Lone Star Ballroom A1

ABIS and ABC - SWUS Joint Breakfast

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

8:30 a.m. - 10:00 a.m. **–Joint Session** Lone Star Ballroom A1

SESSION A Communication Connections: ABIS and ABC - SWUS Joint Session

Session Chair: **Kelly Grant**, Tulane University

Tools of Engagement: Improving Student Engagement through Exercises in Empathy
Cynthia Eve Ash, Oklahoma State University – Tulsa

Exploration of the Flipped Classroom for Business Communication Instruction
Ashley A. Hall, Stephen F. Austin State University
Debbie D. DuFrene, Stephen F. Austin State University

College Freshmen: Expectations of Technology in the University Setting
Sherry Rodrigue, Nicholls State University
Lori Soule, Nicholls State University
Bettty Kleen, Nicholls State University

Online Integrity: Student Authentication in an Online Course
Susan Evans Jennings, Stephen F. Austin State University
Gail Weatherly, Stephen F. Austin State University
Ann Wilson, Stephen F. Austin State University

10:00 a.m. - 10:30 a.m. Lone Star Ballroom

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.*

ASSOCIATION OF BUSINESS INFORMATION SYSTEMS

March 15, 2013
(Friday)

10:30 a.m. – 12:00 p.m. San Antonio Ballroom A

SESSION A Program Integration & Assessment

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

Creating a new Program: Business Intelligence, Quality, and Logistics
Daniel D. Friesen, University of North Texas

Develop a Mentoring Program to Retain Your Information Systems Majors
Jim Larsgaard, Eastern Kentucky University

Analyzing a Decade of Assessment Data: Mining for Trends in Student Learning
David Smith, Cameron University
Kimberly L. Merritt, Oklahoma Christian University

Integration of Business Analytics Tools and Processes into the Business Core
Robert B. Mitchell, University of Arkansas
Richard W. Woolridge, University of Arkansas

1:30 p.m. – 3:00 p.m. San Antonio Ballroom A

SESSION A Information Technology & K16

Session Chair: Michelle Hepner, University of Central Oklahoma

Using Systems Analysis Skills to Design Mobile Applications: The Problem of Food Waste at Capers Buffet
Degan Kettles, University of Central Oklahoma

Disaster Planning and Recovery for Small and Medium Sized Businesses: A Guide to Success
Jennifer Stone, University of Central Oklahoma
Sajana Shrestha, University of Central Oklahoma
Michelle Hepner, University of Central Oklahoma

Professors and Students: Perceptions of the Use of PowerPoint and Other Technologies in the Classroom
Marcel Robles, Eastern Kentucky University

ASSOCIATION OF BUSINESS INFORMATION SYSTEMS

March 15, 2013
(Friday)

3:00 p.m. - 3:30 p.m. Lone Star Ballroom

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.*

3:30 p.m. - 5:00 p.m. San Antonio Ballroom A

SESSION A Topic for the SWDIX & ABIS Joint Panel: Women in IT: Are We There Yet?

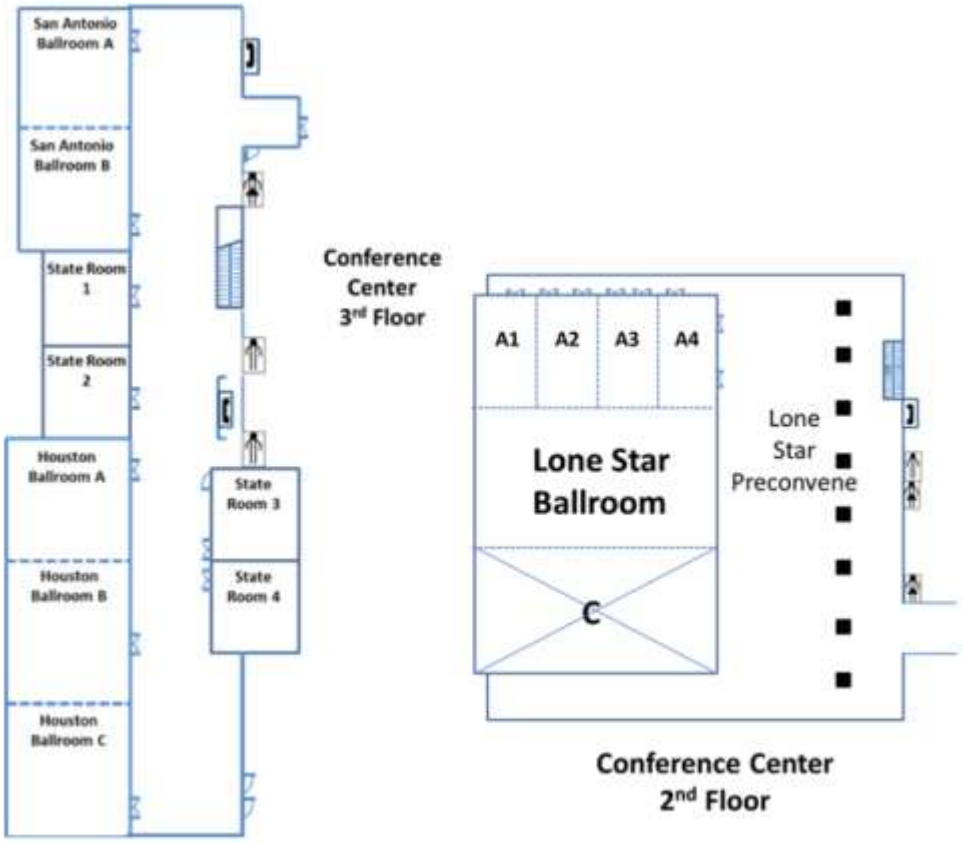
Session Chairs: **Lynn R. Heinrichs**, Elon University (SWDSI), Co-Moderator
Betty Kleen, Nicholls State University (ABIS), Co-Moderator

Panelists: **Joselina Cheng,** University of Central Oklahoma
Paul Cronan, University of Arkansas
Jennifer Kreie, New Mexico State University
Brian Reithel, The University of Mississippi

Recent media attention to the achievements of women such as Marissa Mayer and Sheryl Sandberg suggests that the IT glass ceiling is broken. Finding similar role models several decades ago would have been nearly impossible. But while there is much to be celebrated by the accomplishments of these high-profile women leaders, we should not assume that our work in attracting female students to the profession is complete.

The purpose of the panel discussion is to review the current status and future direction of women in "I" programs (information science, information systems, and information technology). Panelists will discuss the experiences of their own programs in attracting and retaining female students and faculty members. Is there still work to do? Are we there yet?

Conference Center Floor Plans



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HOW ARE HIGH SCHOOLS DOING? STUDENTS' PERCEPTIONS ABOUT THEIR EDUCATIONAL USE OF TECHNOLOGY

Sarah Wright, Northwestern State University
Julie McDonald, Northwestern State University
Margaret S. Kilcoyne, Northwestern State University
Sue Champion, Northwestern State University

"Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road"—Steward Brand

"Young people today have lots of experience … interacting with new technologies, but a lot less so of creating [or] expressing themselves with new technologies. It's almost as if they can read but not write." — Mitch Resnick

INTRODUCTION

The high school students who are entering institutions of higher education are reported to be the digitally literate generation. Born between the years of 1981 and 2001, this group of students is labeled the Net Generation or Generation Y. This group is also sometimes referred to as the millennial students or "Millennials". (Berk, 2009; Emeagwali, 2011; Jones, D. C., 2007; Oblinger, D., & Oblinger, J., 2006; Skiba, D., & Barton, A., 2006)

Millennials have grown up surrounded by technology and are, therefore, perceived to be technologically advanced (Ajjan & Hartshorne, 2008; Black, 2010, Prensky, 2007). Stein (2013) reported that about 80 million Millennials live in the United States, which makes them the largest age group. Often Millennials brings their laptops to class rather than paper and pen and have access to iPods, iPads, and smart phones (Glenn & D'Agostino, 2008). It would seem that these students are "wired" to technology.

Technology has provided them with instant answers to questions. Technology has moved at a very rapid pace in their lifetimes and it appears they have kept up. In the classroom, teachers are attempting to create new and exciting teaching strategies and techniques to grab their attention and hold their interest. Technology plays a large role in this transformation.

Studies (Emeagwali, 2001; Stein, 2013) have shown that the majority of high school students say they are bored on a daily basis in high school. High schools are struggling with ways to keep students engaged in the classroom. The lecture format does not seem to be working for this group of students (Emeagwali, 2011). This lack of engagement may be due to students being constantly entertained by some device or social media or, it may just be the way these students are "wired." This group sends and receives an average of 88 texts per day. It seems these kids are adapting to their surroundings just as prior generations. (Stein, 2013) High schools have attempted to integrate technology into education. Some schools have been more successful than others. It appears that rural schools with lower tax bases may not be able to afford current technology for every classroom and since technology is changing

daily most schools simply can't keep up.

PURPOSE AND DESIGN OF STUDY

This study focused on recent high school graduates who entered a small, regional public university as freshmen in the fall of 2012. We sought to describe the students' perceptions about the educational use of technology in the high schools from which they had recently graduated.

In a 2013 study at this same small regional university, McDonald, Wright, Kilcoyne, Champion, and Fountain determined that 93% of the entering freshmen felt mastering technology was important to their studies and career. It is assumed these students are all tech savvy and use, at a minimum, computers and smartphones for personal use on a daily basis. Only the students' personal use of technology was reported in the 2013 study.

With this current study, we attempted to take a closer look at the fall 2012 entering freshmen to determine the students' levels of exposure in the high school classroom to technology for what was considered "educational purposes". The data is reported by dividing the entering freshmen into two groups—2012 high school graduates are referred to as Entering Freshmen 2012 and those that graduated between 2000 and 2011 are referred to as Other Millennials. Specific questions from the survey instrument were analyzed and reported using descriptive statistics.

INSTRUMENT

A survey instrument using adapted items from the 2011 CDW-G 21st Century Classroom Assessment Tool (CDWG, 2011) was developed for a previous study by McDonald et al. (2013). The 2011 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 also 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. Results from the 2013 study by McDonald et al. were further analyzed to produce the specific data needed for this current study. A copy of the adapted survey used for the original study can be provided upon request.

POPULATION

The accessible population was two hundred twenty-two students enrolled in the introductory computer applications course (BUAD 1800) during the fall 2012 semester. Of the 222 enrolled students, a total of 181 elected to participate in the survey. Of those, 81 or 45% graduated in the year 2012. Another 80 or 44% graduated between 2000 and 2011 and 20 (11%) graduated prior to the year 2000. The data for the 81 Entering Freshmen 2012 and the data for the 80 Other Millennials was extracted for comparison purposes to conduct this study. The students that graduated prior to the year 2000 were not included, as technology was not a common part of education in the classroom prior to 2000. (Dunn, 2011)

DISCUSSION OF FINDINGS

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 specific due date. We prepared the survey using Survey Monkey and downloaded the results to an Excel spreadsheet. Data was analyzed to answer the specific questions of this study.

To determine the students' perceptions about the educational use of technology in the high school setting, students were asked several questions pertaining to technology use in high school. For this current study we focused on the following questions (1) How often technology was used for educational purposes, (2) Where was technology used for educational purposes, (3) From a list of educational technologies, what technologies were available for the students to use for educational purposes.

The first question reported was asked as follows: "For the purposes of learning, how often did you use technology to do any of the following?"

- Creating assignments, projects, writing samples, etc,
- Collaborate with other students on assignments, projects, writing samples, etc.
- Communicate with other students
- Collaborate with my teachers on assignments, projects, writing samples, etc.
- Communicate with my teachers
- Research topics of interest/assigned topics

Students were asked to select every day, several times a month, rarely, or never. The results for the students reporting every day or several times a month are shown in Table 1.

Over half (54.3%, *n*=81) of the Entering Freshmen 2012 group indicated that they used technology to communicate with their teachers; with 74% (*n*=81) indicating that they used it to communicate with other students at least several times a month. Almost 78% of these students reported using technology at a minimum of several times a month to create assignments and 85.2% used technology at least several times a month to research topics of interest. The majority of these students used technology at least several times a month for learning purposes.

When compared to the Other Millennial group, the results were very similar, with the percentages actually being a little higher in some areas. Over 76% of this group used technology at a minimum of several times a month to create assignments and 81.3% to research topics of interest. These results showed that over fifty percent of these students used technology at least several times a month for the listed activities.

Using technology for learning is only one aspect of this study. The second question addressed where the two groups of students were using the technology. Ninety-three percent of the Entering Freshmen 2012 group reported using technology at home, which is similar to the 94% reported in the CDW-G 2011 21st Century Classroom Report (2011). Sixty-five percent said they used technology during class and in the school library. While only 21% used technology during study hall. These results appear to suggest that there was some technology available for the majority of the Entering Freshmen 2012 in high school. When compared to the Other Millennials we found some differences. Over 85% of this group reported using technology at home.

However, only 46.9% used technology during class, with only 18.5% using technology in study hall and 55.6% in the school library. It would seem from these results that technology was not as readily available in the schools for the Other Millennials. Breaking the Other Millennials into groups consisting of smaller spans of years could shed more light as to how technology offerings have changed at the high schools throughout the given years. However, it appears those that graduated more recently will have had more exposure to technology, as would be expected.

The third question focused on what types of educational technologies were available for the students' use. The results of this question were reported in a previous study for the entire sample group (*n*=181). However, this study focused on only the defined two groups, Entering Freshmen 2012 and Other Millennials. The students were given a choice of 20 items. The results can be seen in Table 2.

Approximately 65% of the Entering Freshmen 2012 reported having internet access at school with only 37% reporting access to personal computers. Interactive whiteboards were available to 46% of this group. Although these three types of technology that led in both groups, Entering Freshmen 2012 and the Other Millennials, it can clearly be seen by these results that not as many in the Other Millennials group had access to technology in high school. The Other Millennials group had 51.3% that reported having internet access with only 26.3% reporting personal computers and 27.5% with interactive whiteboards.

In a follow-up question, 51% of the Entering Freshman 2012 reported their school encouraged them to use technology throughout the day with only 32.5% of Other Millennials reporting the same. About half (50%) of Entering Freshmen 2012 reported their teachers regularly assigned classwork or homework that required the use of technology and again only 38.75% of Other Millennials reported the same. These results appear to support the assumption that times are changing and high schools are attempting to move forward with the use of technology. However, only 40.7% of Entering Freshman 2012 felt their high school understood how they wanted to use technology as a learning tool which is somewhat higher than the 36.25% reported by the Other Millennials group.

The findings appear to suggest that those students graduating in 2012 and beyond will be better prepared to use technology in their higher education studies since it appears their high schools have increase the use of technology in the high school classrooms. These results support the need to use technology in the higher education setting. At the secondary level more than ever before, it appears students are being introduced to technology in the classroom.

Higher education institutions should continue to seek information from entering freshmen about their exposure to and use of technology at their high schools. This feedback should be used to enhance teaching strategies used in the classroom by professors as well as providing opportunities for students to use the various types of technology in and out of the classroom. In the future we would like to determine what technology classroom resources are available in the high schools throughout the state as perceived by the teachers and administrators.

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Table 1

Answer Options (Every day or Several times a month)	**Entering Freshman (2012) n=81**	**Other Millenials (2000-2011) n=80**
Create assignments, projects, writing samples, etc.	77.9%	76.3%
Collaborate with other students on assignments, projects, writing samples,etc.	51.9%	56.3%
Communicate with other students	74.1%	63.4%
Collaborate with my teachers on assignments, projects, writing samples, etc.	49.4%	60%
Communicate with my teachers	54.3%	63.4%
Research topics of interest/assigned topics	85.2%	81.3%

Table 2

Answer Options	**Entering Freshman (2012)**	**Other Millenials (2000-2011)**
Wireless network/Internet	65.4%	51.3%
Personal computer (e.g., laptop, tablet, netbook, desktop)	37.0%	26.3%
iPod/MP3 player	12.3%	2.5%
E-reader device (e.g., Kindle, Nook, Sony Reader)	7.4%	5.0%
Media tablet (e.g., iPad, Samsung Galaxy)	9.9%	0.0%
Smartphone (e.g., BlackBerry, Droid phone, iPhone)	12.3%	5.0%
Video and/or Web conferencing	18.5%	11.3%
Digital content (e.g., online books, material available online for download in electronic form)	16.0%	8.8%
Open source applications (e.g., Google Apps, OpenOffice)	24.7%	17.5%
Blogs/wikis	9.9%	3.8%
Podcasts/vodcasts	6.2%	1.3%
Course management system (e.g., Blackboard, Jenzabar, Moodle)	28.4%	21.3%
Student response systems (a.k.a. “clickers” or learning response systems)	17.3%	10.0%
Off-campus network access	12.3%	8.8%
Interactive whiteboards	45.7%	27.5%
Recorded class lectures	7.4%	6.3%
Access to social networking sites (e.g., Facebook, Twitter, LinkedIn, MySpace)	9.9%	3.8%
Instant message/video chat (e.g., AIM, Gchat, Skype)	7.4%	0.0%
Virtual learning, which delivers education to students who are not physically in the same location as the teacher and/or other students	21.0%	15.0%
Multimedia content streaming	8.6%	5.0%

NOTES

STUDENT PERCEPTIONS OF THE USE OF POWERPOINT IN THE CLASSROOM

Marcel M. Robles, Eastern Kentucky University

Websites, interactive educational games, video clips, online self-assessments, simulations, and PowerPoint slides have all been used to incorporate technology into teaching to deliver instruction and engage students in the classroom (Sidman & Jones, 2009). As instructors use more technology in the classroom, little is still known about student perceptions as to how that technology impacts overall student learning (McCabe & Meuter, 2011).

Developed in 1987, the original purpose of PowerPoint software was to design business presentations (Gomes, 2007; James, Burke, & Hutchins, 2006). Eventually, PowerPoint became a standard in colleges and universities as a teaching tool in the classroom (Apperson, Laws, & Scepansky, 2006; Nouri & Shahid, 2008). While much research has been done on the effects of PowerPoint slides on student learning and perceptions (Nouri & Shahid, 2005; Nouri & Shahid, 2008; Nowaczyk, Santos, & Patron, 1998), outcome-based performance comparing traditional and PowerPoint-enhanced lectures is mixed (James, Burke, & Hutchins, 2006).

STATEMENT OF THE PROBLEM

The purpose of this study was to determine student perceptions of their learning when instructors use PowerPoint as a teaching tool in the classroom. Business students were surveyed to determine their perceptions of how PowerPoint influences their learning. This paper discusses student perceptions of the use of PowerPoint slides in classroom lecture, as a resource for students, and as a teaching tool for professors.

METHODS AND PROCEDURES

Students in a junior-level, writing intensive, business core course of a comprehensive southeastern university were surveyed concerning their attitudes regarding the use (or overuse) of PowerPoint Slides in the classroom. This study focuses on PowerPoint because it is the presentation software most commonly used by universities.

A paper and pencil survey was administered at the beginning of spring semester 2014. The survey consisted of demographic questions and questions about student perceptions regarding the use of PowerPoint in classroom instruction. A 5-point Likert scale of *strongly disagree* to *strongly agree* was used.

The presentation will discuss the results of the survey. Additionally, examples of effective and ineffective use of PowerPoint slides will be explained and demonstrated.

REVIEW OF RELATED LITERATURE

Because today's generation of college student has had more experience with technology than prior generations, various instructional strategies must be used effectively to encourage student learning (Sidman & Jones, 2009).

PowerPoint in the Classroom

Research has shown that most students perceive that the use of PowerPoint has a positive influence on their learning and their attitude toward their education (Apperson, Laws, & Scepansky, 2006; Beets &

Lobingier, 2001). The use of PowerPoint slides are the students' preferred method over the whiteboard or chalkboard (Sidman & Jones, 2009). Studies have shown that students in a classroom where the instructor used PowerPoint perceived better comprehension of the presented concepts and that the instructor was more prepared and organized than instructors in traditional lecture classes without PowerPoint (Apperson, Laws, & Scepansky, 2006; James, Burke, & Hutchins, 2006; Nouri & Shahid, 2005; 2008; Sidman & Jones, 2009). Apperson, Laws, and Scepansky (2006) found no significant difference in student grades from using PowerPoint in class, but students did note differences in the learning experience. PowerPoint enhances note taking, content recall, holding attention, and knowledge of key points (James, Burke, & Hutchins, 2006).

Additionally, students who write their own notes from lecture, rather than receiving PowerPoint notes from the instructor beforehand, may perform better. Nouri and Shahid (2008) found that student attitudes and performance increase if they write their own notes in class. Students benefit from taking their own notes because they recall more of their own note taking rather than when slides are provided to them (Sidman & Jones, 2009). On the contrary, note taking is a challenge for students as they try to write everything from the slide; they are not putting emphasis on comprehension. Their notes then have incorrect information or are lacking the critical concepts (Sidman & Jones, 2009). Therefore, instructors must find methods to optimize students' note taking without just giving them the PowerPoint slides (Sidman & Jones, 2009). Nouri and Shahid (2005; 2008) also found that students who were not provided PowerPoint lecture notes rated their instructor more effective and efficient than students who were provided with PowerPoint lecture notes.

James, Burke, and Hutchins (2006) found that students perceive PowerPoint as helpful for their understanding and interest in course material, although PowerPoints with basic text were better for student cognition than PowerPoint slides with enhanced graphics and audio. The unnecessary "bells and whistles" were distracting and created cognitive overload, which can decrease comprehension (McCabe & Meuter, 2011). Another study found that academic performance in a technical writing class was higher in a traditional lecture delivery compared to a PowerPoint-supplemented lecture (Amare, 2006).

The use of PowerPoint slides in the classroom also appears to decrease class interaction and active learning (James, Burke, & Hutchins, 2006). While the use of PowerPoint slides in classroom instruction helps students take notes and study for exams (Sidman, & Jones, 2009), students do exhibit a more passive role in the classroom and perhaps negative behavior when slides are used (e.g., not attending class) (James, Burke, & Hutchins, 2006).

Strategic Instructional Tool

The true value of using technology in the classroom depends on course structure (McCabe & Meuter, 2011). Even if new teaching methods and/or technology are used (or not), the instructor must adhere to the student learning outcomes of the course. A critical challenge for instructors is how to use effective instructional strategies to stimulate learning in today's technology-literate generation of college students (Sidman & Jones, 2009).

Apperson, Laws, and Scepansky (2006) found that instructors should continue to use slides to enhance effective instruction in the classroom. If content is more difficult, using pictures and graphics in PowerPoint slides might be helpful for student learning. Regardless, instructional strategy should align with learning styles; and ultimately, a variety of teaching methodologies should be practiced for diverse student learning and to engage students (Sidman & Jones, 2009).

CONCLUSIONS AND RECOMMENDATIONS

While instructors use a variety of methods and tools in their classroom teaching, PowerPoint has become the foremost presentation software in education during the past 20 years.

Effective PowerPoint slides can have a positive impact on student learning, but PowerPoint slides will not turn a poor presentation into a good presentation. The instructor must still use an effective teaching strategy for the delivery of the content to ensure student learning. Organized course structure, adherence to student learning outcomes, and effective instructional strategies are necessary to promote relevant learning of the course content.

Technology should not be used "just for the sake of using technology." PowerPoint slides can and should be used to enhance instructional strategy, but not replace teaching. A variety of teaching strategies should be used to support diverse learning styles and engage students. Student engagement can also be encouraged through interactive exercises during class. Students should be active learners. Skeletal PowerPoint slides (with blanks for students to fill in during lecture) might be helpful in student note taking. Only key points need to be on the slides.

PowerPoint slides should be visually pleasing, containing a descriptive title on each slide with a maximum of six bullets (and eight lines of text). A minimum 28 size, san-serif font (e.g., Arial) and a uniform slide design should be used. Using pictures and graphics on slides might be helpful for student learning of complex material; visual images might better portray the concept, rather than just displaying text on the screen. Instructors should use minimal to no animation and sound—and only if relevant for presentation of the concept. Highlights and colors can be used to emphasize key points, as long as there is a strong color contrast between text and background color.

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NOTES

USING SYSTEMS ANALYSIS SKILLS TO DESIGN MOBILE APPLICATIONS: THE PROBLEM OF FOOD WASTE AT CAPERS BUFFET

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BACKGROUND

Each semester in one of our MIS courses our students are asked to interview a professional in their future career area and ask the professional how much time they use computers or mobile technologies in their job. Usually a given professional reports spending over 90% of their time on a computing device. MIS students are uniquely qualified among business students to help modern professionals such as these. MIS students have the background necessary to improve modern business processes because of their training in systems analysis and design. One skill that can be taught in MIS classes that will greatly aid students in their preparation to perform systems analysis and design is the ability to take information collected in a requirements phase and use it to create a mockup of an application such as a website or mobile application that would address a business problem. Performing this activity clarifies thoughts and understanding related to underlying business problems, and creates a deliverable that can be handed over to a software development team for development. This contrasts with the outcome of a system analysis and design project which typically demonstrates how a process can be performed in a flow chart but with insufficient detail for actual development. The following case describes a real-world problem for which a student designed a solution by creating mockup in PowerPoint for a mobile application and subsequently created a mobile application based on that mockup. This case and the solution are meant to serve as an example of how a business problem studied in the context of a systems analysis class can be used to teach skills related to the design of business software applications. The story in this case study can be used as part of an assignment in which the design (mock ups) and possibly even the subsequent application development steps are performed by students, or the process followed in this case study can be used as a template for creating equivalent assignments but with the problem area substituted with one of the instructor's or student's design. One potential source of background material in customized assignments could be the outcome of a systems and analysis course project. The work of building a mockup as part of the process of systems analysis and design could also be included in an MIS capstone course.

SECTION 1: THE PROBLEM

Capers is a buffet restaurant located in the center of a major metropolitan city in the US. The restaurant focuses on the unique niche of Mediterranean food served in a buffet style. While commercially successful, it suffers from several operational issues such as excessive food waste, lack of standardization in monitoring food, and a complete absence of demand forecasting. Compared to the average mom and pop restaurant, Capers is relatively large with two large rooms that seat many guests as well as a separate room that can be reserved for private parties. The total size of the restaurant is 55,000 square feet. They have a menu that features 48 different buffet items, which are prepared daily for lunch

and dinner. Mediterranean food can be very costly to produce, so Capers must make a conscious effort to reduce waste in order to maximize profitability. Some of the most costly and frequently wasted items include the fresh tossed salads, baked tilapia and chicken kabob.

SECTION 2: HOW OTHER LARGE BUFFETS DEAL WITH FOOD WASTE

In order to gain insight into how the problems at Capers could be resolved, interviews were conducted with two individuals having substantial experience managing food production and waste in larger buffet-style restaurants.

The first interview conducted was with a buffet manager at Restaurant G. Restaurant G is a well-known restaurant buffet with over 480 locations and $1.5 billion in annual gross revenue. Capers is similar to Restaurant G from an operational standpoint. Customers are charged for the buffet and drink upon entering and provided with servers (waiters) for an optimal dining experience. Customers also are able to go through the buffet line as many times as they wish as opposed to going through once and relying on a server to refill a food item. Restaurant G relies on information systems to manage food production and waste. Restaurant G's main system is a demand forecasting system: *ABC Production System* (not the real name). This system allows them to more accurately predict customer demand and limit food waste. *ABC Production System* involves the use of a UP100 number, which is a number based on food usage per 100 guests. An example the manager gave related to steak production. If his restaurant forecasts 1,000 meals for the day, then 100lbs. of steak will need to be produced to meet the needs of the 1,000 meals. This results in a UP100 number of 10 (1,000 meals/100 lbs. of steak). The UP100 numbers are entered for every item on the buffet and a daily report is generated that lets the kitchen staff know how much to produce of each item. Buffet sales i.e. meals for the day are closely monitored by management throughout the day to determine if more or less food should be produced. The main objective of *ABC Production System* is to simplify demand forecasting by use of the UP100. Over time, trends and patterns collected on customer usage determine the UP100. The UP100 becomes the standardized number to accurately forecast demand for each item.

The second interview conducted was with Sam Pollock who is a food and beverage consultant working out of Las Vegas. His expertise centered on food management for buffets in casinos, and he was working with a restaurant located inside a casino at the time of the interview. The main objective of buffets in casinos is to provide the service of dining in order to keep customers at the casino. Buffets operating in casinos have a smaller profit margin than buffets operating independently, which results in a different business strategy. Mr. Pollock develops methods to improve efficiency and limit food costs, which include quality specs, yield costs and portions per pan. According to Mr. Pollock, buffets cannot control how much food customers take, but can control the portions of those food items that customers take. Producing smaller portions ultimately results in lower food costs. Examples include using a smaller spoon for mashed potatoes, a smaller ladle for dressings, and serving thinner slices of meats. Each portion of the food items has a weight that varies depending on the food item. The portion also has a fixed cost based on the weight of the portion and how much it costs to produce that amount. This approach allows for the total cost of food waste for that day to be determined.

Mr. Pollock's methods would be an

applicable solution for Capers Mediterranean Buffet. Specifically, measuring and recording the weight of the items produced and the weight of the items wasted on a daily basis would facilitate management's ability to observe trends and control costs. Capers does not currently have a system in place to account for the cost of daily food waste, and Mr. Pollock's system would work in helping them achieve that. Although this system would be of great benefit to Capers, its cost is prohibitive and its feature set is more extensive than what is needed. Therefore, building a small, customized solution is likely the best course of action.

SECTION 3: CHOOSING A SOLUTION

Several options are available in order to address the problems that Capers' faces. One need they have is a way to capture production and waste data and create reports. One solution for this is to use a spreadsheet application such as Microsoft Excel. This application can be used to input data and generate reports using graphs and pivot tables. Another option is to use a database like Microsoft Access. Using Access would eliminate some of the redundant data that may exist by using Excel and would make retrieval of the data more convenient. While these are both viable options, the disadvantages with both are the sophistication of the application tools and the requirement to use a bulky PC. The use of a PC may even involve double entry of data, with data initially recorded on paper and then brought to a computer for re-entry. An excellent alternative would be to create a mobile app, with convenient touch screen interfaces that are easy to use for the kitchen staff or whoever else that may need to perform data entry and retrieval. The overwhelming menus and options that comprise Excel and Access can be replaced with only what is necessary for the purposes of recording production and waste, and the recording device can be carried easily throughout the restaurant to wherever it is needed. A mobile application can be used on any mobile device such as a phone or tablet, whatever is most suitable for the person that will be capturing the data. Rather than manually writing the data down on paper and then transferring it into Excel or Access, the data can be entered directly into the mobile application.

SECTION 4: DESIGNING A SOLUTION

After choosing to create a mobile app as the solution to the business problem, a design of how the app would look and function was needed. From the start, the goal of the project was to have the analysis and development done within eight weeks. Creating mockups was the first step. The process for creating the mockups started with planning and thinking about how the application would look and function from a user's perspective. Microsoft PowerPoint was selected as a tool to create the mockups because it is easy to use and could accommodate changes when iterating over potential designs. During the design of the mockups, four consecutive weeks were spent monitoring the food waste for the most costly items. This helped clarify the process of food monitoring that would need to be handled by the software. During this four-week period, each night the surplus food items were weighed individually before they were discarded to waste. A running tally was also kept of how many trays were being produced throughout the day for specific foods. Sample data that was captured through food tracking is contained in the supporting materials section of this paper. Images of food items were obtained through a camera from a mobile phone and uploaded

to online storage. These images were used in the design of the mockups and intended to be used in the final application. The initial mockups are shown in the supporting materials section of this paper. After the mockups were created and the data was captured for the 4-week period, development of the mobile app began. Development of the mobile app and debugging took an additional four weeks. The app was developed using HTML, CSS, JavaScript and jQuery Mobile. Knowledge of these languages were acquired using the books "Building Android Apps with HTML, CSS, and JavaScript, Second Edition" by Jonathan Stark with Brian Jepson and "jQuery Mobile: Up and Running" by Maximiliano Firtman, first edition. The final design of the application is shown in the supporting materials section of this paper.

The process of translating the designs to an application presented several challenges, most of which were technical. Certain features designed in the mockups would not be feasible to design in the actual application, due to time constraints and degree of difficulty. Exploring and comparing different options for the final application became a regular task to ensure that the design would be able to be developed at a later date. Based on issues related to the software libraries being leveraged in the development process, graphical features had to be left out, including images next to food items. Although these less important features did not make it to development, the critical features did make it and the underlying concept of how the app would work remained the same.

The development of thought that occurred while doing the mockups was extremely broad compared to that of a systems analysis and design class. At the end of a systems analysis and design course you have a recommendation for how the data flows should work, but the implementation details are vague at this point. Often times systems analysis and design courses end with a recommendation to use a particular technology such as Access or a website to solve a problem, but it would be difficult for a development team working under a manager to actually build it without significant work on the product's design. The process of building software is similar to the field of construction wherein an architect is needed to design a building in great specificity before project managers and construction workers can actually put it together. It isn't sufficient in most cases to say simply what features are needed.

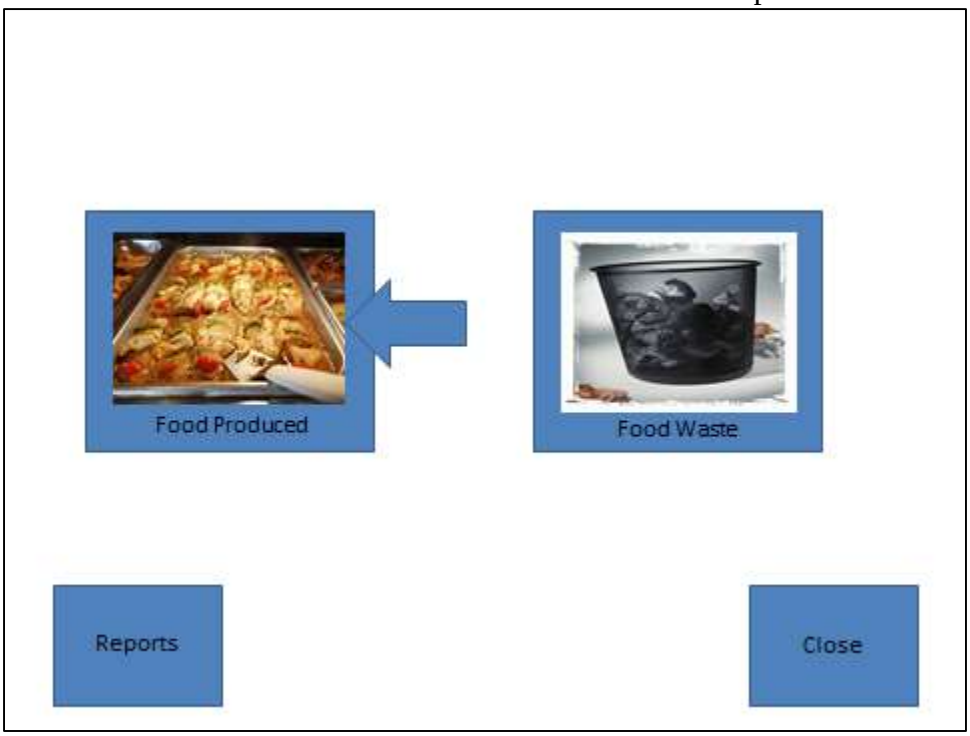
SECTION 5: FUTURE IDEAS

Several ideas were conceived of before and during the development of the application that needed to be reserved for future revisions of the software due to time limitations. One desired feature in a future version is to use actual photos of the food in relevant places in the application. Another desired feature is to make the reports printable. Printable reports could also be saved as files and shared via email. Such a report could be used to assist in demand forecasting. Yet another desired feature is to have a report showing trend lines related to food production and waste.

SECTION 6: SUPPORTING MATERIALS

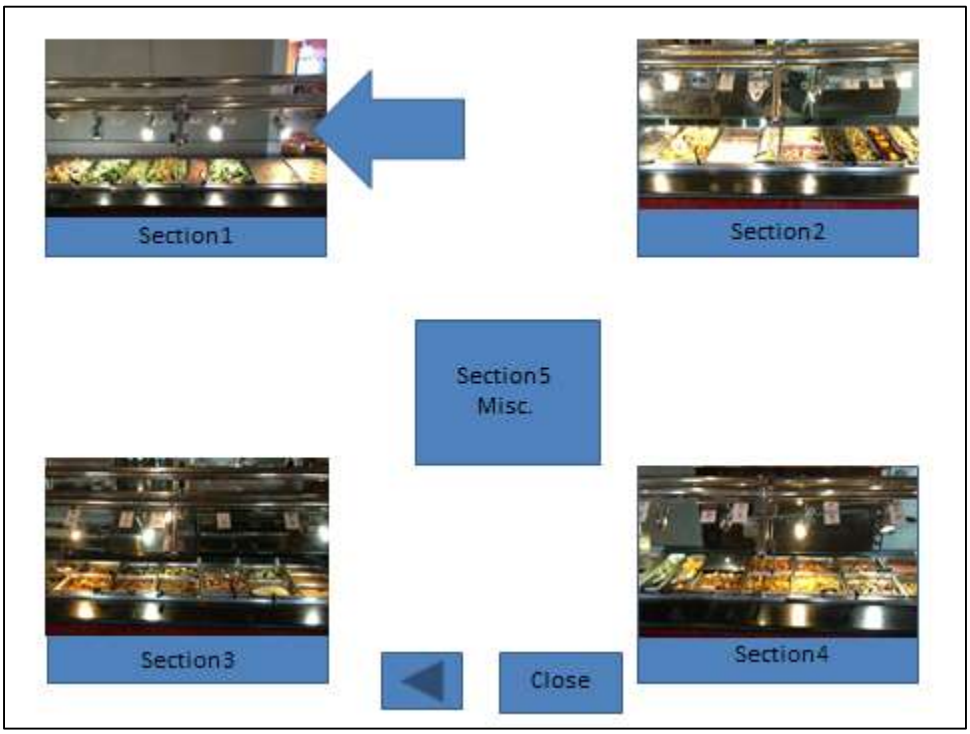
Mockups

Screenshot 1. The main menu of the mockups

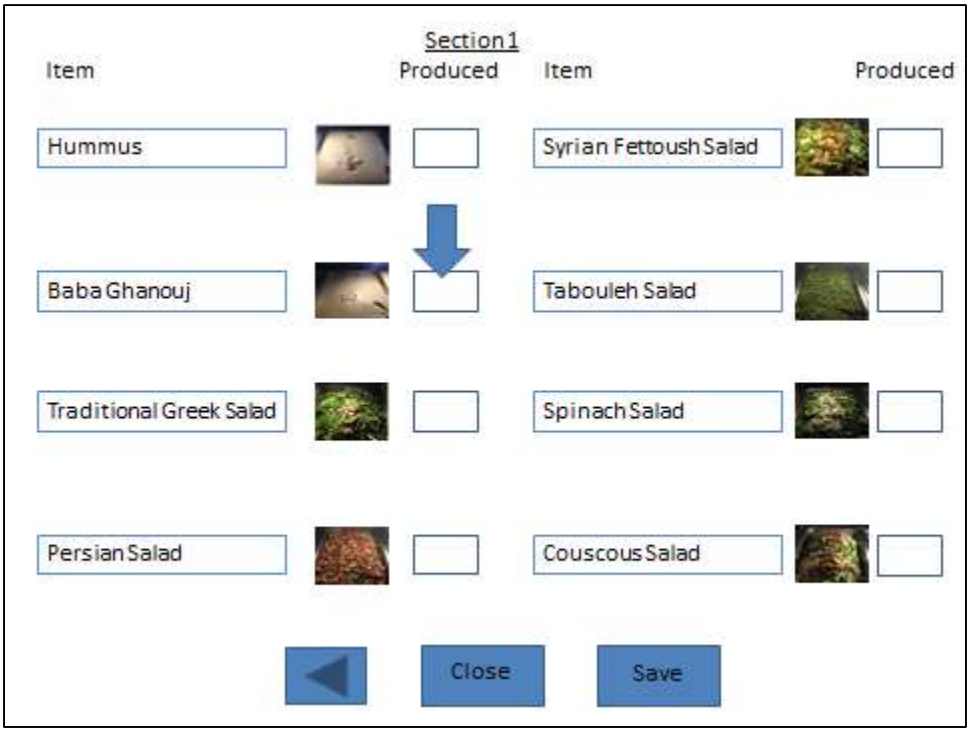


Screenshot 2. Date selection from mockups

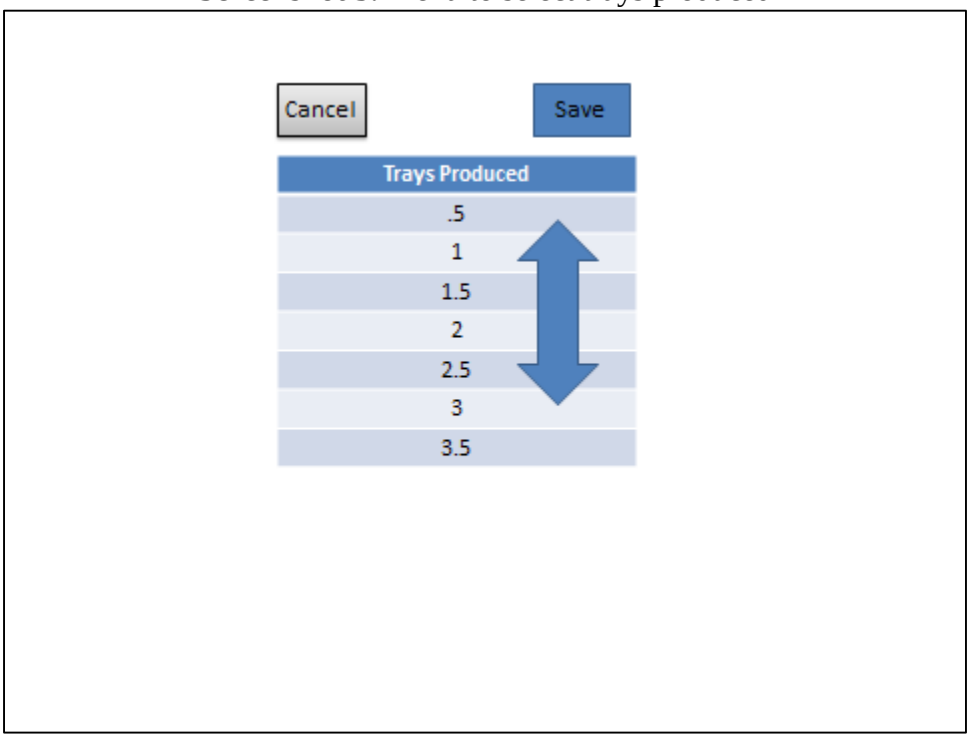
Screenshot 3. Section selection of food items



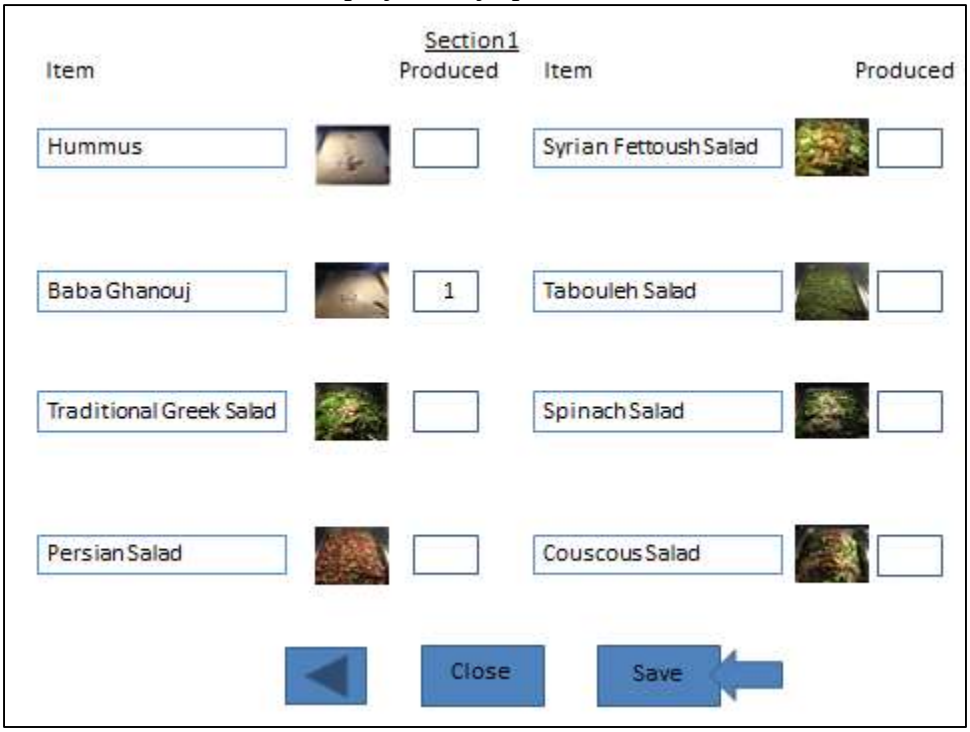
Screenshot 4. Individual item selection within section



Screenshot 5. Menu to select trays produced

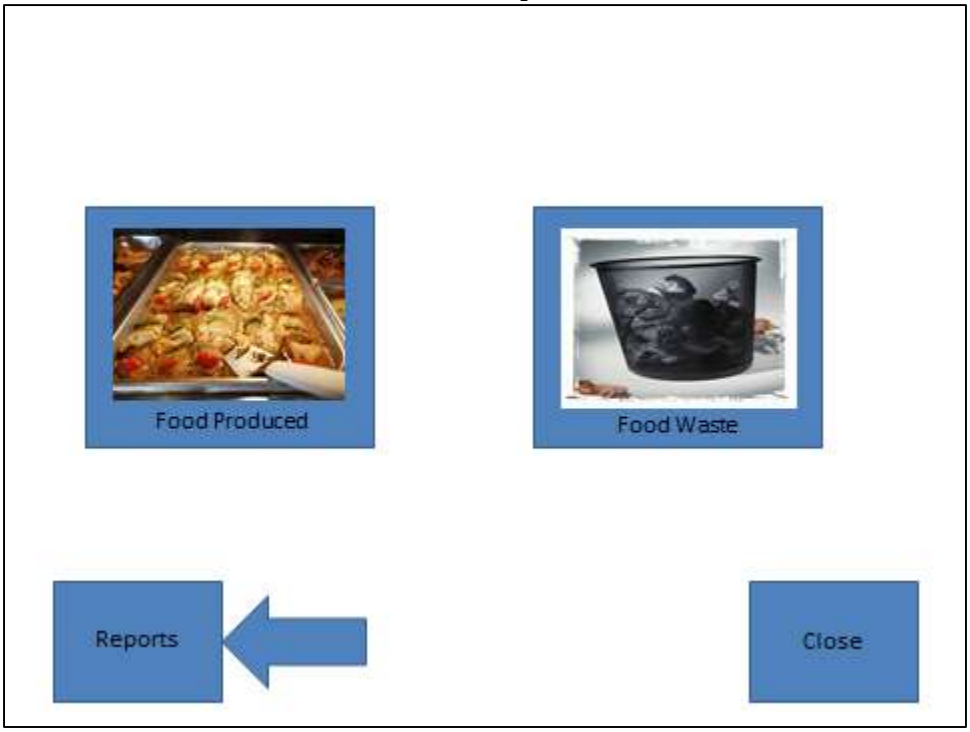


Screenshot 6. Display of trays produced next to food item

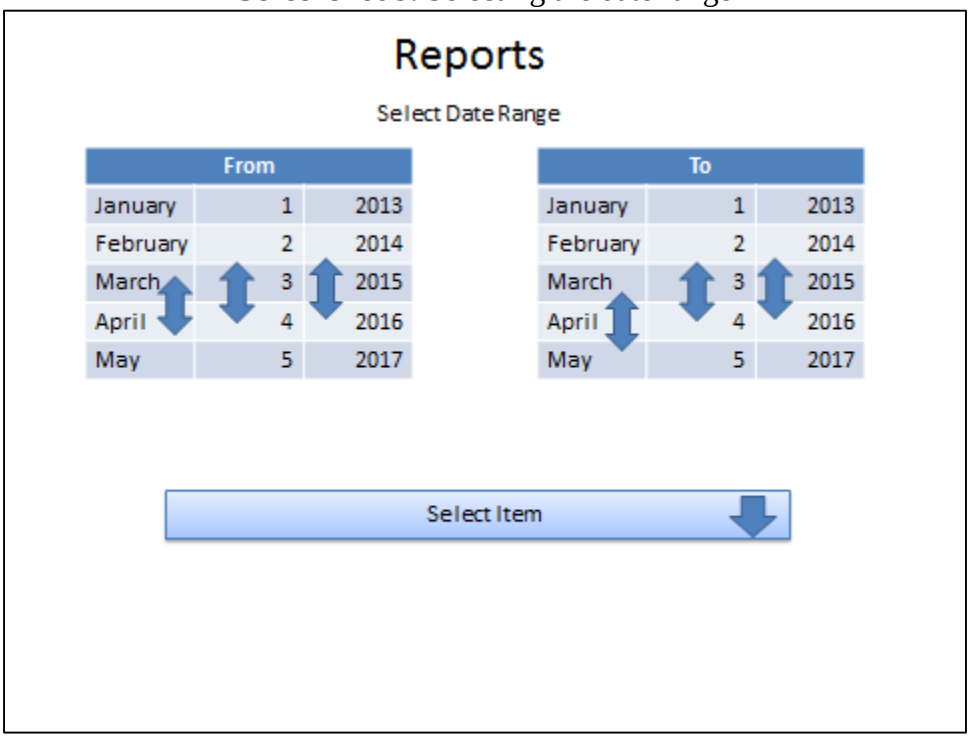


Screenshot 7. Confirmation once save button has been clicked

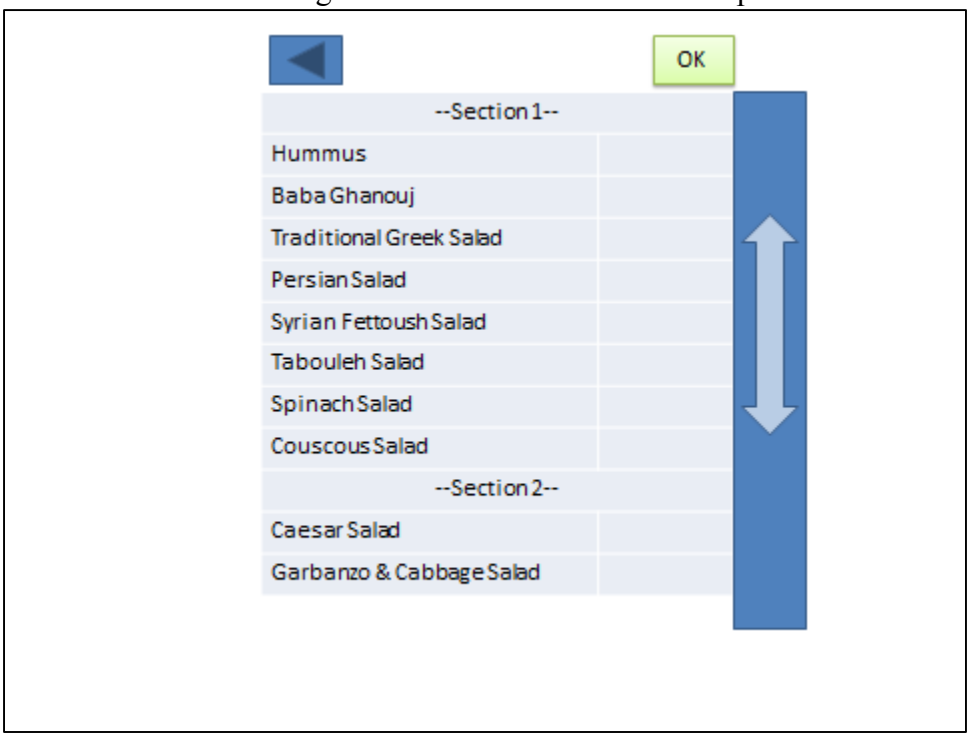
Screenshot 8. Reports button



Screenshot 9. Selecting the date range



Screenshot 10. Selecting the item once "select item" drop down is clicked



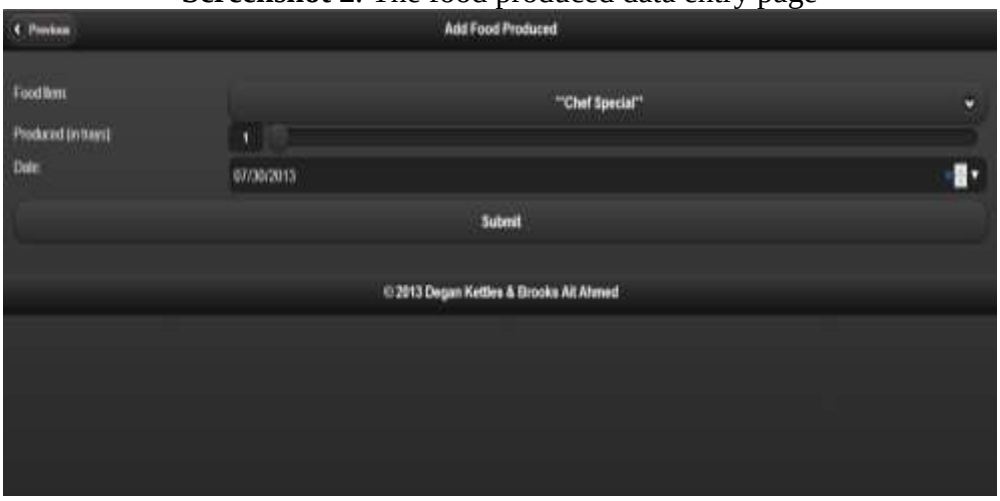
Screenshot 11. Report of that item shown

Date	Item	Food Produced	Food Waste
5/28/2013	Baba Ghanouj	3	2.8

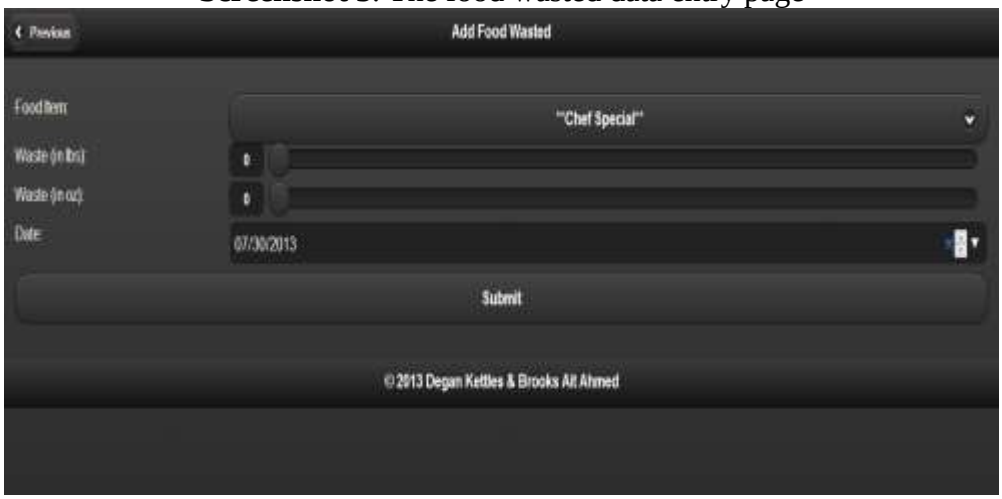
Developed Application Screenshots

Screenshot 1. The main menu of the working application

Screenshot 2. The food produced data entry page



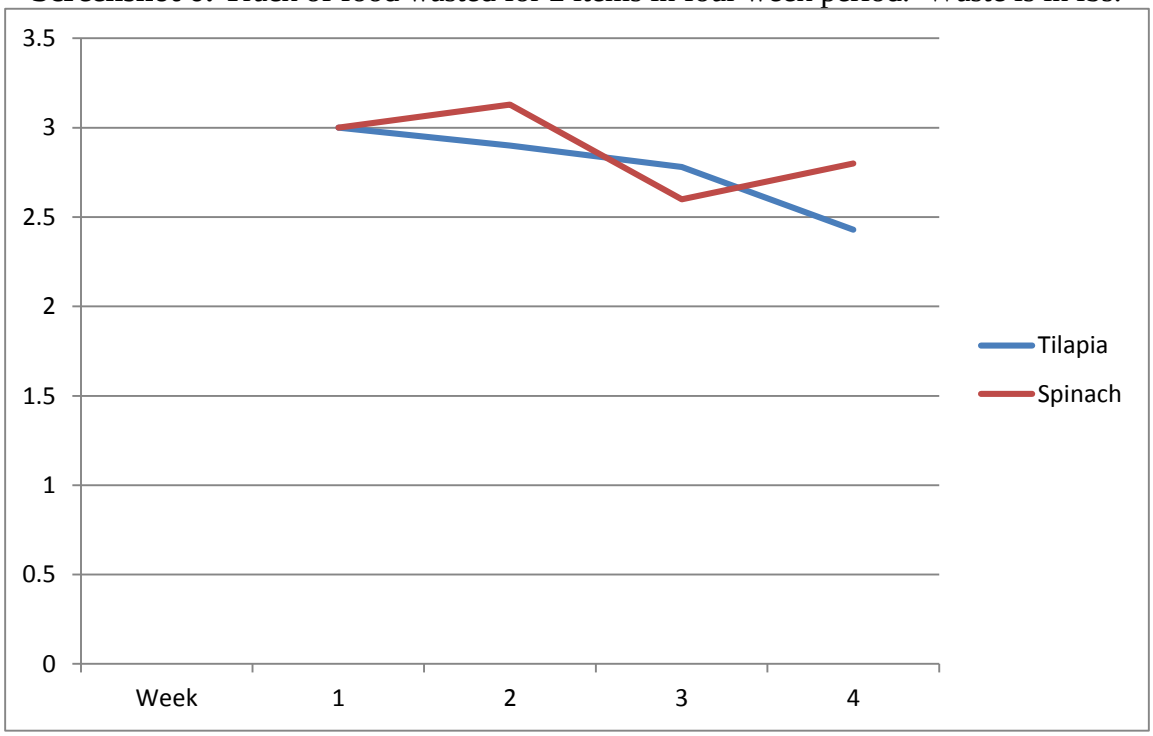
Screenshot 3. The food wasted data entry page



Screenshot 4: Reports for Food Produced

Screenshot 5: Reports for Food Wasted

Screenshot 6: Track of food wasted for 2 items in four week period. Waste is in lbs.



NOTES

DISASTER PLANNING AND RECOVERY FOR SMALL AND MEDIUM SIZED BUSINESSES: A GUIDE TO SUCCESS

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PROBLEM STATEMENT

On May 20, 2013, a tornado traveled approximately 12.2 miles through the Oklahoma City metropolitan area and destroyed homes and businesses in Newcastle, Moore, and south east Oklahoma City (see Figure 1). In Moore, the tornado's funnel reached a maximum width of two-thirds of a mile. The tornado destroyed structures in 960 acres and heavily damaged structures in an additional 3,275 acres. The Greater Oklahoma City Chamber found that 296 businesses were in the direct path of the tornado and another 1,300 business were in the immediate vicinity (Bailey, 2013). Some businesses are struggling to reopen, other businesses are waiting for insurance payments, and still other businesses have lost a large portion of their customers who were displaced by the tornado (Bailey, 2013).

Preparing for a disaster is important for any business, especially small to medium sized businesses (SMB). However, most SMBs lack the knowledge and resources to ensure quick recovery after a disaster. Much of the literature available to help guide businesses through the steps to develop an IT disaster recovery or business continuity plan is geared towards large businesses. Most SMBs find that constructing such a plan is overwhelming and labor intensive, and contracting a vendor to perform these services is also time consuming or too expensive.

The lack of disaster planning is putting many SMBs at risk for failure. Herbane (2010) finds that "80% of small firms go out of business within two years of a disaster and that organizations that have crisis management plans can recover twice as quickly as those organizations without predetermined procedures." Instead of considering disaster recovery or incident response planning as an unnecessary effort, SMBs could begin to look at their own preparedness as an opportunity. If a business can be the first to recover from an incident or disaster, that becomes a significant advantage over its competitors (Jarvelainen, 2013).

One barrier in disaster planning for SMBs is the functionality of their staff. Most small businesses do not have the staff to dedicate the time needed for developing the suggested comprehensive plans. They also have less depth in their staff and are typically lacking the expertise needed to produce the plans to ensure business recovery after a disaster. Researchers find that SMBs have "lower levels of preparedness, higher vulnerability, and greater personal impact of a crisis upon the smaller owner manager (in terms of lost income) that does not necessarily arise in the case of managers in larger firms" (Herbane, 2010).

Another barrier for SMBs is the limited resources available to help with disaster planning and recovery. SMBs have a smaller staff and a similarly small network of vendors and professionals that provide

services to their industry. This gives SMBs fewer options for support during the recovery period. Thus, most SMBs have come to rely on outside vendors or contractors for help with disaster and recovery planning. This is costly and many SMBs decide planning for disasters is not a financially sound investment. The 2013 Technology, Media and Telecommunications (TMT) Global Security Study shows that "only 50% of the surveyed organizations currently have documented response plans in place" and "only 30% believe their third parties are shouldering enough responsibility for cybersecurity" (Deloitte, 2013). Companies reliant on a third party for security and recovery assume an additional risk and a delayed recovery unless the service contracts detail specific plans with monetary penalties for missed deadlines and extended downtime. The TMT Study also reported that third party suppliers are among the top three threats for a security breach, followed by denial of service and employee errors (Deloitte, 2013).

For large businesses, disaster plans look very different from an incident response plan. An incident response plan would cover a breach for one system or a few connected systems. For SMBs, many services run on a single physical system with multiple virtual. In addition, small businesses execute processes that interact with a single copy of customer, employee, and/or sales data stored on one of these servers. An event such as a hurricane, tornado, earthquake, flood, power outage, water leak, fire, hardware failure, software failure, intentional misuse, accidental misuse, or data loss due to a data breach could become a disaster for an SMB with no recovery plans and a minimal backup plan. According to AMI- Partners (2009), "70% of small businesses in the U.S. experienced a data loss in the past year due to technical or human disasters, resulting in an average loss of $4700 to each small business or $20 billion industry-wide."

Figure 2 depicts analysis of the threats and vulnerabilities to SMBs. The scores represent the likelihood of threat acting upon an area of vulnerability (Williams, 2010). All scores in the study are of out a possible score of 100. Thus, any SMB has a 60-percent chance of a human error causing data loss or an interruption to business.

Needleman (2012) reported that "[a]bout *72 percent* of the 855 data breaches worldwide analyzed last year were at companies *with 100 or fewer employees*." This number has "increased from 63 percent of the 761 data breaches it analyzed in 2010" (Bissell, 2013). A data breach could cost an SMB down time, and a loss of revenue due to the disruption of business. As important, though, are the costs an SMB will incur if required to notify customers and mitigate customers' risks (such as free credit monitoring) due to customers' personal information being breached.

Even when data is not breached, service disruptions can be caused by server failure, hard drive failure, or a power outage (a 44% to 55% chance of occurrence, see Figure 1). Service disruptions will have negative effects on customers and can lose those customers (Jarvelainen, 2013). Data loss and recovery is not included in most companies' insurance policies. Even if some components of a company are covered by insurance, the company has a low chance of recovering without a formal disaster recovery plan in place. For a summary of top threats and their associated probabilities, see Figure 2.

REVIEW OF LITERATURE

Williams and Manheke (2010) evaluate

small businesses in Australia to examine the threats and vulnerabilities associated with the increased data storage. The authors (2010) find that small businesses are being encouraged by the government to quickly adopt ecommerce without ensuring that the small businesses obtain the proper resources to secure the data.

Jarvelainen (2013) discusses the development of a framework for continuity plans and validates the framework with a small group of Finnish companies. The author (2013) places importance on making sure all business levels are taken into consideration when developing and implementing the continuity plan. The article focuses on how the awareness and preparedness of having a continuity plan affects management's perception of the business, but falls short of explaining how to develop the plan (Jarvelainen, 2013).

AMI-Partners (2009) present a case for the need of disaster recovery plans for all companies. Addressing the repercussions a company may face if there is a disaster is an important exercise for any company. The authors (2009) broadly outline the steps for a recovery plan and strongly suggest that an SMB should hire a consultant to help develop the plan. However, the authors (2009) expect a business owner to be able estimate a cost for the potential loss of data with little to no information on how to calculate the value.

Herbane (2010) takes a deeper look at the vulnerabilities and economic importance of SMBs, highlighting the lack of literature about disaster recovery. The author (2010) uses case studies for small UK businesses to get a better understanding of resources available for SMBs to deal with threats, respond to crises, and manage the impact.

Deloitte Touche Tohmatsu Limited (2013) conduct a study to discover how businesses are managing new technologies and the technologies' security risks. The research suggests that guarding information is essential to a thriving business and companies must be flexible and innovative in their plans to deal with security threats (Deloitte, 2013).

METHODOLOGY

We propose a four-step plan for SMBs to identify and protect their technology assets in the event of a disaster, data corruption, or an attack. The four-step plan includes identifying critical software and its value; ensuring the performance of a proper backup; testing the backup and recovery procedures; and evaluating service level agreements.

The first step in creating an IT recovery plan is to identify the key software systems. Key systems are responsible for facilitating critical processes that would interfere with the company's ability to perform necessary business processes if those systems were to malfunction. These processes include the business's ability to earn, process payments, and provide services or goods to a customer. For each key system, the company needs to identify the number of hours the system can be down before business operations suffer and revenue is negatively impacted. The recovery process will prioritize recovery of systems using these figures. The lowest time value (most critical) is placed at the top of the list and the highest value at the bottom.

The second step is backing up all system information. Advances in technology and the information system have made it easier and more affordable for companies to backup and recover their data. Companies should know the type of the information that

each software system contains, how to back up that data, and how to recover it. It is also imperative to be knowledgeable about how often various data changes. The backup frequency must be set to match the frequency of change, including differential and full backups. After deciding on the frequency of backups, the company should designate a person to plan and execute the data backup. This should include an offsite backup delivery plan. If the backup is not performed over a network to a remote location, deliveries can be made the following day. All media should be labeled by the day of the week to ensure proper rotation. Backups must be stored in a secondary location to ensure the company has a means of continuing business when the company's current equipment is damaged, destroyed, or stolen.

Testing backup and recovery processes, the third step, is essential for quickly recovering a system in the event of a disaster. Many SMBs perform scheduled backup on their systems and never test their backups or recovery process. In the event of a disaster there is no guarantee the information the company needs will be available unless testing has been performed. Scheduling periodic tests will ensure that backup media, backup instructions, and recovery procedures remain adequate for the business and can be performed within the defined times from step 1 above. This practice also prepares the recovery team (either business staff or service provider) for a disaster. If a third party is performing the backup, the company should contact the data center provider and authorize a backup and recovery evaluation. The provider may have staff to assist with the process and make recommendations. The effort a business puts into planning and preparation is useless if the recovery process is never tested.

The last step is to be knowledgeable about service level agreements (SLA) for all providers engaged in system repair, operation, or recovery. Many SMBs are not aware of the different options available in IT SLAs. For example, when choosing a data center besides storage space, power and bandwidth, SMBs should also consider the response time on customer calls, and monitored equipment, time to gain access to secure areas, guaranteed uptime percentage (no less than 99.999%), and physical security monitoring with monetary penalties for the service provider should service guarantees not be met. This will allow at least some recuperation of funds if a business experiences delays in recovery.

SUMMARY

Literature about disaster recovery is geared towards large business. Due to the vast differences in the way SMBs and large business operate, much of the literature is not directly applicable to SMBs. By scaling back the complexity and focusing more on the systems instead of the communication plan, SMBs can make the task of preparing continuity plans more manageable and attainable.

In the future, we plan to take our four-step plan and implement it with SMBs in the Oklahoma City area and solicit feedback from the companies. We also plan on using feedback from the SMBs to develop a template in order to better guide companies through the development process.

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Figure 1: Tornado Trail of Destruction. May 20, 2013

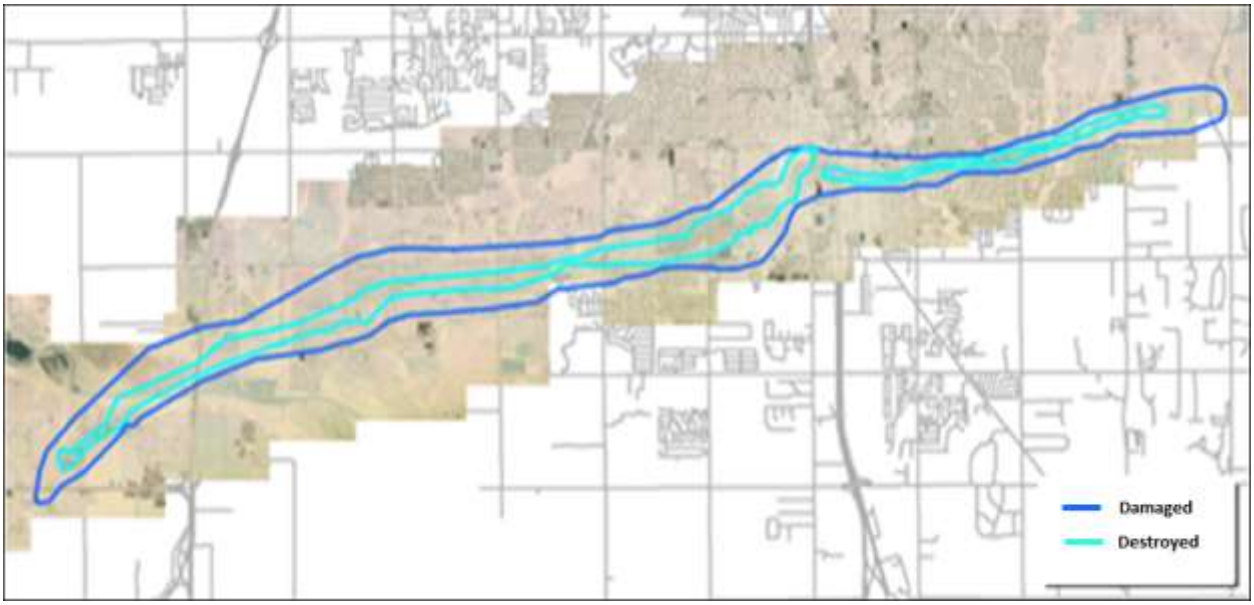
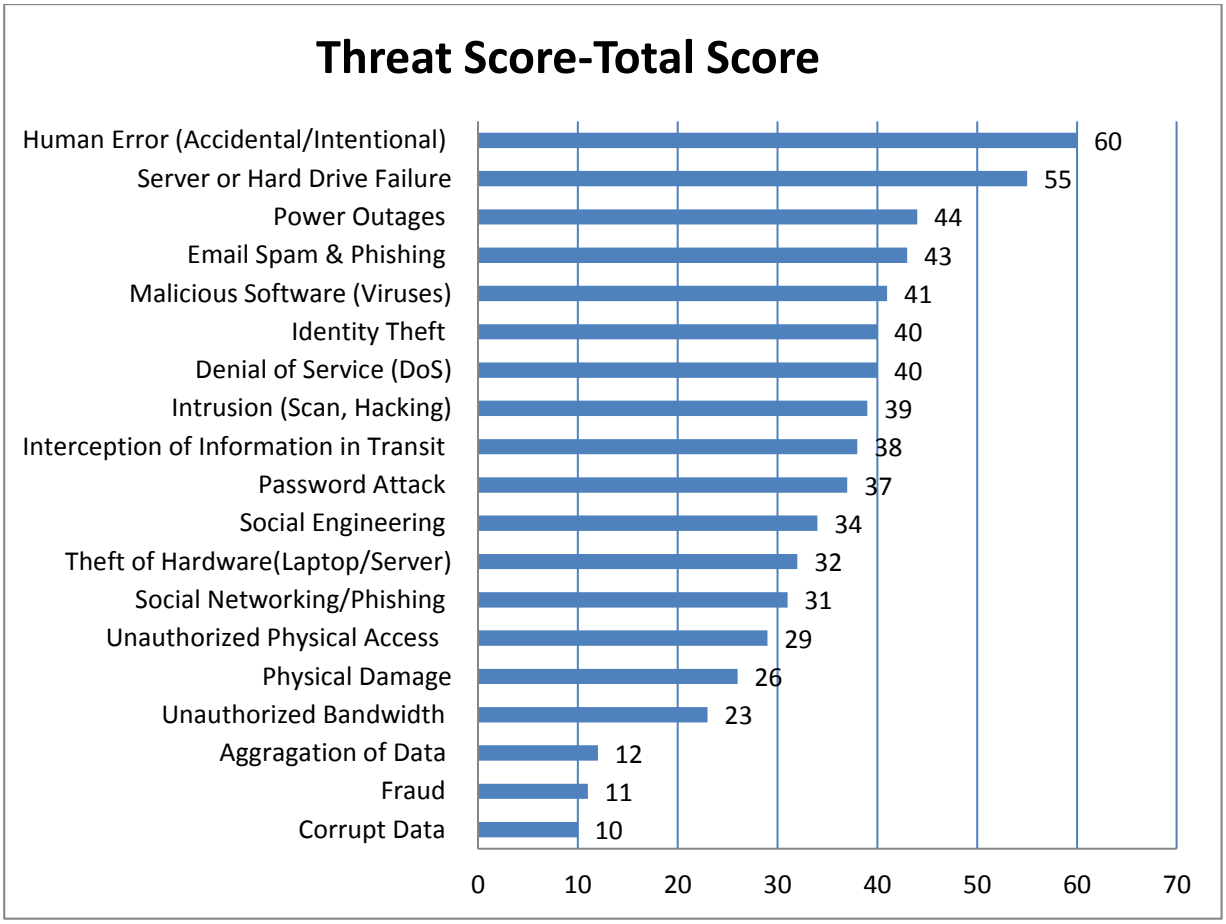


Figure 2: Information System Threat Probabilities (Williams, 2010)



NOTES

ONLINE INTEGRITY: STUDENT AUTHENTICATION IN AN ONLINE COURSE

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INTRODUCTION

Distance education has been around for over 100 years and has progressed from print based or correspondence study to radio, television, audio or video recordings, and on to video conferencing and computer mediated instruction (Wang and Gearhart, 2006). In 2000, Dooley and Murphy stated that delivery via the Internet was relatively new and challenging for higher education institutions. Most would agree that even though delivery via the Internet might no longer be considered "relatively new," it can still be considered challenging.

According to Gearhart (2010), "One of the issues that has been around as long as there has been distance education is the issue that the student registered for the course is the student doing the work" (p. 60). Faculty members who teach fully online courses increasingly face the issue of verifying that the student taking an online exam is actually the student who is enrolled in the course. Miller and Young-Jones (2012) surveyed 639 students to compare cheating on assignments in online classes to cheating in face-to-face classes, but the study did not investigate whether the student enrolled in the online class was the student completing the work. Rowe (2004) stated, "The prevention of plagiarism has been the subject of much attention, but insufficient attention has been given to other problems of dishonesty in online assessment" (p. 1).

Winneg (2014), founder of multiple software solutions to ensure student authentication and secure online testing, suggests that measures to ensure online integrity should be decided and implemented by the institution rather than its faculty members. The authors of this paper are not suggesting that institutions should necessarily dictate the use of specific authentication, but rather suggest the benefits of having the availability of authentication options. Authentication will likely become a significant discussion for both the purposes of governmental funding and institutional integrity.

REVIEW OF LITERATURE

Institutional Implications: Government Guidelines and Regulations

Online education has presented new challenges not only for students, but also for faculty. The issue of knowing who is doing the work in an online class is still a large problem. Online testing and verification of student identity is becoming increasingly important.

The Council of Regional Accrediting Commissions (C-RAC) has developed new Interregional Guidelines for the Evaluation of Distance Education (Online Learning). These new regulations, called the Nine Hallmarks of Quality, expand the standards specific to online education from 22 to 55, and they have been adopted by all seven of the regional accrediting organizations.

One of the most challenging is the ninth hallmark. The ninth hallmark, as seen below, suggests that SACS and other regional accrediting agencies will be

expecting institutions to do more in regard to online student authentication to ensure that the student who enrolls in a class is the one who completes the work in that class.

The institution assures the integrity of its online offerings.

Analysis/Evidence:

- The institution has in place effective procedures through which to ensure that the student who registers in a distance education course or program is the same student who participates in and completes the course or program and receives the academic credit. The institution makes clear in writing that these processes protect student privacy and notifies students at the time of registration or enrollment of any projected additional costs associated with the verification procedures. (NOTE: This is a federal requirement. All institutions that offer distance education programs must demonstrate compliance with this requirement.);
- The institution's policies on academic integrity include explicit references to online learning;
- Issues of academic integrity are discussed during the orientation for online students;
- Training for faculty members engaged in online learning includes consideration of issues of academic integrity, including ways to reduce cheating.
- *Institutions are encouraged to consult Best Practice Strategies to Promote Academic Integrity in Online Education

*Best Practice Strategies to Promote Academic Integrity in Online Education, prepared by WCET and available at http://www.wcet.wiche.edu/learn/student-authentication

The Inspector General of the U.S. Department of Education, Kathleen S. Tighe (2011), highlighted the growing vulnerability of online education to financial fraud, thus leading to greater expansion of regulations and oversight of online learning. Dr. Belle Wheelan of SACS said at a conference regarding these guidelines that it will become a big issue for higher education institutions in the near future. Case in point is the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) lists first in the Guidelines in the Application of the Principles of Accreditation to Distance and Correspondence Education the following requirement:

> At the time of review by the Commission, the institution must demonstrate that the student who registers in a distance or correspondence education course or program is the same student who participates in and completes the course or program and receives the credit by verifying the identity of a student who participates in class or coursework by using, at the option of the institution, methods such as (1) a secure login and pass code, (2) proctored examinations, and (3) new or other technologies and practices that are effective in verifying student identification.

Implications for the Professor

Historically, professors teaching courses that prepared students for stringent exam-based certifications, such as those entering the nursing profession, either required students to come to the main campus for testing or

required the student to arrange a live proctor to verify the identity of the student and oversee the student completing an exam. The question arises as to whether technology has now developed to the point that these types of live proctoring practices are now antiquated.

With the proliferation of online learning, the two simple questions - "Who are you?" and "How can you prove it?" - are requiring increasingly sophisticated means of identification and authentication (Smedinghoff, 2012, para 1).

Technological solutions are becoming commonplace; Apple's new iPhone 5S "will be the first widely popular gadget to incorporate a fingerprint scanner as a security measure. It likely won't be the last" (Pagliery, 2013, para 1). Exam security technology, in which a webcam captures and records the student's environment as he or she completes the exam, is a fee-based service that requires the student or the institution to pay on a per exam basis.

In April 2011, the White House released a "National Strategy for Trusted Identities in Cyberspace" (National Strategy, 2011) that described digital authentication methods that would be portable across different systems and entities. Privacy will be a consideration in solutions adopted to verify student identity (Gearhart, 2010). Although more instructors of online students are skeptical that the work submitted is actually completed by the student who is enrolled, authentication systems are still in development, with newer forms of authentication such as biometrics not commonly used in education (Hoshiar, Dunlap, Li, & Friedel, 2014).

PURPOSE OF THE STUDY

This study sought to determine attitudes of faculty who taught fully online in regard to the difficulty of teaching online as well as whether test proctoring was required for online courses.

PARTICIPANTS OF THE STUDY

Participants of the study comprise a convenience sample from members of the Federation of Business Disciplines organization.

PROCEDURES

A survey was developed and administered through Qualtics survey software. Emails were sent based on the membership rolls from the 2013-2014 conference year.

FINDINGS

A total of 166 responded to the survey. The total group (166) comprised 74.8% Caucasian, 11.8% Asian, 5.1% Black/African American, 2.8% Hispanic/Latino, 5% Mixed and Other.

For the online testing questions there were 88 of the 166 respondents indicating they teach online. The ethnic makeup of the online teachers was very similar to the overall makeup with only the Hispanic/Latino showing a notable difference with none (0%) of the respondents of the online total as opposed to the 2.8% of the overall total.

Gender composition comprised 93 males (56%), 68 females (41%), and 5 no reported gender (3%) for the total group (n=166). The number when filtered for the online faculty only was very similar with 53.4%, 42%, and 4.5% respectively.

Respondent age breakdown found 11.8% in the 25 – 34 age group, 18.5% in the 35 – 44 age group, 18.5% in the 45 – 54 age group, 33.1% in the 55 – 64 age group, and 17.4% in the 65 and over age group. More than half of the respondents had been teaching 15 years or more. The age groups for those teaching online included 4.5% in the 25 – 34 age group, 17.2% in the 35 – 44 age group, 24.1% in the 45 – 54 age group, 37.9% in the 55 – 64 age group, and 16.1% in the 65 and over age group.

When looking at the teaching experience of those taking the survey, the percentage of the largest total percentage of the group fell in the 20 – 29 years of teaching grouping with 23%. However, when filtered for only those who teach online, the largest total percentage remained in the 20-29 years of teaching with 33%.

Respondents to the survey were also asked their academic rank. When looking at those faculty members teaching online courses (n=88) the largest number were at the rank of full professor (39.8%). The others were: associate professor (19.3%); assistant professor (25%); lecturer/instructor (9%); and adjunct/other (6.8%).

All participants (n=166) were asked if they felt when it came to teaching an online course whether it was harder to teach, easier to teach, or about the same difficulty. The responses from those who teach online differed to some degree from those who do not teach online classes (n=88) as shown in Table 1.

Table 1: Responses to: Do you feel that teaching an online course is harder, easier, or about the same level of difficulty as teaching an on campus course?

Online Teaching	N	Harder	Easier	About the Same	Missing
Yes	88	65.9%	6.8%	27.3%	0%
No	78	39.7%	9.0%	23.1%	28.20%

The question was asked, "If you teach an online course, do you require students to travel to the campus for testing?" Of the 88 who indicated they teach online 11.4% required students to come to campus for at least one exam. An additional 22 indicated that they do require tests be proctored, but they do not require that test proctoring occur on campus.

All participants were asked if the question ever arose in their own minds whether the person doing the work in an online class was actually the person who was receiving credit for the course. There were more than 45.3% who stated that it was a question that definitely arose, 20.9% probably yes, and an additional 17.4% who indicated that it was somewhat a concern. Only 16.3% indicated that they probably or definitely did not have the question of whether "the person getting credit for the course was the actual person doing the work in the class" arise in their own minds.

Participants were asked if their institution offered a technological solution (online proctoring) for online courses. From the total group (n=166) 114 answered this question. Of those responding, 63.2% indicated no technology proctoring was offered. Of those who indicated they teach online (n=88) 82 answered this question and 63.6% indicated that no such option was available at their institution. A follow-up question asked if the institution were to offer a technological solution such as online proctoring to use for students, would they choose to have students use the service. From the 88 online faculty members 87 responded. Of those 45.8% said "Definitely

yes," 34.9% said, "Probably yes," 12% said, "Maybe," and only 7.2% said, "Probably not."

CONCLUSIONS

Despite the number of years online education has been around, there are still many bumps in the road that still need to be addressed. Based on the results of this survey, few faculty members feel that teaching online is easier than traditional on campus teaching. Those who teach online consider teaching online harder than on campus teaching at a much higher percentage (65.9% vs. 39.7%) than those not teaching online.

Results indicated that online teaching is not being relegated to the younger, less experienced, or lower academically ranked faculty. The largest numbers were aged 55-64, those who had taught 20 or more years, and were at the rank of full professors.

Only 36% of those surveyed require that exams be proctored either on campus or in some other manner. It does appear from the responses that if a technological solution to test proctoring were made available, the number of those requiring test proctoring would rise.

RECOMMENDATIONS

Faculty need to look ahead to how they will address the identification requirements of online students. The reason for this is at least two-fold. An important reason will probably be that the government wants to make sure that the money being provided to educate students is being used for its intended purpose. They want to ensure that the money that is being provided a student goes for that particular student to receive an education.

Obviously, the faculty member would not disagree with the government's reasoning for student identification; however, one would hope that the faculty desire would go further than just the legality of the money being spent. Faculty members take pride in their graduates. When students leave an institution of higher learning, they represent their alma mater. Faculty should take an interest in knowing that the person who is receiving the degree is not only the person for whom the money was paid to earn the degree. More importantly, faculty want to know that the person who walked across the stage and received that diploma gained the knowledge that accompanied it to go out and use that knowledge for the betterment of him or herself and society as a whole.

It is recommended that faculty be given the tools to utilize test proctoring to add validity to the degrees earned by the online students they teach without causing an undue burden to the online students.

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NOTES

LINOIT: AN EMERGING DIGITAL TECHNOLOGY IN THE TEACHING OF BUSINESS COMMUNICATION

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ABSTRACT

The uncharted wilderness culture of the digital age continues to encourage emerging technologies, resulting in new business communication tools and new approaches to collaboration, multimedia and exploration in both the board room and face-to-face and virtual classrooms. The baby boom generation that saw the digital age emerge is retiring. Gen X is filling the gaps, moving up in organizations and Gen Y is settling in. Two generations with significant daily exposure to technology are filling the ranks of both business and educational leadership. Changes in the way business communicates and in the way higher education prepares future business communication specialists is inevitable. The impact of social media and digital tools will accelerate and business and education must embrace the change to remain relevant. This paper provides a preliminary view of the use of an emerging collaborative, multimedia web tool, Linoit, to teach business communication courses. Thirty public Linoit sites available on September 9, 2012 are reviewed for content. Thirty nine tweets (#linoit) (February 17, 2014) are then examined for Linoit usage. The researcher then reviews his Linoit sites for content and multimedia learning activities, including two approaches to providing feedback to learners. Further research is suggested and implications are provided.

STATEMENT OF THE PROBLEM

Educational institutions are preparing learners for employment opportunities which do not yet exist, using digital tools not yet invented. The Red Balloon Project, a national initiative of the American Association of State Colleges and Universities (AASCU) to re-imagine and then to redesign undergraduate education for the 21st century, establishes two goals relative to this paper. 1) Utilize educational technologies to better engage students in authentic learning experiences more aligned with the ways that knowledge is being generated, aggregated and disseminated in an age of networked knowledge. 2) Provide students with the knowledge, skills, and abilities they will need to become successful participants in careers, engaged citizens in a democracy, and thoughtful leaders in the global society of the 21st century. (http://www.edu1world.org/redballoon)

Just as the printing press forced society to re-imagine how knowledge was disseminated and eventually ushered in vast societal and political change, these emerged and emerging tools of the digital age require a re-imagining of higher education. Given the tidal wave of changes in how we communicate, higher education must re-imagine both what we teach and how we teach. This paper opens a conversation in both the what and the how.

REVIEW OF LITERATURE

The presenter's review of literature has failed to yield any current academic research in the use one recently emerged web based tool, Linoit. This paper will begin to fill that void by sharing specific student learning opportunities for both virtual and face-to-face university level business classes.

Much has been written in popular journalism about social media and digital tools. However, current academic qualitative and quantitative research is limited. The researcher argues that limited research is a result of a) the continuing dominance of traditional communication media (reports, memos, letters) in the teaching of business communication and b) the speed at which social and digital technologies mimic entrepreneurship- emerge and succeed or emerge and fade.

The speed and scope of the digital age has disrupted business, research and class room instruction.

In their analysis of the requirement for digital strategies, Argenti and Barnes (2009) argue that a "juggernaut of catalysts emerged and metastasized so rapidly that many executives were left without any strategies for thriving" (p. 1). "Most senior executives entered the corporate world in a very different era, and they now face a business landscape that is very different than the one they once new" (p. 3).

Weller (2011) writes of the impact of digital technology on academic research. For example, there now exist a far different range of information delivery- live streaming events, twitter back channeling, remote participation, on line and face-to-face social events at conferences, and alternative session formats. (p. 115). Weller (2011) examines each of the traditional views of research as outlined by Boyer in a 1990 study-- discovery, integrations, application and teaching-- and demonstrates how "the digital, networked, open approach can impact upon practice" (p. 12).

Benedict & Pence (2012) explore the teaching of chemistry with student generated YouTubes and Kelsen (2009) examines the use of YouTube in Teaching English as a Foreign Language in Taiwan. Frydenberg (2006) investigates podcasting. Young (2012) explores the rising use of educational apps. Duncan and Barczyk (2013) conclude that Facebook enhances university courses and helps create a community of practice. Bryer and Chen (2010) report on the use of LinkedIn, Facebook, Twitter, Second Life and blogs in the teaching of business.

Chen and Bryer (2012) surveyed a national sample of public administration faculty (N= 57) to investigate the educational use of social media technology, including faculty concerns. The number one faculty concern was cyber-security and privacy issues. Ethics issues (cyber bullying, marginalizing students, and being unfair because of befriending one student over another) were the second largest concern (p. 92). They noted that programs that were judged successful had significant student support possibilities- from IT, the library and digital media specialists. In addition, "since students were using online social networks extensively in their program, other instructors in the program started to adopt this technology more willingly" (p. 96).

Veltros and Veltros (2010) reported on the potential issues created by the classroom use of technology- mediated communication (new media such as blogs, twitter, wikis, and social network sites) and focus on issues concerning privacy, intellectual property, data security and violations of the Family Educational Rights and Privacy Act. (2010)

Thomas and Thomas (2012) examined the use of social media and web 2.0 technologies with three approaches to instruction in business education, from face-to-face to blended learning. They concluded that "Today's students have a very different set of expectations and are

"virally vocal", i.e. word spreads fast. Business schools will need to pay close attention to the skills incoming students already possess and to the needs of businesses" (p. 365). However, they note resistance to change and support of classic forms of face-to-face instruction. "In the case of deans, few have sufficient courage or time (given the short average tenure of deans) to invest in and implement new technology strategies for teaching and learning" (p. 358).

Fleck (2008) argues that business school "Deans must ensure their schools actively explore the immense potential and the wide ramifications of the new technologies coming on stream in the context of increasing globalisation, rather than just waiting to adopt passively the technologies that become available" (p. 415)
Chen (2000) argues that "Teaching business problem solving is imperative, and business instructors are challenged to prepare students to use information technology to solve the ill-structured type of problems faced in the business world" (p. 41). Linoit is a tool that blends problem solving with technology and thus mirrors the current business climate.

LINOIT: AN EMERGING SOCIAL MEDIA TOOL

Bryer and Zavatarro (2011) define social media as follows: "Social media are technologies that facilitate social interaction, make possible collaboration, and enable deliberation across stakeholders. These technologies include blogs, wikis, media (audio, photo, video, text) sharing tools, networking platforms (including Facebook), and virtual worlds" (p. 327).

Linoit, a free web-based canvas, allows users to create a communication visual supported by videos, photos, PDF files and virtual Post-it notes and aligns with the social media definition of Bryer and Zavatarro above. Linoit also has both an iPhone and iPad app, with a beta version for Androids now available.

An undeveloped Linoit Facebook page exists, created in 2011, with one 2011 posting. (https://www.facebook.com/pages/LinoIt/195005547188305)

The Linoit site appears as a corkboard where users can post "stickies" (Post-it notes) of colors of their choice. The Post-it notes can contain a range of audio and visual information- written notes with comments/ideas, photos, and links to documents, websites and sound or video files. Lino is a virtual version of the face-to-face business process of using Post-it notes to visually lay out a process or concept at a business team meeting.

The Infoteria Corporation, a public company founded in 1998, is the creator. A Premium Account, at $3/month, provides a range of desktop uses, RSS feeds, a calendar, widgets, and a bookmark function.

In order to determine current popular usage, in November, 2013 the researcher reviewed page 1 of 30 pages (3,087 sites). This set had between 7 to 215 views each within the past 44 minutes to 2 hours. Twelve canvases were non-English language sites. Of the 18 remaining sites, only one had a non-educational purpose. The town of Woking in Surrey UK posts job ads. Of the remaining 17 sites, one was blank and the topic of two was undetermined. One was dedicated to an exchange of information on a video game. Two sites were for instructors to post information (text, video and photos, charts) on hydro cracking and the Libra constellation. All the remaining 11 sites

were collaborative and educational, with various individuals posting photos, text, and video. Discussions covered class norms, the world's greatest inventions, Edward Snowden (Hero, Traitor or Other?), themes of Silas Marner (two different instructors) and multiple closing messages from students to teachers and vice versa.

In February, 2014 #linoit had 42 tweets covering the following uses: screen shots of canvases, parents looking at class assignments, links to PDF files, student narratives, an awards ceremony, photographs, a set of English writing examples with PowerPoints and PDF formatted exams, a parking lot for ideas/brainstorming, suggestion box, and blogs.

BUSINESS COMMUNICATION CLASS APPLICATION

Examples of how the researcher has used Linoit are as follows: 1) a graduate level readings class with a student building a site exploring a special topic of interest, replacing the traditional research paper; 2) a class project to promote university-wide speakers on the topic of Open Education Resources with the link in a university-wide email; 3) teams to develop specific business advertisements with customer feedback, enhanced by written research papers building the case for business use of Linoit and an oral team presentation; and 4) sites for students to place self-made YouTube links responding to a question of their choice.

Below are the instructions for a Training and Development class. Instructions are in the syllabus and on a post-it note on the Linoit canvas.

"Create three Post-it or stickies. Do not forget to leave your name on all three stickies so we all know who created the thoughts and information.

1. On the first Post-it create a 4-6 sentence written "elevator speech" hitting the highlights around this topic.

2. Next, on another Post-it, build on the information in the following two You Tubes on Malcolm Knowles.

http://www.youtube.com/watch?v=mcZuna9dckE

http://www.youtube.com/watch?v=vLoPiHUZbEw

3. On a third Post it, explain your experience with 'How training programs are planned'

The researcher, who uses the flipped classroom approach, responds to student work in one of three ways. The first feedback approach is to use SoundCloud, a free audio recording podcast tool. SoundCloud has an app allowing for recording and upload directly from a smartphone. The second approach is to add comments to each student Post-it note. Finally, using the video record function of an iPhone, the researcher creates a video and uploads directly to the course YouTube site from his smart phone, or to the Linoit canvas.

LESSONS LEARNED

1. Students need little orientation to the tool beyond the video provided on the Linoit home page or Slideshare.

2. Students initially do forget to place their name on the Post-it notes.

3. Students can upload but only the canvas owner can move the postings around the canvas. This, the instructor has to take an organizing and design layout role. The researcher asked students to respond with a Post-it to the work of others and that created a convoluted and difficult to read canvas. The researcher recommends requesting students to respond to the work of others in the Discussion Board in the Learning Management System.

SUGGESTED RESEARCH

Both qualitative and quantitative research should be conducted to 1) determine the problem solving activities that learners engage in; 2) the amount of creativity and "out of the box" thinking the Linoit tool generates; 3) business reaction to a Linoit site as an example in a business portfolio developed in the job search process; 4) general student assessment of Linoit as a learning tool.

IMPLICATIONS

1. Business communication skills today go well beyond the traditional- emails, reports and oral presentations. The teaching of business communication must now shift and move into the teaching of both emerged and emerging digital communication tools. In short, it is time for the profession to re-think how and what the future tools of business communication will look like and re-engage learners in meaning ways that assist university graduates in their job search.

2. The speed of change requires both faculty and students to be joint learners, sharing discoveries in a learning partnership that crosses generational boundaries. Creation of a lino canvas is a potential joint learning experience.

3. Businesses demand both virtual and face-to-face problem solving and team work skills. The generation of Linoit sites potentially demonstrates both skills to a prospective employer, and the site itself can serve as a digital artifact in a job seeker's portfolio.

4. As an emerging tool, Linoit is not yet well-known. It may indeed fail.

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NOTES

EXAMINING THE EFFECTS OF A HYBRID CSI SUMMER BRIDGE PROGRAM ON STUDENT CAREER AWARENESS AND INTERESTS IN FORENSIC SCIENCE AND FORENSIC TECHNOLOGY

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Keia Atkinson, University of Central Oklahoma

ABSTRACT

This pilot study examined how a summer bridge program affected high school student career awareness and interests in forensic science and technology. This bridge program consisted of three job shadowing components including field trips, team interactions, and virtual interviews that were designed to conduct crime scene investigations (CSI). The target population included students in grades 9-12 attending 250 high schools across the state of Oklahoma. The sample size included 35 high school students who were randomly selected out of 95 applicants. A survey, consisting of seven-point, Likert-type scales (i.e., strongly disagree, …. and strongly agree), was used to quantify the phenomenological experience of participants, and was administered to students as pre- and post-test measures of career interest and awareness. Score gains from pre- and post-tests were compared to answer research questions. The study's small sample size limited the researchers' ability to generalize results to a larger population. Future studies should build on findings of this study to probe how a bridge program affects student career awareness and interests in relation to gender and ethnicities.

INTRODUCTION

Research Background

The need for specialists in the fields of forensic science and technology (referred to as forensics hereafter) is becoming a national priority due to increased reliance on emerging technologies and science in the field of criminal justice. Forensic science is an indispensable tool for law enforcement to solve modern-day crimes (Nelson, Phillips, Enfinger, & Steuart, 2010). Forensics is an inter-discipline which requires scientific and technological (S&T) skills to perform the collection, preservation, examination, and documentation of legal evidence. Forensics is now ranked as one of the top five fastest growing professions, with an annual growth rate of 35% in the nation and a growth rate of 38% in Oklahoma (Department of Labor, n.d.; Oklahoma Employment Security Commission, 2012).

Problem Statement

It is projected that 190 new forensics professionals will be required each year in the Oklahoma metropolitan area for each of the next five years, but only 45 forensics degrees were conferred in 2012 (Oklahoma State Regents). To build a competitive and capable forensics workforce, Forensics Science Institute (FSI) at the University of Central Oklahoma (UCO) offers degrees that allows students to double major in forensics as well as a discipline within the sciences (chemistry, biology, psychology), allowing students to build the technical skills needed within that workforce.

Statement of Need

The current infrastructure and curricula in Oklahoma high schools constrain the process of recruiting and building a capable forensics

workforce. S&T participation by Oklahoma youth is historically low in comparison with the national averages and those of other countries (Oklahoma State Regents of Higher Education, n.d.), and under-served students may be unaware of the immense career opportunities for the S&T/forensics professions (National Research Council, 2012).

To overcome these constraints, a bridge program was proposed to and funded by Oklahoma State Regents of Higher Education (OSRHE) to focus on solving the pressing and challenging problems faced by educators, administrators, and policy makers. A research and development (R&D) grant was also submitted to and funded by the Office of Research & Grants at UCO. The scope of the internal R&D grant was to design and implement a hybrid Crime Scene Investigation (CSI) Summer Academy (SA) based on real-world scenarios. CSI SA attendees would be immersed in role playing activities as law-enforcement officers to solve modern crimes with hands-on demonstrations, field trips, and interactions with forensics professionals. While CSI SA has defined four objectives that were assessed by an external evaluator to determine program effectiveness (See Table A-1 in Appendix A), the scope of this pilot study was to focus on the research and the development (R&D) of this bridge program.

Purpose Statement

The overall goal of this study was to determine the effect of a bridge program on the academy attendees' awareness of and interest in forensics and S&T careers as measured by the *Immersive Environment Survey* (IES), as shown in Appendix B. Data was self-reported by academy participants.

Research Questions

This pilot study sought to answer two research questions (RQ.

RQ1: To what degree does the CSI bridge program affect attendee's awareness of S&T careers within forensics as measured by the IES?

RQ2: To what degree does the CSI bridge program affect attendee's interest in S&T careers within forensics as measured by the IES?

METHODOLOGY FOR DATA COLLECTION & ANALYSES

Target Population & Sample Population

The target population included high school students (grades 9-12) who were Oklahoma residents attending 250 public and private schools across the state of Oklahoma. The sample population was set to 35 high school students by Oklahoma State Regents of Higher Education (OSRHE) due to budget constraints. Out of 95 students who applied, a computer program was used to randomly select 35 participants.

Instruments

The CSI bridge program used *Immersive Environment Survey* (IES) to collect quantitative data. The IES (Appendix B), consists of closed-ended questions that can be answered by participants with pre-defined Likert-type scales (i.e., *strongly disagree, disagree, undecided, agree, and strongly agree*). The instrument would be revised contingent upon findings to yield reliable results for the Academy that will be held in the subsequent year.

Data Collection

Both pre- and post-CSI surveys were uploaded to the Survey Monkey server. Academy participants were given the pre-test on the first day and a post-test on the last day of the Academy. The purpose of the pre-academy survey was to establish a baseline. The purpose of the post-test was to measure gains as the result of attending CSI Academy. Data, which were derived from both the pre- and post-tests, were self-reported by participants. Pre- and post-survey data were downloaded from the Survey Monkey server and imported into the principal investigator's (PI) computer.

Demographics of the CSI Participants

Out of 35 selected students, 33 completed the one week program while two students dropped out due to personal reasons. Figure 1 (Appendix F) presents the diversity of the academy attendees. Figure 2 (Appendix F) shows the breakdown of incoming grades of attendees representing 23 school districts across the state of Oklahoma. Additional demographics include 23 females (67%) and 11males (33%); five first generation students with plans to attend a college; and three students with disabilities.

Analyses of Research Questions (RQ)

To answer the first RQ, "To what degree does the CSI bridge program affect high school student awareness of Forensic S&T careers as measured by the IES?," a number of analyses were conducted. Table D1 (Appendix D) summarizes the findings.

To answer the second RQ, "To what extend does the CSI bridge program affect high school student interests in Forensic S&T careers?," Table D2 (Appendix D) summarize the findings.

DISCUSSION

Although the program targets all high school (OKHS) students who are Oklahoma residents, the sample population was derived from a pool of students who self-selected to apply for the academy. As a result, while there were significant gains in forensics career awareness, the non-significance observed in interest in careers in S&T might be due to the self-selection; students with an interest in science and technology would be predisposed to these sorts of activities and would be more likely to seek out this sort of experience.

SCOPE, LIMITATIONS, & FUTURE STUDY

This study has several limitations. First, the study employed convenience sampling, and the sample size was small. Second, all participants came from the same state. Third, the time span of the Academy was one week. Hence, the scope, sample size, geographic boundary, and time constraints of the study hindered the researchers' ability to generalize the results to a larger population. Future studies should build on findings of this study to probe into how a bridge program affects student career awareness and interests in relation to gender and ethnicities.

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Appendix A

Table A-1. ***CSI Program Objectives and Supporting Activities***

Objectives
1. Broaden Forensic S&T participation in Oklahoma.
2. Promote aspiration of college & early awareness of career opportunities.
3. Interest students in S&T & Forensic contents with experiential methods to foster problem- solving skills.
4. Build confidence by encouraging participants to link the CSI experience with S&T curricula.

Appendix B

Excerpt of Immersive Environment Survey (IES) for the CSI Summer Academy

#		Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
16	I am aware of career opportunities in science and/or technology. (CA-1)	❍	❍	❍	❍	❍	❍	❍
17	I enjoy learning about science and/or technology. (CO-8)	❍	❍	❍	❍	❍	❍	❍
18	I am interested in pursuing a career in science and/or technology. (CI-4)	❍	❍	❍	❍	❍	❍	❍
19	I am aware of career opportunities specific to forensic science. (CA-2)	❍	❍	❍	❍	❍	❍	❍

Appendix C

Figure 1. A CSI summer cohort representing 5 ethnic groups

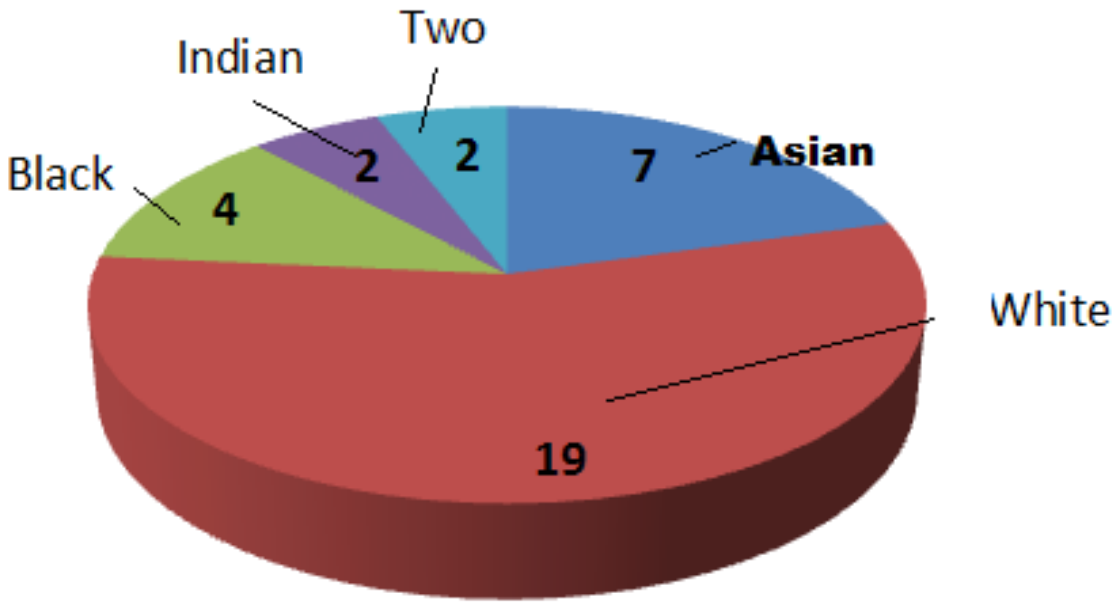
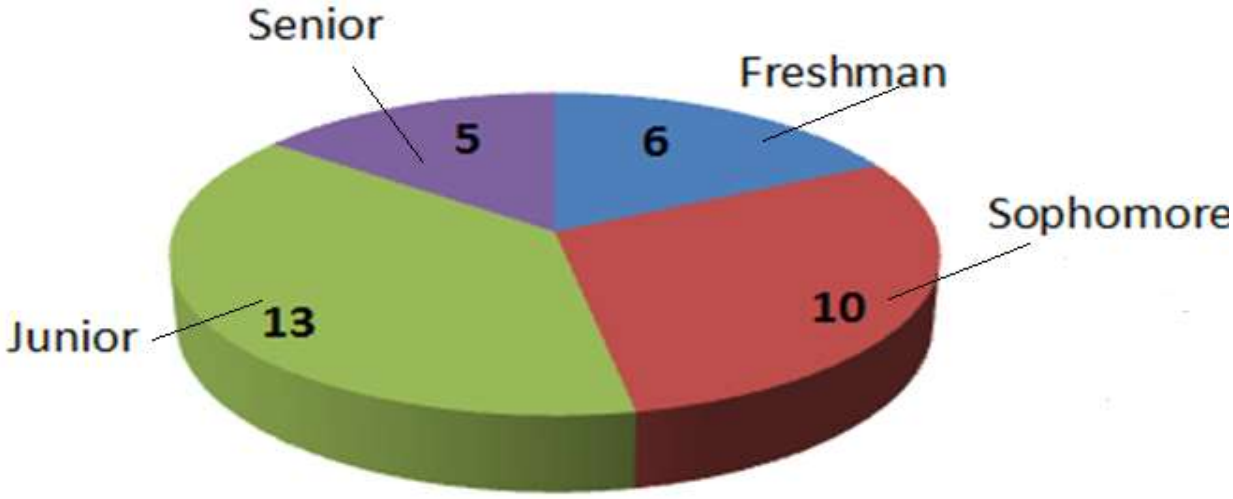


Figure 2. Incoming grades



Appendix D

Table D1. ***Career Awareness***

Career Awareness	Pre-test mean	Post-test mean	Difference
Q#16: I am aware of career opportunities in science and/or technology.	5.35	6.08	13.64%
Q#19: I am aware of career opportunities specific to forensic science	5.19	6.04	16.38%
Q# 22: I understand what professionals in forensics science do.	5.23	6.35	21.41%

Table D2. ***Career Interests***

Career Interests	Pre-test mean	Post-test mean	Difference
Q#18: I am interested in pursuing a career in forensic technology.	5.77	6.08	5.37%
Q#21: I am interested in pursuing a career in forensic science.	5.88	5.96	1.36%

NOTES

WHO ARE THESE ONLINE STUDENTS AND WHERE ARE THEY COMING FROM?

Lori Soule, Nicholls State University

ABSTRACT

Access to a college degree is becoming easier in terms of being able to work these classes into a person's busy schedule. With the advent of online degree programs, students can pursue their dreams and complete a college degree without ever sitting in a classroom or setting foot on a college campus. In an initiative recently embarked upon at the author's university, students are pursuing a college degree through the online school in increasing numbers. The author compares the demographics of online students at her university with other online programs.

INTRODUCTION

Listen to the television on most mornings and one will hear several commercials about "getting your degree" while continuing to work; there are no class meetings; you can graduate faster; and all classwork is done in an online setting. Some of the advertisements state a degree can be completed in three or less years in an online setting. Other advertisements claim to have over 100 degree programs available online.

REVIEW OF RELATED LITERATURE

Looking back over the last ten or so years, the number of students taking online classes has grown tremendously. In the 2003 Sloan Survey of Online Learning (The Sloan Consortium, 2003), over 1.6 million students reported taking at least one course online during Fall 2002. Of these students, over one-third of them (578,000) took all of their courses in an online setting. During Fall 2002, 11 percent of all U. S. higher education students took at least one course in an online setting.

Fast forward ten years to 2011 and the number of students taking at least one online course in Fall 2011 is 6.7 million (Babson Survey Research Group, 2013). During Fall 2011, 32% of all U. S. higher education students took at least one course in an online setting. In Fall 2002, 34.5% of higher education institutions in the United States had complete online programs. Ten years later, the number of institutions offering complete online programs grew to 62.4%.

With all of these schools offering online degree programs, who are these students enrolled in the classes. In an analysis of online students responding to a survey, Qureshi, Morton, and Antosz (2002) reported most of the students were female (66.7%) and 85% were going to school full time. Their largest group of students was 20-24 years of age (42%). Fu, Wang, Cecil, and Hji-Avgoustis (2006) reported in their study most of the survey respondents were female (75.9%). The largest group of students by age were 18-23 years of age (57.1%) followed by those 24-29 years of age (25.3%).

In a study across thirty-two different colleges, Shea, Li, Swan, and Pickett (2005) reported 73% of the respondents were female. Their largest reporting group by age were students 15-25 year of age (39.6%) followed by students 26-35 year of age (27.7%). In contrast to the Qureshi, Morton, and Antosz study, most of the students were attending school part time (56.4%). Shea,

Li, Swan, and Pickett study also captured distance from campus. The largest group of students reported they commuted less than 30 minutes to campus (36.8%). The second largest group of students was those that had the longest commute of more than two hours (27.5%). The students who reported commuting 30 minutes to 1 hour to campus represented 22% of the respondents.

Aslanian and Clinefelter studied online college students in 2012. As in the other mentioned studies, most of the students were female (70%). The largest age group were students 25-29 years of age (20%) followed closely by students 18-24 years of age (19%). Students 30-24 years of age represented 15% of the group while students 35-39 years of age represented 13%.

PURPOSE OF THE STUDY

At the university where the author is a faculty member, a new initiative was started in January of 2013 where seven undergraduate degree programs and one graduate degree program were placed in a total online environment. Since then, an additional undergraduate program was added in January 2014. Fall 2014 will see an additional undergraduate degree and a post-baccalaureate certificate added to the list of available degrees/certificates. In the future, the addition of more programs to the list of offerings is expected.

Due to the popularity of these online degrees, the author compared the demographics of the online students at her university to demographics of online students reported in prior studies.

PROCEDURES

A request of data was made to the Institutional Research Department at the author's university. Using data captured by the student support system on "stats day" of the semester, otherwise known as the "14th class day" of the Spring 2014 semester, the following research questions were addressed:

RQ1: *Are most of the students enrolled in the online degree programs females?*

RQ2: *Are most of the students enrolled in the online degree programs ages 20-25?*

RQ3: *Are most of the students enrolled in the online degree programs commuting less than 30 minutes when they come to campus?*

DATA ANALYSIS

What started out as 68 students enrolled in the initial term in January 2013 has blossomed into 253 students as of February 2014. An analysis of the students' gender, age, classification, program of study, part-time/full-time status, and estimated commute time was performed.

Classification. The largest group of the students had the classification of senior (30.0%) followed closely by freshman (27.3%) as seen in Table 1. Since students having some college work but not a degree was initial target audience, the author is not surprised at the size of the senior class. The percentages of sophomores (17.4%) and juniors (18.2%) were similar in size. The percentage of graduate students (7.1%) was the smallest.

Table 1. Classification

Freshman	27.3%
Sophomore	17.4%
Junior	18.2%
Senior	30.0%
Graduate	7.1%
Total	100.0%

Program of study. As displayed in Table 2, the largest group of the students is enrolled as UC-BIS-IDSX (35.6%). With the completion of this program, students receive a Bachelor of Interdisciplinary Studies (BIS). The BIS is sought after by students looking to complete a college degree. For these students, the type of degree does not matter, the completion of the degree does. The ED-BS-GFCX, Bachelor of Science in General Family and Consumer Sciences, program has 15.8% of students while UC-AS-STAX, Associate of Science in Safety Technology, has 13.0%. The BA-BS-BABX, Bachelor of Science in Business Administration, program has 9.1% of the students while ED-MED-METX, Master of Education in Educational Leadership with Educational Technology Concentration, has 7.1%. The AS-BA-SOCX, Bachelor of Arts in Sociology, program has 5.5% of the students while NA-BNS-NURS, Bachelor of Science in Nursing for students processing an unencumbered RN license, has 4.0%. The AS-BA-HISX, Bachelor of Arts in History, program has 3.6% of the students while AS-BA-ENLX, Bachelor of Arts in English, has 2.8%. The UC-BGS-GENX, Bachelor of General Studies which is now the Bachelor of Interdisciplinary Studies, program has 2.0% of the students while UC-NON-UNDX, undecided/no program declared, are 1.6% of the students.

Table 2. Program of study

AS-BA-ENLX	2.8%
AS-BA-HISX	3.6%
AS-BA-SOCX	5.5%
BA-BS-BABX	9.1%
ED-BS-GFCX	15.8%
ED-MED-METX	7.1%
NA-BNS-NURS	4.0%
UC-AS-STAX	13.0%
UC-BGS-GENX	2.0%
UC-BIS-IDSX	35.6%
UC-NON-UNDX	1.6%
Total	100.0%

Part/Full-time status. Most of the students (64.0%) are enrolled in a total of 12 hours or more during the current semester while the remaining 36.0% are enrolled in less than 12 hours as displayed in Table 3. For some of the part-time students, by the time they complete the spring semester they may be considered a full-time student. Because the terms are 8-weeks in length and the spring semester consists of two terms, some of the students enrolled in Term 1 have not scheduled their Term 2 classes as of the date of this data dump thus resulting in currently being considered as "part-time".

These results are similar to Qureshi, Morton, and Antosz (2002) who reported most of the students were going to school full time but is in contrast to Shea, Li, Swan, and Pickett's 2005 study where most of the students were attending school part time.

Table 3. Part/Full-time status

Part-time	36.0%
Full-time	64.0%
Total	100.0%

Research Questions Addressed

Gender. In response to RQ1: *Are most of the students enrolled in the online degree programs females?*

As displayed in Table 4, most of the students are female (57%). These results are similar to Aslanian and Clinefelter (2012), Qureshi, Morton, and Antosz (2002), Fu, Wang, Cecil, and Hji-Avgoustis (2006), and Shea, Li, Swan, and Pickett (2005).

Table 4. Gender

Male	43.1%
Female	56.9%
Total	100.0%

Age. In response to RQ2: *Are most of the students enrolled in the online degree programs ages 20-25?*

Table 5 displays the percentages of students by age groupings. The largest group of the students is 30-39 years of age (32.0%). The group of students 25-29 years of age had 24.9% while followed closely in size was the 20-24 years of age group at 24.1%. The students 40-49 years of age consisted of 9.9% of the students while the youngest group, those less than 20 years of age, had 5.1%. The students 50-59 years of age consisted of 4.0% of the students and none of the students were 60 years of age or older. Another interesting look at these percentages is 70.8% of the students fall within the "non-traditional" age grouping of 25 years of age or older.

These results are different from the previously mentioned studies. The findings of the Aslanian and Clinefelter 2012 study reported their largest age group was students 25-29 years age. Qureshi, Morton, and Antosz (2002) reported most of the students were 20-24 years of age in their study. Fu, Wang, Cecil, and Hji-Avgoustis (2006) reported in their study that the largest group of students was 18-23 years of age. Shea, Li, Swan, and Pickett (2005) reported their largest reporting group by age was students 15-25 year of age followed by students 26-35 year of age.

Table 5. Age

less than 20 years of age	5.1%
20-24 years of age	24.1%
25-29 years of age	24.9%
30-39 years of age	32.0%
40-49 years of age	9.9%
50-59 years of age	4.0%
60 years of age or older	0.0%
Total	100.0%

Commuting time. In response to RQ3: *Are most of the students enrolled in the online degree programs commuting less than 30 minutes when they come to campus?*

Even though all of the classes are online and the students never have a come to campus for any reason, the author was interested in knowing how long the students would have to commute if they were enrolled in face-to-face classes. Using the Google maps website, the location of the campus' city and the reported city of the student's hometown was entered. There resulting "drive time" was recorded. As displayed in Table 6, the largest group of the students could drive to campus within 16 to 30 minutes (25.3%). Those students having a little longer drive time, 31-45 minutes, consisted of 18.2% of the students. Students having the quickest commute time, 15 minutes of less, consisted of 18.2% of the students. Students having a commute time of 61-120 minutes consisted of 13.8% of the group while those having a 46-60 minute commute time consisted of 13.0%. The smallest group (11.1%) had the longest commute of more than 120 minutes.

These results are similar to the 2005 study by Shea, Li, Swan, and Pickett. They reported their largest group of students commuted less than 30 minutes to campus. Combining the two shortest commute times, the results show that 43.5% of the students would be commuting 30 minutes or less.

Table 6. Commuting time

15 minutes of less	18.2%
16-30 minutes	25.3%
31-45 minutes	18.6%
46-60 minutes	13.0%
61-120 minutes	13.8%
more than 120 minutes	11.1%
Total	100.0%

CONCLUSIONS

For an initiative that started on a shoestring budget, with limited staff, and minimal advertising, the number of students enrolled in these programs presented in a total online environment has more than tripled in size since the initial term. Most of the students are female and attend full-time. The largest group of students is between the ages of 30 and 39 years of age. The largest classification group is senior and the most popular degree is the BIS. If these students wanted to come to campus for whatever reason, most would have less than an hour commute.

These online degree programs are meeting a need for students wanting to pursue a degree but finding the traditional manner of face-to-face classes not conducive to their family, work, and lives. As more and more employers are looking for certain competencies such as verbal/written communication skills, critical thinking, and working in groups, students pursuing a college degree are given the opportunity to develop these competencies. Having a college degree is the minimum requirement in many fields of employment. In addition, a college degree can provide a means of improving one's ability to provide for self and family.

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NOTES

DEVELOP A PROGRAM TO RETAIN YOUR COLLEGE MAJORS

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INTRODUCTION

Traditional students experience the largest attrition rates in the first-year to second-year of their major program (Abele, 2013). This proposal discusses the retention program developed at a comprehensive university in the Southeast United States and considers the potential of developing a similar mentoring program to improve retention rates in the Information Systems program.

In 2012, ACT reported that 4-year institutions offering Bachelor's, Master's, and Doctoral Degrees had a mean first to second-year retention of 72 percent. Therefore, with the goal of improving the rate of first to second-year retention [and eventually graduation rates] a retention program was developed in the fall of 2012 at the site University and could be developed in the Information Systems major.

LOGISTICS OF DEVELOPING A RETENTION PROGRAM FOR YOUR COLLEGE MAJORS

The program focuses on several literature-based factors shown likely to improve retention. The main factors on which the program focuses include: a) connecting students with their college peers, their Department, their College, and their University; b) providing students with a mentor who will encourage and guide them; and c) providing academic support. While the current pilot program focused on first to second-year retention of incoming freshmen all in the same major, it is anticipated that the program will eventually expand not only through all academic levels of the college (e.g., sophomores, juniors, etc.), but also throughout other programs and departments.

Cohort group demographics. From the target population, students are randomly selected and placed into one of two cohort treatment groups. The control group students, with the same major as the two treatment groups' students, are identified from enrollment data after the semester begins.

Students in the two treatment groups and students in the control group are incoming freshmen (equal number of students in each group), who have declared the same major and who have a high school GPA below 3.0.

Living Learning Community (LLC). Much of the literature on institutional retention, student learning, and development speaks of the importance of building educational communities that involve all, not just some, students. "Learning communities are needed to connect students, faculty members, and staff to involve them actively in shared learning activities" (Tinto, 1999).

Treatment group students were randomly selected into one of two cohort groups (i.e., LLC Group and Non-LLC Group). Each cohort treatment group of students is also enrolled in the same sections of the orientation course, the introductory major course, and the first English composition course (if academically qualified).

Students in the LLC Treatment Group are members of the College LLC. The LLC members live in the LLC residence hall and are expected to take part in two specific LLC activities per month out of the several monthly activities that will be offered. The required LLC events will be focused on

activities that apply to students' major (i.e., meet the faculty, meet people in the field, etc.). Additional activities are designed to be social events (i.e., pizza in the evening, faculty magic show, etc.). Attendance at those activities are recorded via a University ID card reader.

Mentoring program. Every student in the treatment group is connected with a mentor by the third week of the semester. Mentors are upper classmen or graduate students who attend a special section of a Topical Seminar for three credit hours, in which the main objective of the course is to guide students to mentor incoming freshmen. Each mentor is connected with two mentees. Mentors are expected to not only produce deliverables for their seminar class, but also to communicate at regularly scheduled meetings with faculty and staff regarding their mentees' successes, concerns, and other information related to each student's likelihood to persist.

In an effort to identify possible groups from which mentors can be recruited, discussions are held with advisors of the Alpha Phi Sigma and Golden Key organizations.

Advising, academic support, and go-to person. Academic advisors offer students the personal connection to the institution that the research indicates is vital to student retention and student success (Nutt, 2003). At the site university, front-line academic scheduling support is provided by the College Advisors. For the first two semesters, advisors guide students primarily into courses that not only move students toward graduation, but also are courses in which a high percentage of students are successful. Further, advisors give every student a two-year academic map that includes milestones that must be achieved within the two year time-frame. The maps are in Degree Works (the site university's online advising and degree audit system), and students also receive a printed copy at their initial advising meetings. The Degree Works document is discussed in detail with students in their Orientation courses.

Each student is enrolled [by cohort] in an Orientation course taught by a College Advisor. The Advisor/Instructor is the advisor for all of the students in his/her orientation classes. Further, the Advisor/Instructor establishes himself/herself as each student's go-to-person for any problem that students may have throughout their first year at the University.

In an effort to be sure that students are able to contact their go-to-person for help, a "business" card-sized card with the Advisor/Instructor's contact information on one side. On the other side is the methodology for students to retrieve a forgotten log-in password for e-mail and computers, and their passwords for advising and registration software. The card is issued to students at the start of their Orientation class.

Academic skills acceleration program (ASAP). During their first semester, all incoming freshmen at the site university are required to take a Math course. Based on incoming freshman's ACT Math score, each is placed in either an entry college-level math course, or in a developmental pre-college level Math course. Because Math, at the site university, is the academic area that has historically had the highest rate of freshmen failure, academic tutors are hired and are located in two convenient locations for the treatment groups' students. The Math Tutoring program is termed the "Academic Skills Acceleration Program," and the Math Tutors are identified as "Coaches." All

students in both treatment groups are assigned a twice per week meeting location and time to meet with their ASAP Coach. Students who are enrolled in a college-level course, and who have earned a B average by mid-term, may opt-out of ASAP coaching at mid-term.

Orientation course grade impacting aspects of the pilot. Many aspects of the Retention Program are related to the Orientation course grade. Orientation course grade impacting aspects of this model may include: a) class attendance, b) participation in the LLC, c) cooperation with the mentor, and d) cooperation with the ASAP Coach, in addition to the Orientation coursework. Attendance is taken via a University ID card readers that are connected to dedicated netbooks during each College cohort class meeting, during each ASAP Coaching session, and at each LLC event.

The card readers are associated with Accudemia, the cloud-based application and data storage provider. Card readers are in place that will read student's site university ID number form their site university ID cards. Those readers are connected to dedicated laptop computers that are connected to Accudemia via the University Ethernet System. The Accudemia platform, the dedicated netbooks, and dedicated ID card readers make up the total card-reader system. In addition to being maintained by the University's IT Department, the card-reader system needs to be robust and scalable.

Collaboration among faculty, staff, and mentors participating in the retention program. Regular weekly meetings of faculty, staff, and mentors is in the top three of Abele's critical elements of a retention/graduation program (Abele, 2013). Regularly scheduled, weekly meetings are held among College faculty, staff, and mentors in the IS Retention Program. Some of the meetings are face-to-face; some are electronic. In addition to advisors and students using DegreeWorks, Map-Works is used as a collaboration tool. Map-Works is used to gather, track, and disseminate important student data to pilot faculty, staff, and mentors. Some of the information collected from Map-Works includes students' grades, information regarding students' satisfaction with their University experience, and students' intent to enroll next semester.

EMPIRICAL STUDY

Finally, an additional key point that Abele stresses is that data collection and analysis are essential to building a successful retention program (2013). This student retention pilot program was developed as an empirical study to analyze the retention of a group of incoming freshmen who matriculated in the fall of 2013. In the fall of 2014, the researcher will not only determine how many of the group are registered, but also gather additional related data. Additional related data may include students' participation in the Living Learning Community, academic progress, and their satisfaction at and with the University. The hope is to transfer the successful aspects of the design for the retention program to include freshmen who have declared an Information Systems major.

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NOTES

SOCIAL NETWORKING SITE ATTITUDES AND BEHAVIORS: EXAMINING THE ROLE OF INDIVIDUALISM-COLLECTIVISM ORIENTATION AND EMOTIONAL INTELLIGENCE

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ABSTRACT

This study examines the influence of individualism-collectivism orientation and emotional intelligence on social networking sites (SNSs) attitudes and behaviors. Data will be collected from undergraduate business students in United States and India. It is hypothesized that collectivists will view SNSs primarily as a medium to stay connected with their groups while individualists will perceive SNS as a way to highlight their own "self" accomplishments. Further, we also expect significant differences in emotional expression on SNSs among people with high and low levels of emotional intelligence.

Social networking sites (SNSs) have greatly influenced how individuals connect, communicate and network with each other. SNSs enable individuals to connect to new people with similar interests as well as maintain existing relationships (Ross, Orr, Sisic, Arseneault, Simmering, Orr, 2009; McKenna, Katelyn, Green, Glenson, & Marci, 2002; Ellison, Steinfield, & Lampe, 2007). In fact, researchers note that such social networks can supplement and alter traditional face-to-face social interactions (McKenna, Katelyn, Green, Glenson, & Marci, 2002; Quan-Haase & Wellman, 2004).

Researchers note that online social interactions tend to mirror offline social interactions and in fact individuals seem to extend their offline personalities into online social networks (Gosling, Augustine, Vazire, Holtzman & Gaddis, 2011). There has been great interest in examining the influence of individual difference variables on SNSs usage and behaviors. Many studies have examined the influence of personality traits and find that factors such as extraversion, neuroticism, openness, agreeableness, conscientiousness, narcissism, self-esteem, locus of control influence individual behaviors on online social networks (e.g., Ross, et al., 2009; Harbaugh, 2010; Gosling, Augustine, Vazire, Holtzman, & Gaddis, 2011; Zywica & Danowski, 2008).

In our study, we seek to examine the effects of individualism-collectivism (I-C) orientation and emotional intelligence on SNS behaviors. I-C orientation is a multidimensional construct and differs on several dimensions, such as independence, competitiveness, values and beliefs (Ramamoorthy & Carroll, 1998; Moorman & Blakeley, 1995). An individualism orientation emphasizes a focus on personal goals and competitiveness. In contrast, a collectivism orientation encourages pursuit of group goals and a need to maintain harmony with the group. Social networking sites enable individuals to stay connected with people in their networks, as well as make new connections. Through our first research question, we seek to explore the link between I-C orientation and SNS attitudes and behaviors. Specifically, we focus on the following I-C dimensions - self versus others, cooperative behaviors, communication styles, and relationality.

Emotional intelligence refers to an ability to be aware of emotions in one's self and

others, and an ability to regulate emotions (Mayer & Salovey, 1997). Social networking sites offer individuals several opportunities to express their feelings and thoughts about different issues. It is not uncommon for individuals to let down their guard and post an emotional outburst on certain issues. Our second research question seeks to explore the differences in SNS attitudes and behaviors among individuals with high and low levels of emotional intelligence.

Finally, in accordance with theory of reasoned action in social psychology, we also seek to understand the impact of SNS attitudes on SNS behaviors. Specifically, we examine how differences in SNS attitudes influence the relationship between I-C orientation (and emotional intelligence) and SNS behaviors. Figure 1 shows our research model.

SOCIAL NETWORKING SITES

Among all online activities, Americans spent the most time on social media, which is also one of the most invasive activities (Neilson, 2010). To its users, social networking sites provide many benefits through communication, interaction and information sharing which lead to developing bonding (creating deeper relationships) and bridging capital (connect and interact with new friends and communities) (Lin, Peng, Kim, Kim & LaRose, 2012). People tend to be more open on SNSs such as Facebook, and are able to communicate about issues that they may not feel comfortable to discuss in person (Ross et al 2009).

For businesses, SNSs create tremendous opportunities for revenue. In 2013, the total revenue from social networking sites is estimated to be 16.2 billion and predicted to increase to 30.1 billion in 2017 (Generator, 2013). Existing studies have shown that personal SNS presence and activities are influenced by personality and individual factors. Facebook users are believed to behave with their true personality online (Gosling, Augustine, Vazire, Holtzman, & Gaddis, 2011). Kapidzic (2013) found that Narcissism explained the motivation for Facebook users to select profile pictures that reflect attractiveness and personality.

Extroverted people tend to benefit from Facebook by building more online bridge capital and offline bonding capital (Lin et al 2012). In addition, extraverts are found to visit Facebook more frequently and are more active on Facebook (Gosling et al., 2011). Ryan and Xenos (2011) studied how personality influenced Australian Facebook users and nonusers. They found Facebook users to be more extroverted and narcissistic and less conscientious and socially lonely than nonusers. Stefan et al., (2013) also found Facebook users to be less conscientious than those who quit using Facebook.

INDIVIDUALISM-COLLECTIVISM AND SNS

Although individualism-collectivism was originally conceptualized by Hofstede as a bipolar, unidimensional variable that reflects differences among cultures (Hofstede, 1980; 1984), since then several researchers have examined individualism-collectivism as a multidimensional construct at the individual level (e.g. Triandis, 1995; Ramamoorthy & Carroll, 1998, Clugston, Howell & Dorfman, 2000). In fact, researchers point out that conceptualizing I-C as a multidimensional construct has several advantages, such as examining I-C at the individual level allows us to assess which dimensions are relevant to the outcome of interest (Ramamoorthy & Flood, 2002). Further, studies focusing on I-C as a cultural

level construct note that it may lead to overlooking within-country variations on I-C (e.g. Clugston et al., 2000).

Researchers have also coined different terms to denote I-C orientations in individuals. For example, *idiocentrism* denotes a personal predisposition toward individualism and *allocentrism* denotes a personal predisposition toward collectivism (Triandis, 1995). Similarly, Oyserman et al., (2002) coined the terms *independent self-construal* and *interdependent self-construal*, which refer to the way individuals view themselves as being separate or connected to their social environment. Several reviews and meta-analyses have been done on studies examining IC at the individual level of analysis (e.g., Triandis, 1995; Earley & Gibson, 1998; Oyserman, Coon & Kemmelmeier, 2002, Kirkman, Lowe & Gibson, 2006). These studies find individualism-collectivism linked to various outcomes of interest, such as, change management, conflict management, decision making, human resource management practices, leadership, organizational citizenship behaviors, work related attitudes, negotiation, reward allocation, behavior related to group processes and personality, motivation, and organizational justice.

Individuals with a collectivistic orientation place great importance to their group membership and their personal interests are secondary to the needs of their groups. Such individuals have a deep sense of belonging and duty to their groups. In contrast, having an individualist orientation denotes greater emphasis on personals goals and interests. Such individuals favor personal goals over group goals (Wagner and Moch, 1986). Researchers have identified several dimensions that differentiate individualists from collectivists, such as values, beliefs, norms, independence, competitiveness, solitary work preferences, beliefs about the subordination of individual interests to group's interests, and beliefs about the detrimental effects of pursuit of personal goals on group goals (Wagner, 1986; 1995; Chen & West, 2008; Ramamoorthy & Carroll, 1998).

Hypothesis 1: Collectivists will hold different attitudes about SNSs use than individualists. Specifically, collectivists will perceive SNSs as a medium through which they can focus on their groups and maintain harmony, while individualists will perceive SNSs as a way to focus on their own accomplishments.

An important characteristic of individualists is the separation of oneself from others (e.g., Kagitcibasi, 1997; Markus & Kitayama, 1991; Chen & West, 2008). Individualists give a great deal of importance to their own needs and view group needs in subordination to their individual needs. One of the major characteristics defining individualists is their desire to remain competitive. They like to pursue their individual goals over group goals and feel content in striving for personal accomplishments. In contrast, collectivists, are less likely to prioritize the self and they identify themselves as members of a group to which they belong. They place a high emphasis on the achievements of their group goals since they see their own personal goals as embedded within their group's goals (Hofstede, 1980; Triandis, 1995; Hui & Triandis, 1986). Thus, individuals with a collectivist orientation are likely to perceive SNSs as a platform through which they can highlight their group membership. On the other hand, individualists are more likely to highlight events that bring attention to their own accomplishments. We hypothesize, that:

Hypothesis 2a: Collectivists are more likely to highlight group events and individualists

are more likely to highlight their own accomplishments on SNSs.

Several studies have examined the relationship between I-C and cooperation (eg., Oyserman et. al. 2002; Markus & Kitayama, 1991; Triandis, 1995; Marcus and Le, 2013). Group harmony and cooperation are in tune with the primary interests of collectivists who place the group's needs and interests ahead of their own individual interests. Collectivists are likely to be engage in cooperative behaviors that support their group's interests, even though these behaviors might be detrimental to their own self-interests (Spence, 1985; Wagner, 1982). Collectivists are more likely than individualists to engage in integrating styles of conflict resolution (Jordan & Troth, 2004) and have a preference to deal with conflict in ways that can help them maintain their relationships (Ohbuchi, Fukushima & Tedeschi, 1999). Individualists, on the other hand, are likely to cooperate with a group as far as the group's goals are aligned with their individual goals. They are less likely to cooperate when they perceive that they are better off working alone versus working together in a group to accomplish their own individual goals. Marcus and Le (2013) find that the link between cooperation and performance is stronger for collectivists than individualists. SNSs give an opportunity to users to transmit their views on several different issues. Since collectivists give priority to the group's interest over their own self interests, they are likely to avoid posting dissenting information on a group issue or event being discussed. They will perceive their negative comment as detrimental to the group's harmony. Individualists, on the other hand, are less concerned about engaging in cooperative behaviors and will be more forthright in communicating their unfiltered thoughts to the group. Thus,

Hypothesis 2b: As compared to individualists, collectivists are less likely to post negative comments on SNSs.

Researchers examining the communication styles of individualists and collectivists find that collectivists are more likely to adopt high context communication styles (Kapoor, Hughes, Baldwin, & Blue, 2003; Gudykunst, Matsumoto, Ting-Toomey, Nishida, Kim, & Heyman,1996). Thus, collectivists have a greater tendency to engage in indirect communication and will be greatly concerned about others' feelings. Individualists on the other hand, are more likely to engage in low context communication styles and will use a more direct communication style. Individualists will give greater emphasis to clear, goal-directed communication and are more likely to use terms such as 'I' more than 'we' (Wu & Rubin, 2000). It is likely that the offline communication style of individualists and collectivists will get reflected in their use of SNSs. Thus, collectivists are more likely to respond positively to other group members' posts, while individualists will be more focused on conveying information about themselves, using terms such as "I."

Hypothesis 2c: Collectivists are more likely to comment positively on others' posts.

Hypothesis 2d: Individualists are more likely to use "I" rather than "we" in their posts on SNSs.

Studies have also examined the link between IC orientation and relationality and find that individualists see their membership in groups though a cost-benefit lens (Shweder & Bourne, 1982). They continue to be associated with a group as far as it helps them to achieve their personal goals and the benefits of participation exceeds the costs of group membership. Individualists seem ambivalent regarding relationships and are

likely to exit the groups when they perceive the relationship as costly to maintain. In contrast, Collectivists are keen on successfully fulfilling their social obligations and typically view their group membership as permanent. They continue to be a part of the group even in situations where the costs outweigh the benefits (Kwan & Singelis, 1998; Oyserman, Coon, & Kemmelmeier, 2002). SNSs provide great ease to users in adding and removing people and groups from their online networks. Since they perceive group membership as relatively permanent, collectivists are less likely to remove people from their added networks. On the other hand, individualists tend to assess the cost-benefit aspect of a relationship and are less like to add people to their networks if they do not see the benefits outweighing the costs of maintaining the relationship. Thus, we hypothesize that:

Hypothesis 2e: Individualists are more likely to remove existing contacts from their network.

Hypothesis 2f: Collectivists are more likely to add known users to their network.

EMOTIONAL INTELLIGENCE AND SNS

Emotional intelligence has been defined as "the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth" (Mayer & Salovey, 1997; p. 10). Emotional intelligence has been conceptualized as consisting of four dimensions – emotional perception, emotional facilitation, emotional understanding and emotional regulation (Mayer & Salovey, 1997). Researchers note that individuals with high levels of emotional intelligence rate higher on communication effectiveness (Jorfi & Jorfi, 2012). SNSs are a great platform that allows users to express their emotions on different issues. We hypothesize that,

Hypothesis 3a: Individuals with high levels of emotional intelligence will perceive SNSs as a medium to display appropriate emotional expressions.

Hypothesis 3b: Individuals with low levels of emotional intelligence will perceive SNSs as a medium to display their uninhibited emotional expressions.

Emotional perception refers to the ability to be aware of your own emotions and be able to accurately express those emotions. Individuals high on emotional perception are also able to distinguish between sincere and insincere expression of emotions. The second dimension of emotional facilitation refers to an ability to determine the appropriateness of an expressed emotion by understanding the reasons for the expressed emotion. Such individuals are able to assess a situation from different perspectives and determine the appropriateness of the emotional expression for that situation. The third dimension, emotional understanding, refers to the capacity to comprehend the differences among emotions, as well as an awareness of the sequence and timing of different emotions. Finally, the fourth dimension of emotional regulation refers to an ability to regulate one's emotions based on the situation.

SNSs offer a great medium to individuals to convey their thoughts and feelings about various issues. Individuals high on emotional intelligence are more aware of their own emotions as well as have a greater understanding of regulating their emotions. Thus, such individuals are more likely to

convey information with appropriate use of emotional expressions. On the contrary, individuals with low emotional intelligence have difficulty in keeping their disruptive emotions in check are more are more likely to have outbursts of intense emotions on SNSs. Thus,

Hypothesis 4a: Individuals with high levels of emotional intelligence will convey their message with appropriate use of emotional expressions.

Hypothesis 4b: Individuals with low levels of emotional intelligence will be more likely to respond to issues with intense disruptive emotions.

LINKING SNS ATTITUDES AND BEHAVIORS

There are strong connections between the attitudes individuals hold and their resulting behaviors (Ajzen & Fishbein,1977). In our study, we are exploring the impact of two individual factors – I-C orientation and emotional intelligence. As an exploratory research question, we seek to examine the impact of SNS attitudes on the relationship between I-C orientations (and emotional intelligence) and SNS behaviors. Specifically, we hypothesize that,

Hypothesis 5a: SNS attitudes will mediate the relationship between I-C orientation and SNS behaviors, such as, highlight group events, post negative comments, comment positively on others' posts, use "I" rather than "we", remove existing contacts, and add known users.

Hypothesis 5b: SNS attitudes will mediate the relationship between emotional intelligence and SNS behaviors, such as, convey message with appropriate use of emotional expressions, and respond to issues with intense disruptive emotions.

METHOD

An online survey will be conducted to collect data from university students in the United States and India. Extra credits will be given to encourage participation.

The first part of the survey will screen the participants to see whether they are Facebook users. If the students are users of Facebook, they will be provided with the survey questions about their Individualism-Collectivism orientations, Emotional Intelligence, and Facebook attitudes and behaviors. The last part of the survey will collect their demographics and their open comments about Facebook.

SmartPLS 2.0.M3 (Ringle et al. 2005), a software using the Partial Least Square (PLS) analysis technique will be used to test the structural model and research hypotheses depicted in the model.

MEASUREMENT

Individualism-Collectivism: The individualism-collectivism dimensions will be measured using the Individualism-Collectivism Questionnaire (ICQ) developed by Shulruf Hattie and Dixon (2003, 2007). The ICQ has two scales, the individualism scale (IS) and the collectivism scales (CS). The IS consists of three subscales – uniqueness, competition and responsibility, and the CS consists of two subscales – harmony and advice. The response format is a 6-point Likert-type scale, assessing the frequency of individualistic and collectivistic attitudes and behaviors ranging from never to always.

Emotional Intelligence: Emotional intelligence will be assessed using the Wong and Law Emotional Intelligence Scale

(WLEIS; Wong & Law, 2002). WLEIS is a 16-item self-report measure with four subscales based on the Mayer and Salovey (1997) model of EI. Coefficient alphas for the four dimensions of self-emotion appraisal, uses of emotion, regulation of emotion, and others' emotion appraisal were .89, .88, .76, and .85, respectively. The items of WLEIS are scored on a 7-point Likert-type scale. Sample items include: I have a good sense of why I have certain feelings most of the time; I am able to control my temper and handle difficulties rationally.

Social Networking Site Attitudes: SNS attitudes will be measured using items developed by Ellison et al. (2007). The items will be measured using a 7-point scale. Items include: I would be sorry if Facebook shut down; My Facebook use has caused me problems.

Social Networking Site Behaviors: SNS behaviors will include the frequency of using Facebook functions based on scales from Lin et al. (2012). Frequency will be measured using the following scale: 1 represented never, 2 rarely, 3 monthly, 4 weekly, 5 multiple times a week, 6 daily, and 7 multiple times a day. Examples of the functions include sending messages, checking events, adding photos, etc. The frequency of users visiting Facebook and the amount of time they spend will also be collected. The motivation to use Facebook will be measured using scales from Zhang and Tang (2009). We will measure social surveillance, network extension, and Network maintenance. New scales will be developed to measure user posting behaviors such as focusing on group events and personal accomplishments, posting negative and positive comments, and the use of "I" rather than "we" will also be assessed.

Other information: Demographics will also be collected. We will also collect information on how long users have been using Facebook and the number of friends and number of groups they have on Facebook.

IMPLICATIONS

The findings of this study will contribute to the existing literature on understanding SNS attitudes and behaviors. The understanding of how individualistic and collective orientations affect SNS user attitude and behavior expands our understanding of the SNS context. Also, emotional intelligence has not been previously studied in the context of SNSs. This study will provide insight into how emotional intelligence affect user's attitude toward and behaviors on SNSs. From a practical perspective, the findings can help SNSs better manage their uses. If a company is looking to use an internal SNS, they can identify users with poor emotional intelligence and provide training to improve EI. Understanding of individualism/collectivism in SNS behavior can provide help businesses learn to use SNS in a global environment.

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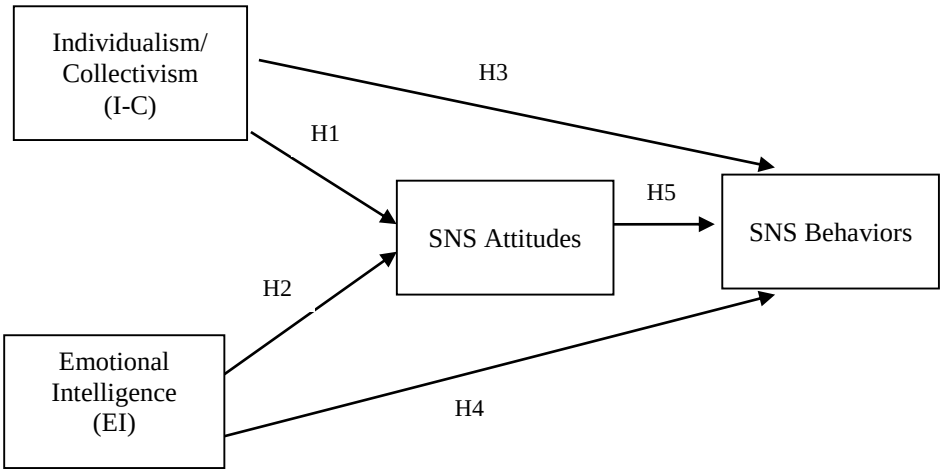
APPENDIX

Figure 1: Research Model



NOTES

COLLEGE FRESHMEN: EXPECTATIONS OF TECHNOLOGY IN THE UNIVERSITY SETTING

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ABSTRACT

Technology in higher education classrooms remains a major topic of discussion in relation to support for student learning. Opinions of administration, faculty, and students do not always match. This study predominantly looks at freshmen opinions at the authors' university.

Student opinions concerning technology in the university classroom were obtained through a modified version of the 2011 CDW-G 21st Century Classroom Assessment Tool. Based on 159 participants enrolled in a UNIV 101 course offered to freshmen, very few significant differences were found based on gender, age, type of high school attended, or year in school. Student top five technological learning tools used included wireless network/Internet, laptop/netbook computers, smart phones, as well as course management systems and desktop computers. Students expected their university to provide technological classrooms that can support their learning tool preferences and do not believe that technology used in the classroom is a distraction to learning. Their preferences for technology use outside the classroom included the top five of wireless Internet, laptops, smartphones, iPods/MP3s, and social networking sites.

INTRODUCTION

Faculty on any postsecondary education campus can often be found discussing technology. On one side of the issue, these discussions may relate to excitement about new technology and/or tools being used in individual classrooms or throughout the campus. On another side of the topic, the discussion can focus on issues such as the institution running behind in technology in comparison to student experiences with and expectations of technology to support their learning environment. On yet another side of the issue, faculty may lament the technology gap that can exist among students in their classes.

How do today's millennial students interact with technology? The majority of college freshmen today are of the millennial generation, born between 1981 and 2001. This generation is the first to grow up with technology, as microcomputers began making their way into classrooms and homes in the early 1980s (Ajjan and Haertshoren, 2008). Today's freshmen can routinely be observed using their laptops, smart phones, tablets, and other mobile devices everywhere around campus (Berk, 2009). Millennial students typically are confident in their use of technology and maintain that they are skilled multitaskers. They are comfortable working in a paperless environment and often see no need for hard-copy textbooks.

McHaney (2011) writes that while Web 2.0 is second nature to our millennial generation students, many educators are baffled by it. Since digital media influences millennials' learning patterns, he suggests that by learning to understand Web 2.0 and incorporating it into classrooms that faculty

will be able to keep their students engaged. Roberts, Newman, and Schwartzstein (2012) also recognized the importance of changing technologies and teaching methods beyond the bachelor's level, extending even into medical school.

However, the reality is that not all students are at the same level regarding technology usage. Students arrive at the university with differing backgrounds, and not all may expect or even prefer significant use of technology as learning tools. A further reality is that often there is not concrete data regarding student technology backgrounds or technology expectations within a specific campus to clearly reflect a school's own student body.

While much continues to be written concerning needed changes in education to engage technologically savvy millennials, individual institutions can benefit by investigating their own students' backgrounds and expectations as part of the technology planning process. McDonald *et al* (2013) conducted a survey of their university's students to identify specific technology backgrounds and student expectations. They found that even in an environment with many students from rural areas, students do expect technological classrooms.

PURPOSE

Based on findings from McDonald *et al* (2013), the current researchers decided to investigate with similar questions at their institution. Like McDonald's school, the current institution used in this study is largely populated by students from rural areas. The current research study investigates what technologies university students (predominantly freshmen) at the researchers' school (located approximately 225 miles from McDonald's school) are currently using personally, what they were exposed to in their high schools, and what they expect in regard to technology in their classrooms and instructor teaching methodologies. A comparison of findings at the two schools will also be made.

THE INSTRUMENT

The basic instrument used for this study is the 2011 CDW-G 21st Century Classroom Assessment Tool. The instrument, which is free to download and use, is designed to gather student perceptions concerning technology used in their secondary education environment as well as in their university education environment. In addition, the tool provides survey instruments for faculty, administrators, and IT staff, although those groups are not included in the study described here. The final questionnaire used in this study totaled 26 questions, including six demographics questions, twelve Likert-type questions, six questions allowing multiple answer selections, and two open-ended questions. Some questions in the original CDW-G instrument were modified to better fit the current study.

THE TARGET POPULATION

The target population of this study is predominantly incoming freshmen at the researchers' university. Since incoming freshmen typically schedule the UNIV 101 course during their first semester, this course was selected for survey administration. The UNIV 101 course is a university prep course designed for entering freshmen and transfer students with less than 30 hours. The course helps students adjust to the university, provides a support system, and promotes understanding of the requirements of the student's major.

PROCEDURES

The survey was administered using a convenience sampling technique. Six faculty members who teach the UNIV 101 course agreed to have their students participate in the project. To facilitate allowing students to acclimate to the university and the technology available, the instrument was administered after the fall midterm break at the university. The survey was delivered as an online survey through Google Forms. Participating faculty members informed their students that their participation was both voluntary and anonymous. This information was repeated at the top of the online survey instrument.

DATA ANALYSIS

One hundred and fifty nine students enrolled in UNIV 101 during the fall semester of 2013 participated, although not all participants provided answers to every question in the survey.

Gender, age, classification, and type of high school attended were used as independent variables for the study. Of the 154 participants responding to gender type, 27.9% were male and 72.1% were female. The data for age were collected using the choices of 18-20 years of age, 21-24 years of age, 25-30 years of age, and 31 and over years of age. Since the choices of 25-30 years or age and 31 and over years of age had minimal numbers, using the 155 responses the age variable data were collapsed into 18-24 years of age (97.4%) and 25 years of age and older (2.6%). The variable type of high school attended had four choices (public, public charter/magnet, private, and homeschool) when the data were captured. Once again, due to the small number of entries in a couple of the choices, the data collected from the 154 responses were collapsed into public (79.2%) and private (20.8%). Data for classification were collected using the traditional freshman, sophomore, junior, and senior choices. Due to the minimal number of entries in the non-freshman choices, the data from the 152 classification responses were collapsed into freshman (96.7%) and non-freshman (3.3%).

STATISTICAL ANALYSIS

The mean and standard deviation for each of the dependent variables in the survey were computed (see Table 1 at end of the paper). Five of the questions had three possible choices for answers (disagree, unsure, and agree). Of these five questions, the dependent variable "Technology has enabled me to collaborate more efficiently with faculty and other students" had the highest mean (M = 2.77, SD = .573) while the dependent variable "Technology is a distraction in classes, and has negatively impacted my performance" had the lowest (M = 1.44, SD = .709). One dependent variable had four possible choices for answers (not important, somewhat important, important, and very important). This variable, "When you were considering where to attend college, how important were an institution's technology offerings to you, including equipment and access to that equipment, in your selection process?" had M = 2.65 (SD = .994). Six of the questions had five possible choices for answers (strongly disagree, disagree, neutral, agree, and strongly agree). Of these six questions, the dependent variable "Learning and mastering technology skills will improve my educational and career opportunities in the future" had the highest mean (M = 4.13, SD = .853) and the dependent variable "My college/university understands how I use or want to use technology as a learning tool"

had the lowest (M = 3.45, SD = .841).

Independent Samples t-tests

The researchers conducted additional tests on the responses. Independent samples t-tests were conducted to identify differences in responses by gender, age, classification, and type of high school attended. All tests were conducted to the .05 level of significance.

Relating to the 12 questions on the survey, the researchers formulated hypotheses (H1-H12) 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 hypotheses (H13-H24), again tested using independent samples t-test, about the differences in the mean of the different dependent variables by **age**. As presented in Table 2 found at the end of the paper, one hypothesis in this grouping was found to be statistically significant. The hypothesis was do persons 18-24 years of age feel the same about the statement *"My college/ university is preparing me to successfully use technology as a business/professional tool when I enter the workforce"* as persons 25 years of age or older? Persons 18-24 years of age had a mean of 3.64 while the persons 25 years of age or older had a mean of 2.5. Equal variances were assumed (sig. = .955) and the hypothesis of equal means was rejected (sig. = .012). Caution should be applied when interpreting these results based on the small number of participants marking the 25 or over age category.

Relating to the 12 questions on the survey, the researchers formulated hypotheses (H25-H36) about the differences in the mean of the dependent variables by **classification**. However, using independent samples t-test, none of the hypotheses were found to be statistically significant.

The researchers also formulated hypotheses (H37-H48), again tested using independent samples t-test, about the differences in the mean of the different dependent variables by **type of high school attended**. As presented in Table 3 found at the end of the paper, one hypothesis in this grouping was found to be statistically significant. The hypothesis was do persons who attended a public high school feel the same about the statement *"Consider for a moment the classroom technology you used in high school (e.g., computers, interactive whiteboards, software, clickers, projectors, etc.). How does it compare to the classroom technology on your campus?"* as persons who attended a private high school. Persons who attended a public high school had a mean of 3.93 while the persons who attended a private high school had a mean of 3.28. Equal variances were assumed (sig. = .646) and the hypothesis of equal means was rejected (sig. = .007).

Student Uses of Technology

Four questions related to specific technologies students use or perceived useful for differing purposes. Each question allowed multiple answers to be selected. The overall top pick in all four questions was the choice of wireless network/Internet. Table 4 reflects the different choices and how many times each of the choices were chosen for the question "Thinking about how to leverage technology to increase your interest and performance in classes, which of the following technologies do you believe are essential to a 21st-century classroom?" The top five responses were wireless network/Internet (151), laptop/netbook

computer (131), smartphone (96), digital content (92), and off-campus network access (84).

Table 4. Thinking about how to leverage technology to increase your interest and performance in classes, which of the following technologies do you believe are essential to a 21st-century classroom?

Choice	***Count***
Wireless network/Internet	151
Laptop/netbook computer	131
Smartphone	96
Digital content	92
Off-campus network access	84
Virtual learning	74
Open source applications	70
Recorded class lectures	69
Course management system	61
Interactive whiteboards	60
Media tablet	57
Video and/or Web conferencing	56
E-reader device	55
Desktop computer	51
Instant message/video chat	40
iPod/MP3 player	22
Social networking sites	15
Blogs/wikis	9
Multimedia content streaming	7
Online books	0

Table 5 reflects the different choices and how many times each of the choices were chosen for the question, "Today, which of the following technologies does your institution offer/support?" The top five responses were wireless network/Internet (150), desktop computer (134), course management system (99), digital content (75), and laptop/netbook computer (71).

Table 6 reflects the different choices and how many times each of the choices were chosen for the question "Which of the following technologies/Internet tools do you currently use in conjunction with your education (e.g., to study, while in class, to work on projects)?" The top five responses were wireless network/Internet (149), laptop/netbook computer (146), smartphone (105), course management system (94), and desktop computer (72).

Table 5. Today, which of the following technologies does your institution offer/support?

Choice	***Count***
Wireless network/Internet	150
Desktop computer	134
Course management system	99
Digital content	75
Laptop/netbook computer	71
Off-campus network access	58
Open source applications	56
E-reader device	42
Interactive whiteboards	39
Smartphone	38
Virtual learning	38
Media tablet	33
Recorded class lectures	26
Video and/or Web conferencing	25
Blogs/wikis	20
iPod/MP3 player	20
Multimedia content streaming	20
Instant message/video chat	13
Social networking sites	5
Online books	0

Table 7 reflects the different choices and how many times each of the choices were chosen for the question "Which of the following technologies do you currently use outside of your education (e.g., to communicate with friends and family, to relax, to have fun)?" The top five responses were wireless network/Internet (142), laptop/netbook computer (133), smartphone (106), iPod/MP3 player (76), and social

networking sites (74).

Table 6. Which of the following technologies/Internet tools do you currently use in conjunction with your education (e.g., to study, while in class, to work on projects)?

Choice	***Count***
Wireless network/Internet	149
Laptop/netbook computer	146
Smartphone	105
Course management system	94
Desktop computer	72
Digital content	64
Media tablet	49
Off-campus network access	47
iPod/MP3 player	36
Social networking sites	32
E-reader device	26
Interactive whiteboards	19
Recorded class lectures	18
Multimedia content streaming	12
Video and/or Web conferencing	12
Virtual learning	11
Blogs/wikis	10
Instant message/video chat	6
Open source applications	1
Online books	0

COMPARING WITH NORTHWESTERN STATE UNIVERSITY FINDINGS

The authors then compared findings from students enrolled in their university prep course with findings from a study of 181 students at Northwestern State University in Louisiana (McDonald *et al*, 2013). Both universities are located in rural areas and have a large percentage of students from their respective regional areas. The technologies students are using for their own personal use are very comparable, as both reported Internet, laptops, and smart phones. Regardless of what their high schools may have offered in the way of technology, both groups expected their university to provide classrooms that use technology as a means to support learning.

Table 7. Which of the following technologies do you currently use outside of your education (e.g., to communicate with friends and family, to relax, to have fun)?

Choice	***Count***
Wireless network/Internet	142
Laptop/netbook computer	133
Smartphone	106
iPod/MP3 player	76
Social networking sites	74
Desktop computer	58
E-reader device	39
Media tablet	39
Course management system	26
Instant message/video chat	23
Blogs/wikis	18
Digital content	15
Off-campus network access	14
Virtual learning	7
Interactive whiteboards	6
Recorded class lectures	4
Multimedia content streaming	3
Open source applications	3
Video and/or Web conferencing	1
Online books	0

CONCLUSIONS

Very few findings in the current study were statistically significant when answers were compared by gender, age, year-in-school classification, or type of high school attended. Overall, students perceive the technology can help them achieve higher grades and engages them in class, while at the same time perceiving technology is not a distraction in class. Students also give very

similar ratings of the administration valuing technology (3.85 on five-point scale), the current level of technology at the university (3.82), and comparison of university technology to their high school technology (3.80). Students had a slightly less positive response for the university understanding how the students use or want to use the technology as a learning tool (3.45). Findings reflected students identified wireless/Internet access, laptop and netbook computers, smart phones, digital content, and off campus network access as the five most essential technologies to a 21st century classroom. When compared to students at Northwestern State University, more similarities than differences were identified.

FURTHER RESEARCH

Results will be shared with administrators and technology staff within the university to expand their knowledge base in planning future technology upgrades. The researchers anticipate also administering appropriate sections of the CDW-G survey to both administration and IT staff prior to sharing student findings as a next step in this research project.

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Table 1. Mean and standard deviation of dependent variables

Question	N	# of choices	Mean	Std Dev
Technology has enabled me to collaborate more efficiently with faculty and other students.	159	3	2.77	.573
Technology has enabled me to achieve better grades.	158	3	2.65	.638
Because of technology, I am more engaged in my classes.	158	3	2.30	.835
Technology is a distraction in classes, and has negatively impacted my performance.	158	3	1.44	.709
Technology has not impacted my performance in the classroom.	158	3	1.60	.821
When you were considering where to attend college, how important were an institution's technology offerings to you, including equipment and access to that equipment, in your selection process?	159	4	2.65	.994
Learning and mastering technology skills will improve my educational and career opportunities in the future.	158	5	4.13	.853
My institution's administration values technology as a learning tool.	158	5	3.85	.807
How would you rate the current level of technology at this university?	159	5	3.82	.725
Consider for a moment the classroom technology you used in high school (e.g., computers, interactive whiteboards, software, clickers, projectors, etc.). How does it compare to the classroom technology on your campus?	158	5	3.80	1.225
My college/ university is preparing me to successfully use technology as a business/professional tool when I enter the workforce.	159	5	3.60	.900
My college/university understands how I use or want to use technology as a learning tool.	158	5	3.45	.841

Table 2. Independent Samples t-test grouped by age, N=154

Hypothesis	Met Test Assumption	Test Outcome	Sig. Level
H_o: Mean of *"My college/ university is preparing me to successfully use technology as a business/professional tool when I enter the workforce*" for persons 18-24 years of age = Mean of "*My college/ university is preparing me to successfully use technology as a business/professional tool when I enter the workforce*" for persons 25 years of age or older	Yes, equal variances assumed	Reject H_o	.012

Table 3. Independent Samples t-test grouped by type of high school attended, N=153

Hypothesis	Met Test Assumption	Test Outcome	Sig. Level
H_o: Mean of *"Consider for a moment the classroom technology you used in high school (e.g., computers, interactive whiteboards, software, clickers, projectors, etc.). How does it compare to the classroom technology on your campus?"* for persons attending a public high school = Mean of "*Consider for a moment the classroom technology you used in high school (e.g., computers, interactive whiteboards, software, clickers, projectors, etc.). How does it compare to the classroom technology on your campus?*" for persons attending a private high school	Yes, equal variances assumed	Reject H_o	.007

NOTES

INTEGRATION OF BUSINESS ANALYTICS TOOLS AND PROCESSES INTO THE BUSINESS CURRICULUM

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ABSTRACT

Graduates who are skilled in using business analytics in decision making are in increasing demand. Over the next five years, the demand is projected to exceed over 50 percent of the available qualified workforce. This paper describes the process for designing an interdisciplinary undergraduate business analytics program. The program mission and objectives are provided; business competency and soft skill development, technical skill development, and software tools planned for integration into the program are identified.

BACKGROUND

Business analytics in the big data environment is being increasingly used to differentiate organizational effectiveness across industries. Gartner projects that business intelligence and analytics will play an increasing role in business model reinvention (Gartner says business analytics will be central for business reinvention. 2013). Dan Sommer, Gartner research analysts, stated:

> We are rapidly heading towards a world of analytics everywhere. Gartner predicts that analytics will reach 50 percent of the potential users by 2014. By 2020, that figure will be 75 percent, and we will be in a world where systems of record, systems of differentiation and systems of innovation are enabling IT, business and individuals to analyze data in a much denser fashion than before. Post 2020 we'll be heading toward 100 percent of potential users and into the realms of the Internet of Everything. (Gartner says business analytics will be central for business reinvention, 2013)

The McKinsey Global Institute projects that by 2018 the United States alone will face a shortage of 140,000 to 190,000 professionals with advanced data analytics skills and a shortage of 1.5 million managers and analysts who can incorporate big data analytics into decision making (Manyika, Chui, Brown, Bughin, Dobbs, Roxburgh, & Byers, 2011). This demand is 50 to 60 percent greater than the U.S. can supply.

Focused on data-based decision making, business analytics delivers value by applying relevant measurable knowledge to strategic and tactical business objectives (Stubbs, 2011). This value added transformation process requires that an organization view data as a resource and develop pro-analytics practices, build an infrastructure to support business analytics, and develop a data-driven analytical culture of decision making (Kiron. Ferguson, & Prentice, 2013).

Implications of business analytics for curriculum development within colleges of business are broad: business analytics impacts every programmatic area—accounting, economics, finance, information systems, management, marketing, and operations. This paper will present findings

from phase one of a research study designed to identify needed business analytics skills for business graduates to be successful in today's analytical business environment. Currently the typical business analytics curriculum is focused on technical programs (IT and operations) at the graduate level. This research was designed to provide insight into developing an applied undergraduate business program integrating all areas of business and delivering an entry-level employee ready to perform the job of data analyst.

RESEARCH PLAN

In this research business analytics is defined as follows:

> A data-driven approach to decision making or achieving business outcomes that are relevant, actionable, and measurable.

Phase 1

During 2013 face-to-face interviews were held with professional from 6 organizations in Central Arkansas. Next a focus group meeting was held with analytics representatives from 15 organizations. The participants either performed or managed the business analytics functions within the following types of firms: accounting/financial services, business consultancy, insurance, IT services, and marketing.

The following topics were explored:

- Value to organization achieved through business analytics.
- Infrastructure supporting business analytics.
- Analytical tools/systems used, including business reporting/dashboards, forecasting/product analysis, data mining/optimization, and text mining.
- Infrastructure allowing cross organization collaboration/access to data.
- Use of Excel as a reporting or analytical tool.
- Skills/abilities sought in new employees working in analytics-based environments.
- Types of learning experiences perceived to be valuable for business students preparing to work in analytics-based environments.

In conjunction with an in-depth literature review, these findings were used to develop program goals for a business analytics undergraduate major and to design a curriculum development plan. Current curricula were analyzed to identify where analytics skill development was currently being developed or could be integrated; areas of needed additions were identified. An overall goal was to develop an interdisciplinary program.

Phase 2

During phase 2 of the project, a detailed survey of analytics professionals in Central Arkansas will be conducted to confirm specific skills needed by analytics professionals and to identify market demand for graduates from an interdisciplinary undergraduate business analytics program. Based on these findings, faculty will compare the identified skills to a competency mapping of the developed curricula, to assure a match between program skill development and job demands. Then program development will be finalized.

Phase 1 Research Findings and Program Development Progress

The results of phase 1 data collection indicated a high degree of consensus among analytics professionals. Responses to direct questions asked during interviews indicated the following:

- Analytics is used extensively for customer-based decisions—marketing, HR, sales.
- Analytics is typically a joint activity of IT and analytics staff.
- The analytics team may design reports; users may themselves directly access the system, depending on issue complexity and time constraints.
- The analytics movement has involved a cultural shift within the organization regarding approach to problem solving, including data accessibility.

Business Competencies and Soft Skills

Specific business competencies and soft skills were identified as important.

- Integrated business knowledge
  - Apply data to performance improvement—tactical and strategic thinking
  - Applications observed: consultancy, human resource management, marketing, accounting/financial implication of decisions (valuation of change)
- Acquaintance with the digital environment/digital media
- Visualization skills
  - Extrapolation from varied data sources
  - Observe trending
- Communication ability to present narrative around numbers
  - Writing
    - Conciseness
    - Readable format
      - Strong captions
      - Bulleted summary
    - Client-based perspective
- Ability to extend decision variable beyond data to include experience/gut reactions; legal/policy, resource, and organizational culture constraints; context knowledge; value of the decision
- Personal characteristics
  - Act quickly
  - Display initiative, exploring; be competitive
  - Sell self
  - Be tolerant of others; work with others of varied cultures/demographics
  - Defend beliefs
  - Can negotiate with constituents
  - Display professionalism
- Collaborate with IT
- Work with clients and vendors

Technical Skills

Participants identified the minimal technical skills necessary to operate in an analytics environment.

- Excel
  - Formulas, pivot tables, vlookup, macros, what-if analysis, charting, statistics
  - Design
- Database
  - Data organization/design
    - Know data structure

    - Data management: join tables, merge data sets, cleanup data; connect disparate data (nonintegrated systems within organization)
    - Data governance
    - Data credibility
    - Queries
    - Limited data mining
- Visualization
    - Charting
    - PowerPoint
        - Used for presentation and for supplements
- Dashboard
    - Drill down
- Predictive modeling
    - Financial implications
- Statistics
    - Basic stat methods—t-test
    - ANOVA, Regression Analysis
    - Test and control protocol
        - Clarity of design (reflection of population)
        - Outlier analysis
- Programming: read programming code (not program)

Software Tools

Use of these specific software tools was identified:

- Excel
- Database
    - Access, Oracle, DB2
    - SQL (reporting)
    - Crystal Reports
- Big Data query languages
    - Hadoop infrastructure (R, HIVE, PIG)
- COGNOS
    - IBM Data Warehousing
- Geo Mapping
- SAS

Program Mission and Objectives

Based on the observed comprehensive responsibilities and expectations of employees in analytics-based jobs, the program mission and objectives were developed.

The Mission of the Business Analytics Program is to engage students in the process of learning to master the integration of data and analysis that encompasses all facets of business operations in an effort to strategically position an organization for success. The program prepares graduates who know the value of evidence-based decision making, can leverage data for tactical and strategic value, and can gain competitive advantage through application of knowledge in the business disciplines.

The program focuses on competency development relating to the following:

- Information Technology—understand structure, transmission, and manipulation of business data.
- Data Analysis—use analytics tools and techniques in the big data environment.
- Decision Making—apply analytics-based knowledge in a business context.

Using an interdisciplinary approach, the business analytics program applies information technology and data analysis skills to decision making in the functional areas of business—accounting, finance, economics, management, and marketing

The following business analytics program objectives were developed:

- To identify, understand, and evaluate business problems and opportunities,
- To model, create, and populate a database.
- To obtain data through database queries to support problem analysis.
- To conduct data analysis using varied analytical tools.
- To develop a business solution supported by data analysis.
- To develop visual representations and creative reporting using industry tools and technologies.
- To persuade decision makers to accept a recommended problem solution.

CONTINUING CURRICULUM DEVELOPMENT

The following courses are being considered as requirements in the program:

- quantitative business analysis,
- data analytics/visualization,
- business communication,
- management information systems,
- database management,
- data analysis and reporting,
- predictive modeling,
- market research,
- social media,
- small group communication,
- legal/ethical issues, and
- experiential capstone.

Electives will include courses such as the following:

- consumer analysis and behavior,
- human resource management,
- knowledge management,
- supply chain management,
- econometrics,
- introduction to GIS, and
- data mining techniques.

Specific analytics tools are being reviewed for developing identified software skills.

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NOTES

RESPECTFUL BUSINESS COMMUNICATION: A PROJECT ON SKYPE

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INTRODUCTION

Traditional methods of passing on knowledge cannot always engage the Net generation, the millennials, adequately in the face of the influx of new media into their lives (McNeill, Diao and Gosper, 2011; Kilian, Hennigs and Langner, 2012). Many of the new media technologies provide new avenues for learning, studying and for collaboration with fellow students of which academics could take greater advantage (McNeill, Diao and Gosper, 2011; Sipilä, 2011). This could happen if such technologies are harnessed and transformed into learning tools for the students to engage more intensely with the subject matter of their courses. It would mean that educators are required to be more creative than ever in adapting their teaching, assignments, and assessments into forms that the younger generation can more readily relate with.

At the same time, there is an increasing need to impart teaming skills, as organizations become flatter and more geographically spread out across multiple cultural contexts (Klagge, 1997). In view of this, fostering online collaboration and the development of a multicultural outlook is a value-add to any management education programme. Online collaboration is becoming the norm with corporations that have offices established in different countries and have teams working on projects across these countries, or that are interested in markets other than those in which they currently operate.

An exercise teaching respectful business communication through a project to set up and carry out an interview on Skype helped to bring these different attributes together and to improve net generation students' learning experience. Even though this was not an e-learning programme, the observations of Littig (2006) regarding the importance of focusing on what the learners need are very much to the point and formed the rationale behind the choice of this channel for imparting learning. It proved a good way to pass across a far-reaching message of the need to respect others' dignity in many little ways.

METHODOLOGY

An experiential learning exercise was carried out in a classroom of freshly admitted candidates for an MBA programme at the Lagos Business School, Nigeria. The students, eighteen (18) young men and thirty-one (31) young women, were encouraged to be polite and to take the responsibility for the whole project from its beginning to its end. They were given instructions online and in class, and they were given names, email addresses and Skype IDs of their interviewees. They worked in ten groups of five each except in one case where the group was made up of four people.

The ten interviewees were French, Kenyan, American living in Senegal, Swiss, Nigerian brought up in Botswana and living in the United Kingdom, Indian, Romanian; German living and working in the United States, Egyptian born and raised in Germany, and Iranian. The interviewers were 26.5 years old average, with a median of 25, mode also of 25, and a range of 20 to 36 years old. Seven of them were married. Their years of work experience totalled 104 while the average was slightly over 2 years.

A single question "What did you learn from the experience of the Skype interview project?" was used to elicit data both in a general discussion and in form of written responses.

FINDINGS AND DISCUSSION

The learning experiences were immensely profound: students reported having learnt, as expected, respect for diversity; cross-cultural sensitivities; working in a team; setting up meetings in the same country and across timelines of different people and different countries; preparing for an interview; handling on-the-spot hitches with technology; and also unexpected learning such as value-adding life insights from the actual interaction with the interviewee. They had to work to very tight timelines and one of the tasks they had was to draft their interview protocol and get it approved before approaching the interviewee. They learnt to research their intended interviewees as much as they could and to communicate with people they did not know previously in a very respectful manner irrespective of age, status, or any other characteristic. The experience made them grow in resourcefulness and in relating appropriately with people, especially as they had just met for the first time a few days before they had to start working together.

In addition, they were able to enhance their writing skills since they were required to write a report based on the interview – transcript plus personal reflection. They were also able to practice the emotional intelligence traits of inclusiveness and adaptability in working together as a team to carry out the project. For many of them it was the first time they were using Skype web technology for a serious purpose.

A preliminary set of insights into the learning/experiences of the students is summarized and discussed here, with quotations being followed with comments:

"that people draw a lot of conclusions from little conversations, but it is usually laced with assumptions and personal opinions" These points reflect the increase in an attitude of openness to others. The students became aware of the limits to their own processes of judgement and accepted that they can make mistakes because of wrong assumptions about others. Respect for others also entails being humble enough to admit such mistakes and being ready to change one's mind or position.

- "that nature, nurture and/or freedom work together to shape us to who we are today"
- "that aside from nature and nurture, elements such as freedom and choice also play a significant role in the way an individual is shaped"
- "I learnt that when dealing with somebody you have not met before, it helps (and is advisable) to do some light background research on the person. This will help you to know the best way you can relate with him/her"
- "that the way human beings are brought up play a very big role in what they turn out to be"
- "the role of one's family also plays a significant role in shaping an individual's values (this does not mean that those values would shape their choices consequently; where their choices are steered in another direction, values are formed)"
- "I also got to see the importance of one's environment in their life, how

nature … and the people around can affect a person's lifestyle and personality"
- "From this exercise, I learnt the enormous role the environment plays in who a person is"

This emphasizes the understanding that people act from within different frames of reference and increases an appreciation of diversity and for the richness of others' experiences. It also is an indication of how to respect the differences we observe in others. In addition, the students realized the importance of taking the trouble to understand the person with whom one is going to relate beforehand, because the person is important and one has to find the best way to interact with that person. One cannot take for granted that what works with Person A will work with Person B. Each person is unique and irrepeatable.

- "that in everyone's career, there are intrinsic and extrinsic values; different individuals will place either one of them as top priority. However the most important are the intrinsic values"
- "The Skype interview with … showed that humans indeed have a freedom of choice"

Acceptance and understanding of values different from one's own was another important outcome of the exercise. This was related with respecting the freedom of choice that others' have and therefore respecting their choices.

- "For effective cross cultural communication, an objective approach is required. This includes timeliness, clarity of questions asked, and avoiding the use of slangs or phrases accepted only within the Nigerian context"
- "I gained some knowledge about the Swiss culture, including their official languages"
- "I also gained some insight into the Brazilian society, from our interviewee's perspective"
- "Before this interview I never thought that white people struggle for anything, I used to feel that it was only Africans that actually struggle hard with their environment and life if they really wanted to live a comfortable life but I realized from my interviewee that my notion was wrong"
- "I have had several conversations with foreigners but for once I was able to have a deep insight"
- "an opportunity to verbally interact with an individual from a different cultural context"

The participants learnt that there is a need to be open to other cultures and became sensitive to ways of communicating that would be particular to only their own context. They thus ended the experience better prepared to interact across contexts and cultures.

- "I learnt how to work in group for the first time"
- "the opportunity to get to know members of my group and their different backgrounds"

The students learned to relate respectfully among themselves as well as with their interviewee. This is very valuable

preparation for future workplaces in which increasingly teamwork is valued. Within the groups for the interviews, the members of each team had to agree on a time for the interview taking into consideration one another's schedules, the schedule of the interviewee, and the schedule of observer(s) (either the lecturer or the teaching assistant or both). To achieve this, they had to hold respectful conversations finding out from each of the persons concerned when would be a suitable time; and they had to do this within a fixed deadline.

- "Some schools of thought say an individual's personality is a mirror of that person's soul"
- "we journeyed with her through this interview to have an in-depth picture of her"
- "very enlightening and educating, it gave me an insight to how the average Romanian family lives in Romania"
- "It made me realize even though people live in different countries we all are human beings facing similar challenges in life"
- "Her responses helped me relate her experiences with mine and on a global perspective how relatable our socio-economic problems are"

They also deepened their understanding of another person, thereby expanding their horizons and their ability to empathize with others. Too often, people judge others based on superficial indices. This exercise made the students pause to really engage with an other and grow their respect for the other person based on really getting to know him or her and walking alongside him or her.

- "broadened my knowledge on the socio-economic nature of a country ... The problems which plague our country are almost similar to theirs"
- "I love my family but I never thought of being this selfless. As a result of that interview I am working hard… on deciding to give … a quota of my earnings … from time to time"
- "the essence of community and association to man"
- "Our Skype interview subject while addressing the question on his view about success, suggested we read a book titled "The Outliers" by Malcom Gladwell. … From this book, I discovered …, my perception about success really changed after I read this book"

The acceptance that one has a lot to learn from others came across strongly as well. The students commented on different things they had been surprised to learn from their interviewees regarding different aspects of increased general knowledge and specific life principles.

- "I have never used Skype even though I have seen people use it several times and I have never been involved in any online interview so it was a whole new and very interesting experience for me"
- "that even where we think that our choices are limited, opportunities are inherent"
- "I also learnt … How to use Skype"
- "gave me an insight on how to carry out interviews without actually

having physical contact with the interviewees"

The experience of using new technology was also an opportunity for growth for the students. Some had not used Skype before; others had not used Skype before for work/study but had instead used it only for social contact. As with other social media, it easily happens that both faculty and students approach them as disruptive to their studies. However, increasingly the awareness is growing that innovative approaches to education can incorporate these technologies as exciting learning tools. The experience of the Skype project reported here is that much of what might have needed to be taught in the classroom was learnt through the students' personal experience and received with great enthusiasm and enjoyment. Quoting one of the students, "in all, it was a great experience, a lovely way to kick off the MBA program".

IMPLICATIONS FOR EDUCATORS

Educators are and should be continuously finding new ways to impart learning. This project that has been described above is one of the possible ways. Creating enjoyable and effective learning was an important outcome envisaged and realised by the project. It is particularly suitable as a higher education experience because the form of the project allows for the upper levels of Bloom's taxonomy to be exercised. The students had to create, construct, synthesize, and reflect – they created the interview protocols themselves, they had to hold the actual interviews and them prepare a group discussion of what they learnt and put these together to form a single relation; but then each one had to further reflect on personal takeaways from the experience. At every stage there was a learning objective which came majorly from the experience of the student carrying out the project.

This exercise is useful in any business communication course which intends to teach future managers and business leaders how to relate with people in a way that respects their dignity and promotes their flourishing. The habit of practicing respectful treatment is a much-needed interpersonal skill in order to foster commitment among their subordinates (Bambacas and Patrickson, 2008). Moreover, virtuous leadership (Hackett and Wang, 2012) includes an ability to work with others in an ethical manner.

The ability to communicate respectfully is also useful for students who need to operate in a globalised world and will be engaged in international business requiring cross-cultural management skills (Bogorya, 1985). Hence, this Skype project which has proven quite effective in teaching it could also be incorporated into courses on diversity management, international business and team-building as a project exercise. Finally, it can be incorporated easily into an e-learning curriculum and would in such an eventuality as one more learner oriented approach (Littig, 2006) for the applicable courses.

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