

The Journal of Academic Administration In Higher Education

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WEB TECHNOLOGY IS A STRATEGIC TOOL FOR ADMINISTRATORS IN HIGHER EDUCATION TO INCREASE STUDENTS RETENTION

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ABSTRACT

Student retention has become a challenging problem for most of the academic institutions and it becomes more challenging with the increased use of Internet to convey information, deliver instructional materials, and make online instruction modality more interactive in educational environment. Even though the technologies for establishing a new digital educational environment to assisting students of all abilities including those with special needs are improving and are becoming more available and affordable at a rapid pace. These improvements and media choices can provide substantial benefits for not only students with special needs; but for the general student population with learning styles and modalities. The dynamic nature of the technology presents a good opportunity to administrators of the higher education institutes to increase student retention by providing the best tools available including accessible websites to their students. This paper presents result of examined websites of one hundred universities providing higher education. The study investigated the accessibility level of the websites according to W3C standard guidelines. The paper also provides recommendations, based on this research finding, on how student retention could be increased by making institutions' website accessible.

INTRODUCTION

Enrollments in higher education institutions have steadily increased due to utilizing different teaching modalities (on-line, hybrid, face-to-face), in particular with the increasing of delivering courses by leveraging the Internet. Many researchers have been confirming the fact of increasing the enrollments in higher education institutes as well as increasing the number of students who do not complete their degrees. (Swail, 2004). Therefore, even though there is increasing in the enrolments, still there is a major problem in keeping students till they finish their degrees. The phoneme of increasing students who do not finish their degree results in twofold. One is the nonpositive impact on the institutes' strategic planning due to a greater financial loss, high cost of recruiting new students, a lower rate of graduation, etc. and the other is the affect on the image of the institute from the students and their parents view (Beckett & McComb, 2004).

Retain students has become a determining factor in resolving a major problem for higher education institutes, Therefore, the administrators of higher education institutes should identify and implement an effective program

in order to increase the retention of qualified students. The program should consider several factors including institutes and personal factors. Examples of institutes' factors are academic programs quality, technical issues, instructions modalities, and institutional social factors. Examples of personal factors are geographical area, age, gender, abilities, and academic skills. The program should provide students with a meaningful learning environment, so that students will become connected to the institution by developing a sense of belonging within the student body. Furthermore, the program should result in a higher student retention rate (Hill, 2007).

With the increased use of website to convey information, deliver instructional materials, and make online instructions modality more interactive in educational environment and the increased number of students with special needs, it becomes more vital to ensure that all students have equal access to institutes information and the instructional materials it provides.

Most of Web contents including instructional materials are not available in formats that are accessible to all students in particular for those students with special needs.

Inaccessible contents can stigmatize learner with special needs by preventing them from learning along with their peers, thereby limiting their educational opportunities (Franklin & Harmelen, 2007). Therefore, as the Web becomes the main open door for institutes to present their services and instructional materials (Klein, et al., 2003), students with special needs face even more challenges in getting the appropriate information in a time manner and keeping pace with their peer.

Developing accessible website means ensuring that its contents and functionality are easily available and usable to the widest range of people, including those with special needs. Therefore, accessibility, in this context, enables people of all abilities to realize their full potential (Thompson, & et al., 2006).

The rest of the paper is organized into three sections. Section 2 presents the impact of Web technology on students' retention and the importance of Web accessibility in higher education. Section 3 presents the data analysis and the study findings. Section 4 concludes the paper with recommendations and future research.

WEB TECHNOLOGY AND STUDENTS RETENTION

Nowadays, with the great exponential growth of online teaching modality in most of higher educational institutes, many studies indicate that the students' retention become more challenging. Even though there are some institutes who implementing the hybrid teaching modality and other institutes who still only offer traditional teaching (face-to-face) modality, but they provide all their services and instructional materials via the Internet.

The variation of teaching modalities, by leveraging the Internet and other various technologies, has allowed a much broader and diverse population to enroll and pursue degrees in higher education. As educators we believe that web accessibility is one significant mechanism that can be deployed by institutes to support their approach for increasing qualified students retention.

Hardware and software accessibility has been mandated by section 508 of the Rehabilitation Act amended in 1998 and enacted in June of 2001. Beyond legal requirements, ensuring that systems are accessible to all users is a concern shared by all socially responsible developers (Rosmaita, et al. 2006). According to a study conducted by McNeil, one in five Americans has a disability and one in ten has a severe disability (McNeil, 2010). The researchers in Microsoft Forrester Research, Inc reported that 57% of computer users are probable to benefit from the use of accessible technology.

The Importance of Web Accessibility in Higher Education

A university's web home page is perhaps the most important part of their site. It is the first page students will access, and the page that will lead to every other page and/or element on the site. It should be accessible to all people regardless their abilities. Students with special needs will especially benefit from the use of the web site. They should be allowed to access key pages including but not limited to Admission, Disabled Student Services, Library, Financial Aid, Bookstore, Colleges, Departments, and Instructors websites (Franklin & Harmelen, 2007).

The homepage is where students will first come to gather information about the institute, so it will benefit the institute to have an attractive page that will entice individuals seeking higher education. Hawke (2004) says Universities should provide users with "equal access" whether or not they are on campus. Institutes homepage paints an overall picture of the university, and if it is inaccessible then they will have less diversity and their reputation will suffer. The homepage is also where prospective high school and transfer students look to gain knowledge about a potential university. Important news and events are also listed on the home page in addition to campus email, admission and other student services. If the home page of an institute is not accessible, a wide range of people especially those with special needs will have difficult time finding specific web pages. Furthermore, if an institute homepage is inaccessible, that will render all other pages on the site such pages that displays grades, athletic information, and career placement information and campus layout unreachable as well.

One hundred universities' website were tested and evaluated for their accessibility rate, only a single university had its homepage come up error free. With the exception of one, they all had some types of error whether it was priority one (which is required by law for all public universities to satisfy), priority two, or priority three (Wonnacott, 2006). The results indicated that the tested websites are not complying with accessibility standard guidelines and it must be redesigned and improved their accessibility rate.

All students body in particular those with special needs would require access to information regarding the services provided by an institute. An institute has to accommodate them. Besides being a federal requirement, it would be in an institute best interest financially to make accommodations for the broadest range of people. For example, the visually impaired should have information about Braille signs, specialized keyboards that the school has, and other accommodating tools that are available presented to them in an audible format. For visual material on a Disability

Services Webpage such as graphs, or maps, an audio version should be made available. If an audio version cannot be produced, a user should be informed of an alternative way of reaching the information (Klein et al., 2003).

In addition to the homepages for the offices/departments mentioned above, it is imperative that the library in a higher education institute to have an accessible website. The library homepage should not only inform users of the methods of obtaining the available data and resources on the campus physical site, but also it should furnish users with reliable and usable methods of accessing the available data and resources via the Web as well.

Many courses today involve research activities. While students may have gone physically to libraries in the past, there are digital libraries available today. These libraries may help all type of students especially students with special needs regardless of teaching modalities are implemented in their institute. Therefore, accessing research material digitally is essential to facilitate students' education (Raue & Lewis, 2011). Although most higher education institutions have library web pages, our study indicates that most of them do not comply with web accessibility standards, as required by law. Of the one hundred institutes in our study, not a single university had a library web page without any errors. This means that one or more type of special needs students will have difficulty doing research, accessing material, distant learning over the web, or using their university's online library.

For example, online libraries give the mobility impaired the opportunity to stay in a single location for their research assignments. Doing so would cut down on specialized transportation, unnecessary equipment and risks. Visually impaired users would also gain advantages from access to online libraries from their own environment. This would be extremely convenient for them, as screen readers may or may not be located at the library's physical location. Users that are completely blind would not need to be worry about transportation to or from an online library.

For users who do not speak the primary language, online access would not only benefit them, but the university as well. Specialized language translation software can be used to interpret text from one language to another. Users would not need translators, and universities would not need multiple copies of the same materials in different languages. The speech impaired would benefit from online resources, because most web pages are designed to be navigated using a keyboard and/or a mouse (Goette & et al, 2006).

Hawke (2004) writes, "A mental impairment encompasses any mental or psychological disorder". People affected by mental disorders such as depression, attention deficit disorder, or social anxiety disorder will benefit from libraries on the web because they can access it from a familiar environment, therefore reducing any anxiety that would occur if they had to physically be out at the location. For example, someone with a social anxiety disorder may find it difficult to focus on learning when unfamiliar people are present. Or perhaps a student with attention deficit disorder may find it hard too. Students with hearing disabilities would benefit from online resources in a very similar fashion. For example, if the student is assigned to review certain material for a particular course that involves narration, music or other audio form, speech recognition software may be installed so a text version can be available for the student, very similar to the closed captioning on modern televisions (Raue & Lewis, 2011).

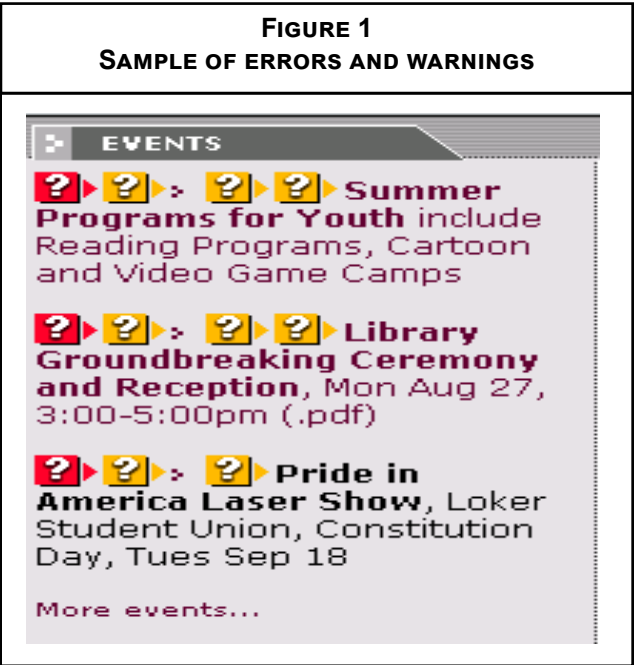
Even though many learning resources are available at online libraries, there is often a need to purchase other physical learning materials as well. Campuses usually have bookstores available for students to purchase textbooks, supplies, and other needed materials. Bookstores, as well as the libraries, have web pages designed to serve students including purchasing books and supplies. In our study, only a single school had an acceptable bookstore page across all three priorities. The rest had one or more errors. Again this means that one or more type of special needs students will not be able to utilize the bookstore resources. For example the mobility impaired are adversely affected by the lack of accessibility since they are forced to either look elsewhere to find the needed course materials, or to travel to the physical location to make the purchase. The vision impaired faces a similar burden. Possibly requiring a Seeing Eye dog or human guide, the visually impaired may need some type of assistive device to transport them in person to the location (Klein, et al., 2003). If they choose to look online instead of taking the physical path, they will need to find yet another website that complies with Web Accessibility guidelines, and it is compatible with screen reader, or other type of assistive software the user may have.

DATA ANALYSIS AND RESULTS

This paper presents results of investigating the accessibility compliance rate of one hundred universities website. The purpose of the study is to determine how accessible the university top pages in their websites and its impact on students' retention. The study done by using a tool called Test Accesibilidad Web (TAW). The TAW software scans a webpage to evaluate its compliance rate with the guidelines web accessibility standards (WebXac, 2006).

This study concerns mainly with Web Content Accessibility Guidelines (WCAG). WCAG were developed by Web Content Accessibility Guidelines Working Group (WCAG WG) and became a W3C recommendation on May 5, 1999. They explain how to make accessible Web sites (W3C, W3C_a, & W3C_b, 2006). There are three priority levels of normative checkpoints. Priority 1 has 17 high-priority checkpoints, Priority 2 has 33 medium-priority checkpoints, and Priority 3 has 16 lower-priority checkpoints. WCAG detailed standards can be found at <http://www.w3.org/TR/WAI-WEBCONTENT/full-checklist.htm>. Web Accessibility Initiative (WAI) has further defined three levels of conformance. Conformance Level A means all Priority 1 checkpoints are satisfied, Conformance Level AA means all Priority 1 and 2 checkpoints are satisfied, and Conformance Level AAA means all Priority 1, 2, and 3 checkpoints are satisfied (WebAim, 2006).

The study findings in the paper represent the result of scanning 100 universities' websites including homepages for the University, Library, Bookstore, Instructors, Financial Aid, Admission, and Disabled Student Services office of each university. The software checked various elements, for example, the "ALT" tag, which web designers add to images, is used to aid screen readers in describing a picture for the visually impaired (Klein et al., 2003). TAW incorporates a visual aspect when reviewing web pages for accessibility issues which make it easier to distinguish different type of errors. For example, depending on whether they are warnings or errors, they are either red or orange question marks. A screenshot is provided below.



The TAW software would scan a page, and would report the number of errors in three priorities, #1 being the highest and most important to Web Accessibility. The TAW software would then indicate the amount of manual checkpoints, or "warnings" that applied to the page in

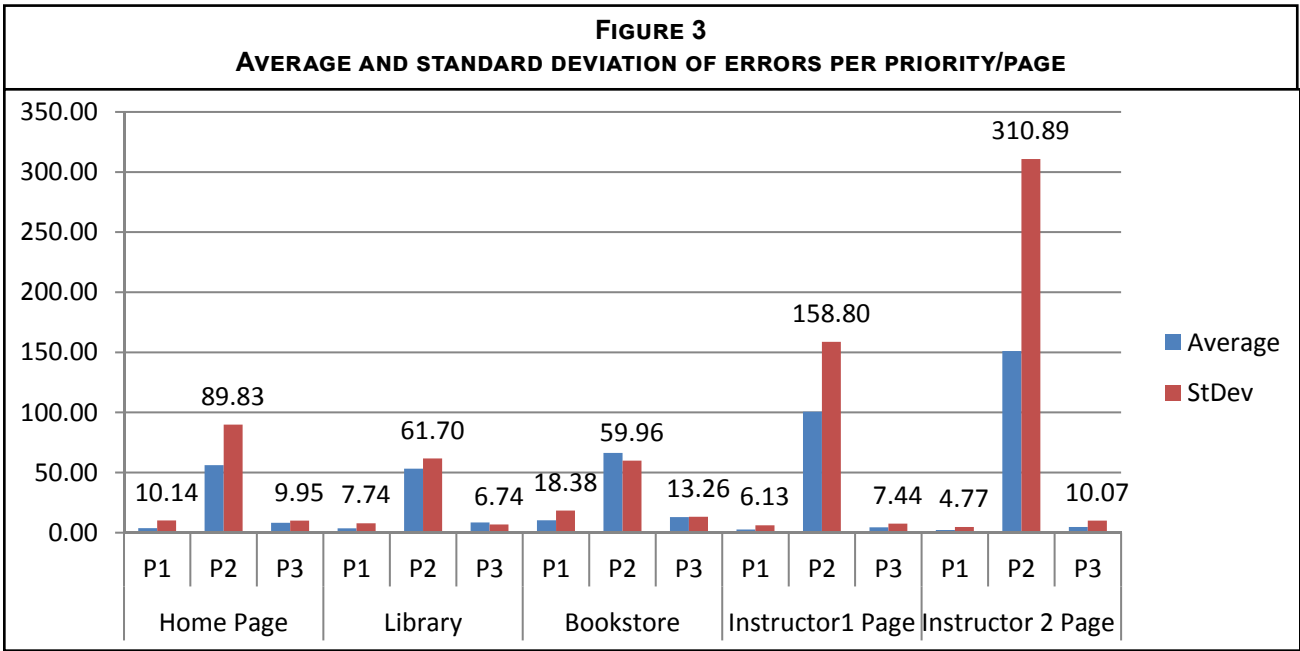
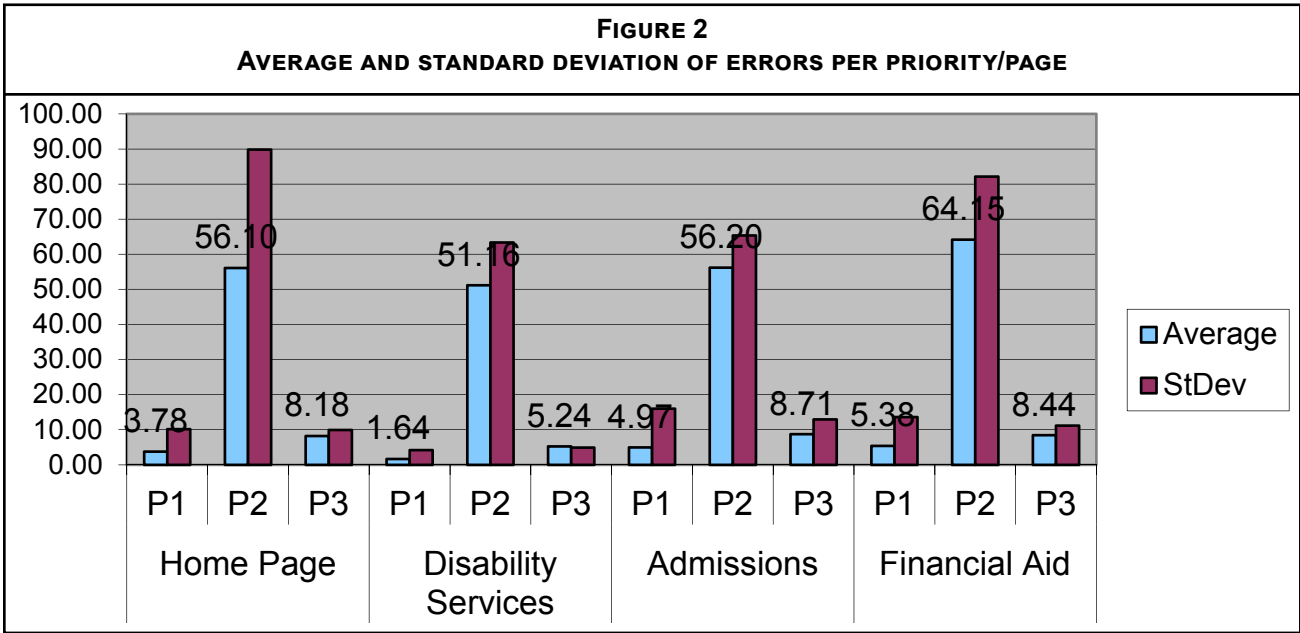
TABLE 1 DESCRIPTIVE STATISTICS FOR THE PRIORITY/TESTED PAGE FOR THE 100 UNIVERSITY				
Website's Top Page	Priority	Average	Stdev	Max
		Number of errors		
University Homepage	P1	3.78	10.14	75
	P2	56.10	89.83	713
	P3	8.18	9.95	48
Disability Services	P1	1.64	4.18	28
	P2	51.16	63.38	359
	P3	5.24	4.92	20
Admission	P1	4.97	15.97	151
	P2	56.20	65.38	397
	P3	8.71	12.92	93
Financial Aid	P1	5.38	13.61	106
	P2	64.15	82.15	379
	P3	8.44	11.17	67

TABLE 2 DESCRIPTIVE STATISTICS FOR THE PRIORITY/TESTED PAGE FOR THE 100 UNIVERSITY				
Website's Top Page	Priority	Average	Stdev	Max
		Number of errors		
University Homepage	P1	3.78	10.14	75
	P2	56.10	89.83	713
	P3	8.18	9.95	48
Library	P1	3.54	7.74	50
	P2	53.20	61.70	322
	P3	8.50	6.74	28
Bookstore	P1	10.28	10.28	10.28
	P2	66.30	66.30	66.30
	P3	12.90	12.90	12.90
Instructor1	P1	2.64	2.64	2.64
	P2	100.63	100.63	100.63
	P3	4.36	4.36	4.36
Instructor2	P1	2.15	2.15	2.15
	P2	151.04	151.04	151.04
	P3	4.75	4.75	4.75

testing. Warnings are issues the software thinks could be potential problems based on elements that are included in the page, and should be manually reviewed and checked by a person. Much like the errors, the warnings would be categorized in 3 priorities with 1 being the most important and 3 being the least. Priorities are assigned depending on its "impact on accessibility" (W3C, 1999).

The importance of having accessible websites for the Admission, Financial Aid, and Disability Services offices is addressed in (Eyadat, and Lew, 2011).

Table3 and figure2 show, when comparing the different pages in number of errors for the three priorities we found that Priority 1, Instructor2 home page has the least number of errors with average 2.15, and therefore it was the most accessible. On the other side, the Bookstore homepage has the highest number of errors with average 10.28 and was considered the least accessible. Priority2, Library home page has the least number of errors with average 53.26, while the Instructor2 homepage has the highest number of errors with average 151.04. Priority 3, Instructor1 homepage has the least number of errors with average 4.36, and therefore was the most accessible. Where,



the Bookstore homepage has the highest number of errors with average 12.90.

Summary statistics indicates that the number of errors instances for priorities 1, 2, and 3 are large as shown in Table 2. Even though few campuses are in compliance with priority 1, but due to the number of error instances combining the three priorities, there are a large number of individuals who will not be able to access certain information from the tested top pages. This could be a critical factor causing students to drop their study program or leading them to look for other alternative.

CONCLUSION AND FUTURE RESEARCH

This paper focused in determining the impact of web accessibility on students' retention. It investigated the compliance rate of one hundred universities' websites to the web accessibility standard WAI guidelines. Findings indicate that the majority of the universities' top Web pages are not comply to the WAI guidelines at some point. This indicates that there is a large number of individuals who will not be able to access certain information from their top Web pages due these error instances.

Therefore; according to our findings along with other statistical data on the internet and government laws which are related to people with special needs, accessible website became a critical part of the core components of an institute. We believe strongly that administrators in higher education should consider the website accessibility issue as a core component of any effective approach to increase qualified students retention. Therefore, implementing an effective approach along with web accessibility will increase enrollment, improve the service and enable people of all abilities to realize their full potential, and improve effectiveness and efficiency in delivering the information and instructional material by leveraging the Internet. Overall accessibility benefits everyone includes all students with various learning styles and it will increase students engagement, strength students ability, and build an interactive learning environment.

The limitation of this research is that the tested pages were limited to small number of home pages for each university. We intend to increase the number of the tested pages and re-examined 31 universities' website out of the 100 universities. The 31 universities those who integrated web accessibility features with their websites in order to show the impact of the web accessibility on students' retention.

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GRADUATE COLLEGE SELECTION AND ITS IMPACT ON BRANDING: A GERMAN PERSPECTIVE

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ABSTRACT

This study explores the criteria that are important for graduate students in selecting a university in Germany; how these criteria match up with students' views of the institution they ultimately attended; and how graduate students gained information about the colleges/universities they considered. This study reveals that public university graduate students in Germany consider a wide variety of criteria when deciding on which colleges/universities to apply; and that their actual behavior in terms of enrollment may not directly reflect the importance they state they give to certain selection criteria.

INTRODUCTION

What's in a name, a school, a graduate program? With the growth of the number of graduate school options, the choice of which program to apply to and attend has become exponentially complex. The time and cost of applying to graduate school is high, so potential applicants and enrollees must limit their options. In addition, they are committing a minimum of one year and all of that time, funds, and substantial effort, once they commit to a single graduate program. So, the choice of which to attend must be carefully considered and the options weighed. What factors though are most important to potential graduate applicants? Which factors are weighted the most heavily and how they effect graduate application and enroll-

ment choice is the topic of interest in the current research, Graduate schools, and for school marketers alike.

To better understand how graduate students arrive at their final institution of choice, a list of criteria of selection for graduate programs is compiled and examined. The types of questions we are trying to answer, so that graduate schools can better serve and market to potential students, are what's in a name, a school, a graduate program? The brand or image of the school is not built in a day, but carefully strategized, invested in, and constructed over the years ("B-Schools as Brands," 2007). Having a distinct brand has become of increased interest to schools and programs, as they face increased national and international competition (Harsha & Shah, 2011; McKibben, 2005). Students of today are not always buying into the

first ranked school and are shopping around and buying into school brands (Lockwood & Hadd, 2007). The brand of a school is comprised of not only its reputation or prestige, but also its offerings both academic and otherwise to students that will enhance their experience (Lockwood & Hadd, 2007; McKibben, 2005). The more recent trends of adding more aesthetic and recreational experiential aspects to a university brand is especially of interest (McKibben, 2005), as the strictly academic reputation of a university seems to no longer be sufficient to convince students to attend a school. Such changes in student criteria are important for researchers and administrators alike to understand. The current article will examine the criteria previously found to be important in the literature and use it as a guide to explore the factors that impact graduate school choice today.

In regards to reputation as a potential factor, the literature provides mixed data. Although older research found support for its importance (Hooley & Lynch, 1981; Webb, 1993), some more recent research calls this assumption into question. Recent findings indicate that perhaps the intricacies of universities make them difficult to advertise using a single, cohesive brand image (Lowrie, 2007; Wæraas & Solbakk, 2009). Application likelihood also was found to increase for larger universities, when their ranking decreased, and to not be an important factor for the majority of students in the US and Europe, when selecting a higher education institution (Clarke, 2007; Drewes & Michael, 2006; LipmanHearne, 2006; McDonough, Antonio, & Horvat, 1997). Given more recent research such as this, we suspect that graduate students of the future will likely use a new set of criteria than those indicated in the past literature. Factors such as technology and campus atmosphere have been more recently introduced into the literature as potentially important factors (Geoffrey & Julia, 2002).

More studies, as the ones listed above, have examined the choice of whether to attend college and which undergraduate institution to attend, but fewer have examined the choice of which graduate school to attend. Those who have examined graduate school attendance seem to suggest that the cost of such programs is not a major factor in considering whether or not to attend (Montgomery & Powell, 2006) or which graduate school to attend. One study of graduate school choice found that tuition or cost of attendance makes very little difference in which program is chosen (doubling the cost of the graduate school decreased the chance it would be chosen by only 7%) (Montgomery, 2002). In a separate study on college selection (not graduate specific), it was found that students in New Zealand do not list cost as one of the main influences and that they actually demonstrate a positive cost-value relationship in choice of enrollment (Holdsworth & Nind,

2005). Although we do not make predictions about the direction of the relationship, we believe that perhaps cost is no longer a main consideration of graduate students.

Another important factor from Montgomery's study (2002) was the location of the graduate school; they found that graduate school candidates preferred schools that were close to or in their geographic region. More specifically, students were 98% less likely to attend a school if it was outside of their geographic region (pg. 478). The imperativeness of location seems to be a trend that holds true for both undergraduate school choice and graduate school choice for other programs (McCook & Moen, 1992; Simõesa & Soaresa, 2010).

Previous research has also separated out marketing controlled factors and non-marketing factors; for example, it was found that non-marketing factors of parents and friends were more influential than the marketing factors of campus visit and information about a specific major (Donnellan, 2002). Although the current research does not explicitly examine these differences, it does collect information about exposure to marketing versus non-marketing influences. Based on the research cited above, we expect that many students will be exposed to both marketing and non-marketing influences as they make their enrollment decisions.

In summary, we believe the graduate students have likely been exposed to and guided by many sources of information. The factors that become important are the main focus of our research and are imperative to the understanding of graduate school choice. Education administrators and marketers alike can benefit from such knowledge. Administrators can utilize such information to better lead and shape their programs and school to fit the new demands of graduate students. In addition, marketers can better understand how to reach out to potential candidates and increase enrollment potential.

Early research on factors underlying college choice suggested that financial, geographic, and academic factors were important to parents; while students tended to rely on social, cultural, and word-of-mouth influences in making college choices (Bowers and Pugh 1973). More recently, Aurand, Gorchels, and Judson (2006) found that the four main factors that assist a student in determining which college to attend are (1) image or reputation, (2) cost, (3) location, and (4) majors offered. Others suggest that additional factors may be important in the college selection process such as student experiences or other intangibles (Lockwood and Hadd 2007) or individual characteristics such as a student's ethnic background, religion, age, sex, academic ability, and duration of the institution search process (Dawes and Brown 2002). Though most studies suggest that academic reputation of an institution

is an important criterion, further exploration into what comprises academic reputation reveals that the ability to get a good job following graduation, the perceived expertise of the faculty, and up-to-date technology are strongly associated with the academic reputation of an institution (Conard and Conard 2000).

PURPOSE OF RESEARCH

The current study was undertaken to explore which criteria are important for graduate students in selecting a university in Germany; how these criteria match up with students' views of the institution they ultimately attended; and how graduate students gained information about the colleges/universities they considered? While the literature offers a number of criteria that may impact the choice of institution for a prospective college student, institutions differ considerably by size, program offerings, (non-) religious affiliation, cost, amenities, and reputation. Thus, the focus of this study is to explore what criteria are most important to those students who selected a public university for their graduate education.

Other studies have limited their exploration to only one type of factor or a very limited set of factors/categories (for a review: (Malaney, 1987; Raposo & Alves, 2007). In addition, models such as the one used by Raposo & Alves (2007), which explored the role of a few categories (institution's overall reputation, education offered, previous knowledge about institution, individual factors, and influence of others) found that their model only explained 10% of the variance in the data. This indicates the need for future studies to include more factors that will add to the explanatory power of such choice models. Our contribution to the literature is in exploring a full range of potential factors that might impact graduate school selection, to create a fairer test of which factors are important in the selection process.

UNIVERSITY BRANDING IN GERMANY

University students in Germany were selected for the focus of this study due to the limited understanding of this segment, in addition to the changes made throughout the European higher education. We will expand upon these changes in the following sections.

In 1999, the Bologna Process was introduced in the member states of the European Union in order to create a European Higher Education Area. The main goal of the Bologna Process was to introduce a homogeneous higher education system in Europe. More specifically, the existing national systems of higher education degrees were replaced by a Bachelor- and Master system and the system of credits (e.g., ECTS) was introduced, allowing higher edu-

cation degrees become more comparable. Additionally, these changes facilitated student as well as academic and administrative mobility (European Commission 2012; Wächter 2004); thus, triggering competition among universities and the international competitiveness of the European system of higher education (European Commission 2012).

In some countries, like for instance Germany, another political objective of the Bologna Process was to increase the number of higher education graduates. With the Bachelor degree, students are now able to obtain their first university degree in a shorter period of time, which is thus less costly than before (at least in German states ("Länder") which do not charge tuition fees) (Horstschräer and Spritsma 2010). With this process, the German central office for the allocation of places in higher education has been disestablished for most fields of study (Stiftung für Hochschulzulassung 2012). The office used to assign university places to students based on their average A-Levels grade. The university itself seldom had a say (Hochschulrahmengesetz 1976). Now, the university's right to select its students is restored, which means that students send their application directly to the university. Many universities still rely on the average A-Levels grade, but combine this criterion with, for instance, interviews and admission tests (Stiftung für Hochschulzulassung 2012).

As a consequence of the developments in higher education in Europe, German universities have to differentiate themselves from other universities in Europe and the United States of America. Importantly, German universities need to find ways to attract and actively recruit national as well as international students. University branding initiatives has thus become a hot topic. Whereas the United States has recognized the benefits of strong university brands for quite some time, only recently has the majority of University leaders in Europe realized that strong brands represent a competitive advantage in this field.

In Europe, Oxford and Cambridge in the UK are examples of strong university brands with a long and rich tradition (Rothblatt 2008), which are also regularly listed in global university rankings (Marginson and Van der Wende 2007). In Germany, few universities have built similar strong brands that are internationally recognized (Gerhard 2004); examples include Heidelberg University, LMU Munich, and the University of Mannheim.

Presumably, university students in Germany are influenced by a University's reputation and rank; however, other factors are likely to be considered when deciding on which university to attend. The literature on university choice models (Obermeit 2012) calls for more explorative research on the choice criteria and background factors that potentially influence the university choice decision

by prospective students in Germany. Thus, we attempt to fill this gap in the literature.

METHOD

The study was conducted at a public university in Germany. The intention was to gather opinions from college students during the fall semester, as the college selection process was most recent for this cohort. The surveys were distributed during class time over a two-week period. No incentives were offered for participating in this study.

RESULTS

Characteristics of the respondents are shown in Table 1. Of the 141 respondents, 76% were female. As expected, most graduate students were in their early-to-mid 20s, with 70% in the 23-25 age range. Most (66%) had applied to multiple universities during the selection process and had obtained information about the university to which they were admitted from advertising (55%), word of mouth (46%) and by visiting the institution (36%).

Respondents were asked to rate the importance of twenty-four criteria in the consideration of the colleges/universities to which they applied. The criteria were rated on a 5-point scale ranging from (1) “did not consider,” (2) “not at all important,” (3) “not very important,” (4) “somewhat important,” to (5) “very important.” The respondents were then asked to rate these same twenty-four criteria in de-

scribing the university that they chose to attend. Table 2 provides the mean for each statement for both the consideration set and the university they now attend. Those criteria with a mean above 4.0 suggest that this item was at least somewhat important in the consideration of a college/university. The items are arrayed from most to least important on college/university consideration criteria. The top five criteria were housing, attractive campus, small class sizes, student services and public university. The bottom five criteria were scholarships, faculty/student ratio, low cost of education, reputation of the faculty and reputation of the university. In all, respondents indicated that six (6) criteria including housing, attractive campus, small class size, student services, public university and friendly environment were at least somewhat important in the consideration of the colleges/universities to which they applied. With the exception of friendly environment, these criteria continued to be at least somewhat important in attracting students to the university they are now attending. Additionally, community involvement, latest technology, acceptance rate, name recognition, location, and faculty/student interaction were also noted as being at least somewhat important in attracting students to the university they now attend.

Paired t-tests were conducted to determine whether students’ views of criteria for consideration set institutions differed from their views of the institution chosen to attend. As shown in Table 2, the institution chosen received significantly higher marks on smaller class sizes, student services, public university, community involvement, latest technology, acceptance rate, name recognition, location, faculty/student interaction, faculty/student ratio, reputation of the faculty, and low cost of education. Interestingly, the institution chosen received significantly lower marks on highly-rated criteria such as living accommodations/housing, attractive campus, friendly environment, and athletic program as compared to the general group of colleges/universities considered, seemingly supporting the tenuous link between attitudes and actions in this context.

Principal component analysis was used to identify whether these items grouped together to form constructs of interest to the prospective student in considering colleges/universities. Six factors were identified, following the deletion of three items with low item-to-factor scores. As shown in Table 3, the factors pertained to the amenities/facilities, university/faculty reputation, small class size/acceptance rate, location/academic programs, cost/available funding and public institution. These factors explained 63% of the variance among the items.

TABLE 1 CHARACTERISTICS OF RESPONDENTS n=141	
Gender	
Female	76%
Male	24%
Age	
21-22	15%
23-25	70%
Over 25	15%
Did you apply to other universities?	
Yes	66.%
No	34%
How did you obtain information about (this university)?	
Advertisement	55%
Word of Mouth (family/friends)	46%
Visited the University	36%
Current University Standing	
Graduate Student	100%

Table 2
Factors Important in Consideration and Selection of Colleges/Universities

	Colleges/ Universities Considered	University Chosen	Comparison of Consideration Set vs. University Chosen	
			T-statistic	p-value
Living Accommodations/Housing	4.72	4.39	5.412	<.001
Attractive Campus	4.60	4.16	5.622	<.001
Small Class Sizes	4.55	4.76	-3.826	<.001
Student Services	4.24	4.67	-5.887	<.001
Public University	4.23	4.50	-4.089	<.001
Friendly Environment	4.09	3.77	3.655	<.001
Community Involvement	3.91	4.42	-4.591	<.001
Size of the University	3.81	3.81	-.086	.932
Athletic Program	3.67	3.39	2.248	.026
Latest Technology	3.66	4.40	-7.636	<.001
Acceptance Rate	3.65	4.42	-7.085	<.001
Name Recognition	3.57	4.26	-7.938	<.001
Academic Programs	3.55	3.58	-.278	.782
Accredited University	3.35	3.19	1.201	.232
Location	3.09	4.13	-11.037	<.001
Quality Education	3.03	3.04	-.074	.941
Availability of Financial Aid	2.93	2.89	.235	.815
Facilities	2.91	3.69	-6.080	<.001
Faculty/Student Interaction	2.71	4.08	-9.547	<.001
Reputation of University	2.65	2.76	-.897	.371
Faculty/Student Ratio	2.62	3.90	-10.393	<.001
Reputation of Faculty	2.62	2.91	-2.099	.038
Low Cost of Education	2.62	2.95	-2.413	.017
Availability to get a Scholarship	2.49	2.55	-.551	.582

DISCUSSION AND CONCLUSION

The study reveals that while branding initiatives may build awareness and shape the image of a university, personal interaction during campus visits, word-of-mouth from friends/family, and advertising continue to play an important role in disseminating information about colleges/universities to prospective students. This study also reveals that public university graduate students in Germany consider a wide variety of criteria when deciding on which colleges/universities to apply; and that their actual behavior in terms of enrollment may not directly reflect the importance they state they give to certain selection criteria.

While some of the university selection criteria examined appear to remain consistently important over decades of

research, amenities/facilities emerged as an important selection factor in this study and would seem to reflect a 21st century view of the university experience. Our findings suggest that these amenities may be very important selection criteria to the modern graduate student when choosing among higher education alternatives in Germany.

Additionally, using data from 1986, a comprehensive study investigating graduation school choice, particularly attending University of Michigan, revealed that graduate students considered school reputation as more important than social factors. Although we cannot directly compare the results, these factors reveal differing results from the current study indicating that in the past 20-30 years significant changes have occurred in the criteria used by graduate students in selecting a school. Such results point to the importance of continued research in this field.

TABLE 3 FACTOR ANALYSIS OF COLLEGE/UNIVERSITY SELECTION CRITERIA						
	Component					
	1	2	3	4	5	6
Availability of Financial Aid	.162	-.130	.000	-.072	.796	.214
Small Class Sizes	.342	.173	.508	-.201	.065	-.298
Faculty/Student Ratio	.534	.233	.497	-.257	-.059	.051
Public University	.149	.017	.133	-.100	.139	.761
Low Cost of Education	.070	.145	.337	-.139	.632	.016
Athletic Programs	.735	-.077	.194	-.161	-.221	.168
Facilities	.768	.152	.096	.073	.012	.036
Location	.191	-.154	-.073	.720	-.144	.018
Reputation of University	.015	.886	-.013	.062	.082	.022
Scholarships	.676	.078	.089	-.258	.340	-.128
Size of University	.539	.245	.121	.296	.086	.061
Students Services	.680	-.040	.272	.216	.270	-.026
Academic Programs	.116	.421	.140	.556	-.072	-.157
Friendly Environment	.593	.199	-.055	.355	.123	.248
Name Recognition	.025	.875	-.036	.004	-.023	.123
Community Involvement	.740	.178	.023	-.021	.119	.131
Quality Education	.248	.792	-.019	.012	-.026	-.018
Latest Technology	.627	.103	-.041	.193	.009	.065
Accredited University	.184	.624	.377	.004	-.125	.107
Reputation of Faculty	.159	.801	.062	-.026	.068	-.114
Acceptance Rate	-.076	-.030	.786	.133	.212	.308
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.						

In a more recent study on graduate school choice, “academic reputation, accreditation, evening classes, programs, potential degree marketability, part-time programs, completion time, proximity, costs, faculty contact time, location, library size, reputation in the community, parking, and placement reputation” were found to be major factors in the choice of a graduate business school for a sample taken from Ohio schools (Webb, 1993). In this case, some of the factors seem to overlap with the important factors found in the current study, but many also seem to contradict current findings. It is possible that some factors remain stable while other factors have been in flux in the past two decades. It is also possible that there are cultural and/or national differences in choice strategies, but this question is beyond the scope of the current research. The current study, therefore, reveals that future research should con-

tinue to address cultural and generational differences in the graduate school selection process.

It should also be noted that higher education institutions differ considerably by size, program offerings, cost, amenities, and reputation. Not all students will be equally drawn to each type of institution. This study focused on the interests of those students who attend a public institution. The importance of these selection criteria might well have differed if the students surveyed had attended a private institution. Future researchers should expand on this study by exploring the importance of different selection criteria among different student groups and institution types.

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**THE STUDENT STORM SURVEY®:
COLLEGE STUDENTS' THOUGHTS ON THEIR
UNIVERSITY'S RESPONSE TO A NATURAL DISASTER**

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ABSTRACT

Hurricanes Gustav and Ike devastated the region that our University serves. Near the start of the semester, only one of the ten scheduled class days could be completed and administrators asked students and faculty to "continue the learning process" online via Blackboard®, our Electronic Delivery System (EDS). The Student Storm Survey® (SSS) examined student reaction to shifting from "brick-and-mortar" to "online" instruction on EDS as well as other storm-related decisions.

A small majority of the respondents reported that they wanted to work on EDS assignments, though most failed to complete them while the University was closed; most disagreed that such assignments helped them return to school. With respect to the University's decisions about when to close and reopen, overall, students were satisfied with these decisions, but those whose homes suffered the most damage were the least content. Suggestions for improving EDS effectiveness to continue learning, and making more informed decisions about school reopenings after future emergencies are presented.

Out of necessity, universities in the Gulf South Region are forced to prepare for the damage and disruption caused by tropical storm activity. Hurricane Emergency plans focus on public safety and the protection of property in the event of an approaching storm (Nicholls State University, 2008). However, efforts can be made to minimize the dis-

ruption of the academic workings of the institution and facilitate the students return to campus life.

Still, hurricanes are very disruptive events. There are a number of studies documenting the effects of hurricanes on the psychological wellbeing of the general populace. For example, Kelly et al. (2010) analyzed how exposure

to Hurricane Katrina contributed to negative parenting practices. Weems et al. (2007) suggested that “public policy” differences influenced how Hurricane Katrina evacuees experienced the storm and its’ aftermath (e.g. their symptoms of posttraumatic stress disorder). Phillips and Phillips (2008) used Hurricane Katrina as a “learning opportunity” to generate exercises for their college management classes. The current study concerns the effects of “University policy” on college students, and what occurred at Nicholls State University when students experienced two hurricanes within two weeks. Students were asked about the University’s policies to ensure that learning would continue on the internet while classes were cancelled; as well as its decisions’ about when to close and reopen.

On September 1st, 2008 Hurricane Gustav made landfall dangerously close to our small rural University in south Louisiana forcing the University to cancel eight class days after the start of the Fall 2008 semester. The University was damaged and surrounding parishes (counties) were declared Federal Disaster Areas. Over seventeen calendar days (including weekends and a holiday), the school lost seven class days due to Gustav, reopened, and a day later was forced to cancel night classes and then close for another full class day due to Hurricane Ike. Before the storms, the University instituted its Emergency Preparedness Plan, and asked faculty and students to perform a number of activities including continuing the academic process via web-based instruction. The current study was an attempt to examine student response to this unprecedented sequence of events.

The Student Storm Survey© (SSS) explored student reaction to the University’s Emergency Plan, in particular the University’s expectations for continued learning while it remained closed; Other aspects of the plan (i.e. the adequacy of the time it remained closed) are also addressed.

The SSS gauges student views of the Emergency Plan’s effectiveness, what the University did right/wrong, and how students would suggest that it be modified for future hurricanes. A variety of descriptive statistics are reported and data examined for patterns based upon demographics. It is hoped that feedback from this instrument can improve the University’s (and other institution’s) responses to future storm emergencies. What follows provides a brief description of the University to provide context for the Student Storm Survey©.

The University

The current research was conducted at a comprehensive, regional institution serving a southern state. It is located approximately 60 miles away from the nearest major ur-

ban area. In addition to baccalaureate degrees, the university offers a number of master’s programs and one Specialist degree in School Psychology. At the start of the Fall 2008 semester, there were 6926 undergraduate and graduate students (2593 men and 4933 women) (Nicholls State University, 2009).

The Emergency Plan

Hurricane Katrina devastated New Orleans and much of south Louisiana in 2005. Nicholls’ experience with Katrina led to its plan for “continued learning following an extreme emergency.”

The plan (set forth in the Policy and Procedure Manual of Nicholls State University) presents Student Responsibilities as:

**CONTINUED LEARNING
FOLLOWING AN EXTREME EMERGENCY**

In order to make continued learning possible following an extreme emergency, students are responsible for:

- reading regular emergency notifications on the NSU website;
- knowing how to use and access Blackboard© (or University designated electronic delivery system);
- being familiar with emergency guidelines;
- evacuating textbooks and other course materials;
- knowing their Blackboard (or designated system) student login and password;
- contacting faculty regarding their intentions for completing the course” (Nicholls State University, 2008).

Corresponding faculty responsibilities are listed in the Manual, as well.

At the time, the University’s plan relied heavily on student/professor use of Blackboard©. Blackboard© (and competitors such as Moodle©) are advertised as a technology that: “improves every aspect of education . . . keeping students informed, involved and collaborating together” (Blackboard, 2008). Blackboard© and other electronic delivery systems (EDS) provide a website where professors can post assignments, course materials, communicate with students, and even test on-line.

METHOD

Participants

A total of 91 undergraduates registered for either a sophomore-level Developmental Psychology course, or a sophomore-level Social Psychology course volunteered to complete the survey. Of 65 students in Developmental Psychology, 60 returned their surveys, of 36 in Social Psychology, 31 students returned their surveys. Students received extra credit for completing the survey.

Students ranged in age from 18 to 35, one female participant did not indicate her age. The mean age of the remaining 20 male (22%) and 70 female (78%) participants in the sample was 21.6 years (SD = 12.8). Participants included 62 Caucasian Americans (72.1%), 18 African Americans (22.9%), 3 Asian Americans (3.5%), 1 Native American (1.2%) and 2 individuals (2.3%) of mixed ethnicity, 5 did not indicate ethnicity. A total of 77 participants (84.6%) were single, 11 (12.1%) were married, 1 (1.1%) was divorced and 2 (2.2%) were cohabiting. In addition, 75 (82.4%) had no children, while 15 (17.6%) had one or more children, 1 individual did not respond to this item.

There were 11 seniors (12.1%), 26 juniors (28.6%), 48 sophomores (52.7%) and 6 freshmen (6.6%). Participants had an average GPA of 3.14 (SD = .52), 8 had no/did not furnish a GPA. Participants reported 21 different major areas of study, the most common (49 students or 54.4%) was nursing.

In all, 7 (7.7%) of the students were employed full-time, 44 (48.4%) were employed part-time, 40 (44.0%) were unemployed and 4 (4.4%) reported they had lost their jobs due to the hurricanes.

A total of 14 respondents (15.4%) lived on-campus with a roommate, 1 (1.1%) lived on-campus with a spouse; 2 (2.2%) lived off-campus alone, 13 (14.3%) lived off-campus with a roommate, 19 (20.9%) lived off-campus with a spouse/significant other, and 42 (46.2%) lived off-campus with their parents.

Materials

All respondents completed *The Student Storm Survey©* between September 22nd and October 6th 2008, about three to five weeks after Gustav landfall and one to three weeks after Ike. The SSS contained demographic questions, items relevant to the students’ use of web-based instruction while Nicholls was closed and items concerning the length of school closures. A calendar with storm related events affecting the University (e.g. days of landfall,

days the school closed/reopened) was embedded in the SSS to help students with chronology.

The SSS utilized fill-in-the blank, multiple-choice, and Likert-type items. Most SSS items contained parallel items for each storm; the survey had an item about Hurricane Gustav, followed closely by the same item about Hurricane Ike.

Procedure

Surveys were distributed in class. Verbal instructions emphasized survey data might aid future students. Students were asked to complete the survey at home and return it as soon as possible. The vast majority (73.6%) completed the SSS from September 22nd through September 24th, though surveys were accepted until October 6th.

RESULTS AND DISCUSSION

An alpha level of .05 was maintained for all statistical tests. Since a number of students failed to complete all the SSS items, sample sizes will be reported for each analysis. Unless otherwise noted, SSS Likert-type items ranged from 1 = “strongly disagree” to 10 = “strongly agree”. Data are organized into two sections. In the first, items concerning continued learning while the University was closed are displayed; in the second, items relevant to the length of closure and related issues are presented.

Continued Learning while the University was Closed.

The Student Storm Survey© attempted to explore student opinions regarding the utility of University’s designated EDS in the aftermath of Hurricanes Gustav and Ike. Many of the remaining items treat Gustav and Ike as a single “event” since both resulted in emergency school closures: The following SSS items seem most germane: “Posting new assignments for my classes on Blackboard© while Nicholls was closed helped me prepare to return to school” (EDS-Assignments-Helped-Return); “While Nicholls was closed I wanted to work on my Blackboard© course assignments” (Wanted-EDS-Work); “While Nicholls was closed I was able to complete most of the Blackboard© assignments professors added to make up for missed classes” (Completed-Most-EDS-Work); and finally, “After Nicholls closed I checked the Blackboard© website for new assignments on the following days”, days were aggregated into a summary statistic (Total-Days-Checked-EDS).

When the “Total-Days-Checked-EDS” variable was computed, the total contained all storm closure dates from 08/29/08 through 09/14/08 (including a holiday and weekends), plus the dates of 09/10/08 and 09/11/08 when

the University briefly reopened; therefore, “Total-Days-Checked-EDS” ranged from 0-17 days. Data for the EDS items are presented as Table 1.

Students’ opinions of using EDS to continue learning after the emergencies are disappointing. The majority of students “disagreed” with the notions that EDS assignments helped them to return to Nicholls, or that they could complete most EDS assignments. The average number of times they checked EDS assignments was about once every other day, but 24 students (26.37%) looked at the EDS 3 times or less in 17 days, or 1.24 times per week.

One student’s comments provided an explanation for why they did not check the EDS more frequently: “How could I check Blackboard© when I didn’t have power, much less the Internet” (Anonymous Developmental Psychology Student, September, 22, 2008); her comment is echoed by certain survey items; for example, students indicated that on average, they were without electricity for over seven days ($M = 7.83$, $SD = 4.70$, $n = 88$) and that some remained without power (or had limited generator power) for as many as 20 days. Data indicate that the typical student was without Internet access for over nine days ($M = 9.54$, $SD = 8.02$, $n = 89$). Some remained without for 31 days. For comparison, cell phone service was reportedly down only about a day and a half on average ($M = 1.61$, $SD = 2.64$, $n = 88$).

It should be noted that some of the same students who reported being without internet access for weeks indicated that they checked the Nicholls EDS within days after Gustav *while they were without internet service!* It is possible that some checked at a friend’s house, at public hot-spots, via internet-enabled cell phones, or relief-organization sponsored kiosks set up for storm victims.

To investigate internet access and student satisfaction with the EDS further, a Spearman’s rho was computed between the: “EDS assignments helped me return to school” and the number of days “without internet service” items. The correlation was significant ($\rho = -3.46$, $p > .001$, $n =$

89). The longer the student reported they were without internet access, the less they “agreed” that EDS assignments helped them return to school. You cannot surf the web on cut telephone/internet cables or when wireless does not function.

“The Total-Days-Checked-EDS” variable aggregates the times a student logged-on to Blackboard© over seventeen days. Figure 1 presents a graph of the data partialled out each day from 08/29/08 (when the University closed for Gustav) to 09/14/08 (the day before the University reopened after Ike).

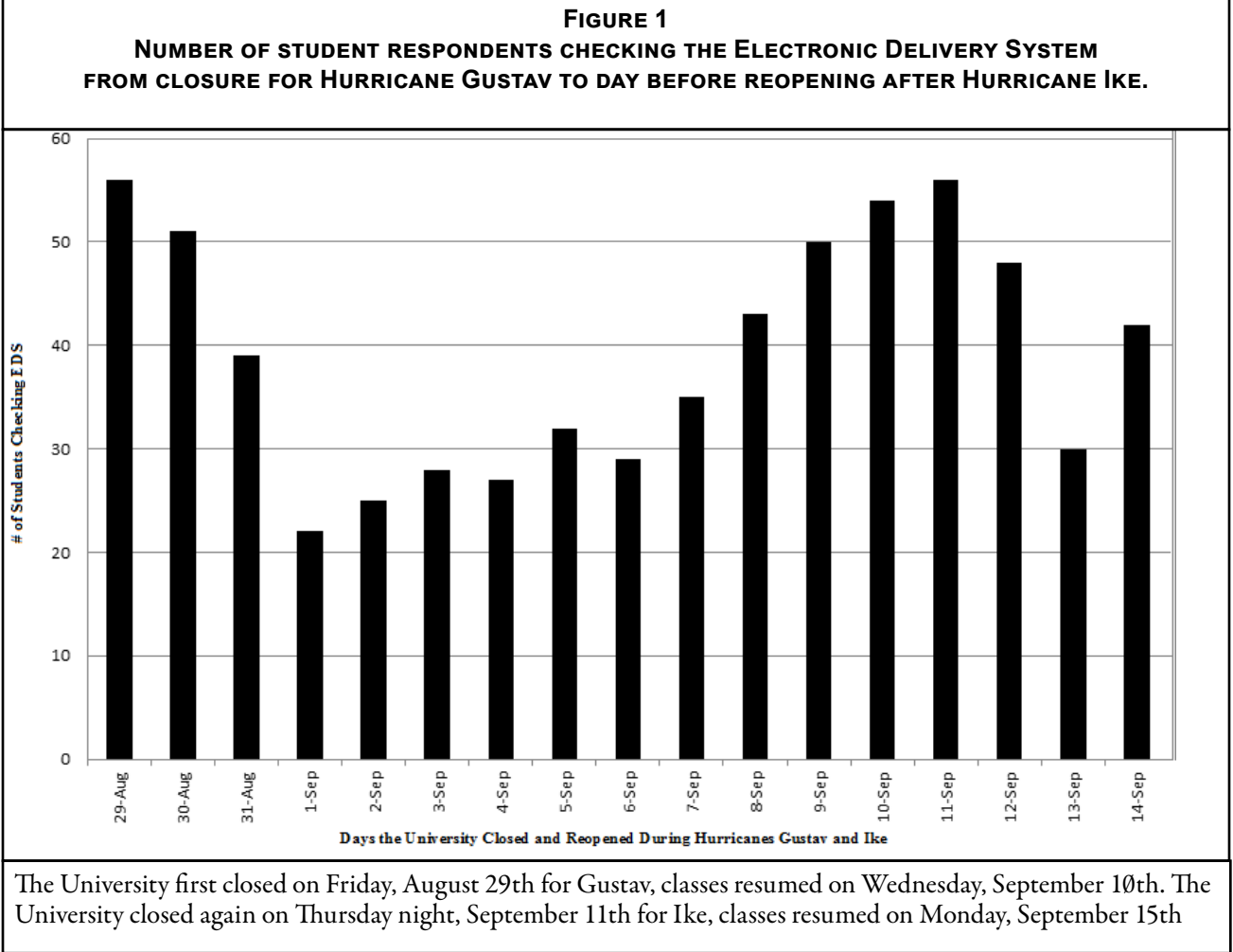
The graph clearly shows dips in EDS access on the days of Hurricane Gustav’s landfall (September 1st, 2008) and Hurricane Ike’s landfall (September 13th 2008). There is also a “scalloped” pattern present after Gustav (a large dip followed by a general increase in reported EDS checks each day thereafter), until “checks” dropped sharply again for Ike.

At first the current authors thought this “scallop” was entirely due to the day-by-day recovery of the local infrastructure. As more of the local internet reconnected, more students had access to the EDS.

No doubt infrastructure recovery accounts for part of this trend; but upon reflection, the current authors would suggest a “Skinnerian” (Ferster & Skinner, 1957) modification to the infrastructure explanation. The students’ response set may (in part) reflect a “fixed interval” reinforcement schedule. It is likely that the last thing most students wanted to think about after Gustav was school, they were too busy attending to their friends and loved-ones to as they put it “deal” with it; but as the “necessity” (“pay-off” somehow doesn’t fit) of school reopening approached, the response of re-engaging with school via the EDS became more pressing and therefore, more frequent (more student “checks”).

Administrators and faculty should remember this when planning for future hurricanes; sometimes academicians forget that students actually have lives.

TABLE 1 DESCRIPTIVE STATISTICS OF STUDENTS’ RATINGS OF NICHOLLS’ ELECTRONIC DELIVERY SYSTEM DURING THE STORMS				
Question	Mean	Standard Deviation	Median	Mode
Posted EDS assignments helped me return ^a (n=91)	3.69	3.10	2.00	1
Wanted to work on EDS Assignments ^a (n=90)	5.37	3.62	5.00	1
Completed most EDS Assignments ^a (n=91)	3.34	2.97	2.00	1
Total days checked EDS for Assignments ^b (n=91)	7.33	4.85	7.00	3
^a where 1 = “Strongly disagree” and 10 = “Strongly agree” ^b potential range for this item is 0 – 17 days including 2 days reopened after Hurricane Gustav.				



Speaking of academicians, we need to mention another vital determinant of students’ continued learning via EDS in emergencies, namely: CONTENT. Based upon informal conversations with our colleagues we would suggest that the main way faculty chose to continue the academic process after Gustav was an e-mail to: “read chapters 4-6 in your text”. Whether or not that is appropriate and effective is a topic for later discussion.

To their credit, the majority of students (a slight majority) reported that they wanted to work on their EDS assignments while school was closed (Wanted-EDS-Work $M = 5.37$). To explore the relationship between wanting to complete the work and actually completing it, Table 2 presents the Spearman’s rho correlations between the variables presented in the previous table.

Not surprisingly the correlation between wanting to work on the EDS assignments (Wanted-EDS-Work) is significantly correlated with the number of times students checked the EDS (Total-Days-Checked-EDS). The more a student self-reported that they wanted to work on the as-

signments the more they checked the EDS. The correlation between wanting to work on EDS (Wanted-EDS-Work) and completing most of the work (Completed-Most-EDS-Work) was even stronger. The more they wanted to work on the assignments the more they completed them.

The most striking correlation was between completed most assignments (Completed-Most-EDS-Work) and feeling that the Blackboard© assignments helped them prepare to return to school (EDS-Assignments-Helped-Return). Recall that when rating agreement with the item: “Posting new assignments for my classes on Blackboard© while Nicholls was closed helped me prepare to return to school” the modal response was “strongly disagree” (36 of 91 students or ~40%); however, the more a particular student completed of their EDS assignments, the more likely they were to indicate that the assignments helped them return to school ($\rho = .729$, $p < .0001$, $n = 91$).

TABLE 2 SPEARMAN’S CORRELATIONS BETWEEN ELECTRONIC DELIVERY SYSTEM VARIABLES				
Question	Posted EDS Assignments helped me return	Wanted to work on EDS assignments	Completed most EDS assignments	Total days checked EDS for assignments
Posted EDS assignments helped me return	--	.413***	.729***	.430***
Wanted to work on EDS Assignments	--	--	.348**	.227*
Completed most EDS Assignments	--	--	--	.387***
Total days checked EDS for Assignments	--	--	--	--
* = p <.05, ** = p<.01, *** = p<.001 (n=91)				

Did completing more assignments convince students the assignments were more valuable? Were those students already convinced of the assignments’ value more likely to complete their assignments than students who thought the work of little value? Or, is the EDS-Assignments-Helped-Return x Completed-Most-EDS-Work correlation a function of a third intervening variable. The current data set makes deciding among these alternatives problematic.

The University’s Closure and Reopening.

The most direct measure of student opinions concerning the University’s response to the storms was the following general item(s): “Overall, I am happy with how Nicholls reacted to Gustav” (Overall-Gustav) and the parallel item for Ike: “Overall, I am happy with how Nicholls reacted to Ike” (Overall-Ike). A related item was: “Nicholls closed long enough to allow me time to recover and return to school after Gustav” (Long-Enough-Gustav), and the parallel item “Nicholls closed long enough to allow me time to recover and return to school after Ike” (Long-Enough-Ike). Data for these items are presented as Table 3.

The majority of students agreed with the statement that Nicholls reacted well to Hurricane Gustav (Overall-Gustav) and the parallel statement about Hurricane Ike (Overall-Ike). Similarly, more students agreed that Nicholls remained closed long enough for Gustav (Long-Enough-Gustav) and for Ike (Long-Enough-Ike) than disagreed; however, students agreed less strongly that the Gustav closure was long enough (Long-Enough-Gustav *Mdn* = 8) than that the Ike closure was long enough (Long-Enough-Ike *Mdn* = 9). Thus, student satisfaction with length of the Gustav closure (seven class days, twelve calendar days) was less than satisfaction with the length of Ike closure (one session of night classes plus one entire class day and a weekend, about four calendar days). A Wilcoxon Signed Ranks test of the data indicated that the difference was significant *z* = -3.10, *p* <.002, *n*=91.

One hypothesis to explain this apparent difference is that Gustav made landfall much closer to Nicholls, caused much more damage, and affected more students/locals than Ike. Therefore, Gustav was a “greater threat” than Ike and students felt the time provided was less adequate even though the time off was about three times that given for Ike.

TABLE 3 DESCRIPTIVE STATISTICS OF STUDENTS’ RATINGS OF NICHOLLS’ REACTION TO STORMS AND LENGTH OF CLOSURE ^a				
Question	Mean	Standard Deviation	Median	Mode
Overall happy with Nicholls’ reaction to Gustav (n=90)	7.43	2.09	8.00	8
Overall happy with Nicholls’ reaction to Ike (n=90)	7.32	2.59	8.00	10
Nicholls closed long enough for Gustav (n=90)	6.79	3.20	8.00	10
Nicholls closed long enough for Ike (n=90)	7.92	2.68	9.00	10
^a where 1 = “Strongly disagree” and 10 = “Strongly agree”				

To test this hypothesis, two other SSS items: “My home received significant damage from Gustav” (*M* = 4.26, *SD* = 2.93, *n* =90) and its parallel item for “Ike” (*M* = 2.23, *SD* = 2.27, *n* =90) were analyzed. A Wilcoxon Signed Ranks test of the items indicated that students reported significantly more home damage from Gustav (*Mdn* = 3.5) than from Ike (*Mdn* = 1.0), *z* = -5.67, *p* <.001, *n* = 90. Test results support the notion that the “Long-enough-Gustav” “Long-enough-Ike” difference indeed may be due to the “greater threat” that Hurricane Gustav posed.

When the “My home received significant damage...” items were explored further, another issue was apparent. A Spearman’s *rho* correlation was computed between the “Long-enough-Gustav” and the “My home received significant damage from Gustav” (Home-damage-Gustav) items. The correlation was nonsignificant (*rho* = -1.95, *p*>.05, *n* = 90); however, the Spearman’s *rho* between: “My home received significant damage from Ike” (Home-damage-Ike) and its corresponding “Long-enough-Ike” item was significant (*rho* = -3.42, *p*<.001, *n* = 90).

Students with more home damage due to Ike felt the University should have stayed closed longer than a little more than three calendar days; but this effect was not apparent for the Gustav closure of twelve calendar days. The additional days for Gustav may have provided students who suffered property loss time to better recover; the time off for Ike might not have been sufficient. An alternative explanation might lie in “bereavement overload;” Hurricane Ike occurred less than two weeks after Gustav. The effects of Ike might have been exacerbated by Gustav.

The patterns in the “Long-enough...” and “Home-damage...” data indicate how complex decisions to reopen after a disaster can be. When deciding to reopen administrators should consider damages on both a community-level as well as an individual-level, recognizing that some students may have suffered much more than others (e.g. the substantial number of students whose homes were devastated by hurricanes twice in two weeks). Perhaps there should be greater attention paid to these students after a disaster.

CONCLUSIONS

It is easy to conclude that in the face of a hurricane the educative process cannot resume until things get entirely back to normal. The current authors would suggest such reasoning is tantamount to learned helplessness and just as ineffective. The Student Storm Survey© suggests that a substantial number of students will not want to “deal” with school until it reopens; but a substantial number do! EDS instructional techniques will have to be designed to engage both those students wanting to continue instruction via the internet and engage those who do not.

While we cannot offer much in the way of specific advice regarding when a university should close and reopen, we can say surveys of student opinion should not be the sole (or even the primary) determinant. We can however, offer the following suggestion to administrators based upon survey data: Administrators should not reopen before the university community is ready, nor fail to reopen when it is. Make the decision after weighing community-level as well as individual-level factors. Be fair to all, but make allowances for students who may have suffered more than others; these are not easy tasks, especially while trying to respect academic integrity.

Make students aware of the resources available to them and their families. Nicholls distributed supplies shortly after the storms, but some students reported they could not attend class because they had to wait in a line to apply for government disaster aid. It would be a good idea to make applications for government disaster assistance available on campus as well as knowledgeable people to answer questions about the same. Make students aware of opportunities to volunteer to help others in their community, and where on campus they can receive counseling if necessary.

Finally, don’t forget that faculty members may have suffered losses as well. Treat them with the respect that you expect in return; the success or failure of your efforts will largely depend upon their good works.

To shift focus now to what faculty members can do, the current authors would like to return to the subject of counseling again. Most educators are not psychological counselors, so we are ethically bound to direct troubled students to trained counseling professionals. We can however, definitely tell them that nothing, not even academics is as important as their well-being and the well-being of their loved ones.

Immediately after the storms, some of our students lost their jobs; many others had to quit school to help their families. Weems et al. (2007) identified symptoms of Posttraumatic Stress Disorder (PTSD) in Katrina evacuees. Some of our students’ experiences rivaled those of Katrina evacuees, and were traumatized by their experience. Unfortunately, as a direct result, several tried to commit suicide. As faculty, we should let our students know that our institution is also a “community” where caring people will work with them to stay in school and (if necessary) help to put their lives back together. A recent article in a local newspaper reminded us of this fact by citing the State’s mental health needs after Hurricane Katrina and noting that: “. . . college and university suicide prevention and intervention programs are often the first line of defense for those battling mental illness” (Buskey, 2013, July 26).

We can offer the following additional suggestions to faculty based upon survey data and general observations:

1. The time to communicate what you want students to do during an emergency is BEFORE the emergency. You can't give students the perfect assignment after the school has closed and the internet is down. Perhaps initial assignments should be a printed in your syllabus at the start of the semester, clearly labeled "do not attempt until school closes due to an emergency".
2. The Nicholls State Continued Learning Policy advises faculty to be "flexible" in the assignments given while the University is closed. We take this to mean that work should not "overwhelm" already stressed students; faculty should realize that some students may be incapable of completing the assignments; partial-credit anyone?
3. The Policy also suggests being "imaginative" in fashioning assignments. Not everyone is imaginative, so we have a simple solution called "ancillary materials". A book-rep near you is just dying to tell you about them. Any faculty member who avails themselves of these mostly free (they come with the book) materials will improve their teaching. Any faculty member who lives in a coastal area who does not avail themselves of these materials (or create their own) is one major hurricane away from shortchanging their students during an extended school closure.
4. The current authors would suggest that faculty make assignments that can be accomplished easily without reliable electricity. If a student has to stay on-line to read web-pages hour after hour draining power from their laptop, or print out an assignment to complete it (duh! No power), it probably won't get done. Follow the *GOGOLF* (Get-On-Get-Off-Line-Fast) principle for communicating assignments. Pick and choose assignments using the *GOGOLF* principle.
5. Finally, a number of students went online to the EDS trying to continue learning only to find that their instructor had nothing there. Post something immediately, even if it's just a message telling them to be safe and some simple assignments easily accomplished. As far as you can, let students know when you expect additional assignments to be posted during the closure if

you don't have them ready, if you do, post them immediately. Reassure students that you will be flexible when classes begin again, and that they will be able to finish the work necessary to complete the course. Take into account their circumstances, lighten-up, and where possible, don't leave them twisting in the wind.

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DRIVING FORCES WHICH ENTHUSE THE CONTINUOUS GROWTH OF CHINESE STUDENTS IN U.S. COLLEGES: A PRELIMINARY STUDY ON CHINESE STUDENTS' MOTIVES

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ABSTRACT

This study examines the presence of Chinese students in U.S. universities and colleges. Due to the large number of Chinese students in the United States this research attempts to explore the reasons why so many Chinese students choose to study abroad and why the United States is their preferred destination. This population is a vital component of university life at many colleges and a much needed source of financial revenue. A total of 200 students completed a questionnaire yielding 87 usable responses. Specifically, the motivation behind Chinese students' reasons for attending college in the U.S is explored. The results indicate that Chinese students are seeking education with a world view and opt to break from the Chinese system of learning. Although choosing to study in the U.S. is an academic endeavor the reasons behind that choice is not solely for academics. This article seeks to offer academicians and university administrators a deeper understanding of the motivation of these Chinese students and contribute to the knowledge area extant on this population.

INTRODUCTION

The number of international students worldwide rose from a mere 0.8 million in 1975 to 4.1 million in 2010, according to the International Organization for Economic Co-operation and Development. (Sood, 2012). The U.S. is the leading destination for international students, and attracted 764,495 international students during the 2011-12 school year, which is about 3.7% of the total number students enrolled in the U.S. and spent about US\$21.81 billion in 2011/12. United States Immigration and Customs Enforcement informs that their Student Exchange and Visitor Program (SEVP) in July 2013 already had 894,826 registered international students. By any measure, international education makes a significant contribution to the U.S. economy. In New York State for example, the portion of this contribution was about US\$2.6 billion, which accounts for over 10% of the national total contribution of international students. The economic impacts are not limited to the spending of these foreign students, but also their families residing in the host country (NAFSA, 2012). International students can also boost a country's higher education standards, with universities doing their best to attract the world's best and brightest in their chosen fields of specialization (Sood, 2012).

Conversely, countries that see their students study abroad normally hope that these students return home and contribute to their home economy.

The U.S. has maintained its position as the leading destination worldwide, however its share of international students has been shrinking, attracting 16.6% in 2010 (Marmolejo, 2012). Undoubtedly, China is too big to ignore as the second largest economy in the world; the country is also the heavyweight with regards to outbound international student mobility. China has emerged as the leading source of international students for the U.S. schools in the recent years. Recent statistics from the U.S. Immigration and Customs Enforcement (USICE) show that the number of active Chinese students on F-1 or M-1 visas at Student and Exchange Visitor Approved schools at the end of 2011/2012 academic year increased by about 23% to nearly 194,029 versus the previous year (Choudaha and Chang, 2012). Educators and researchers seek to understand this phenomenon and identify better ways to serve this population. This research, through an empirical setting intends to explore the motives of Chinese students who choose to study in the U.S. in order to provide insights and direction for both educators and university administrators.

REVIEW OF LITERATURE

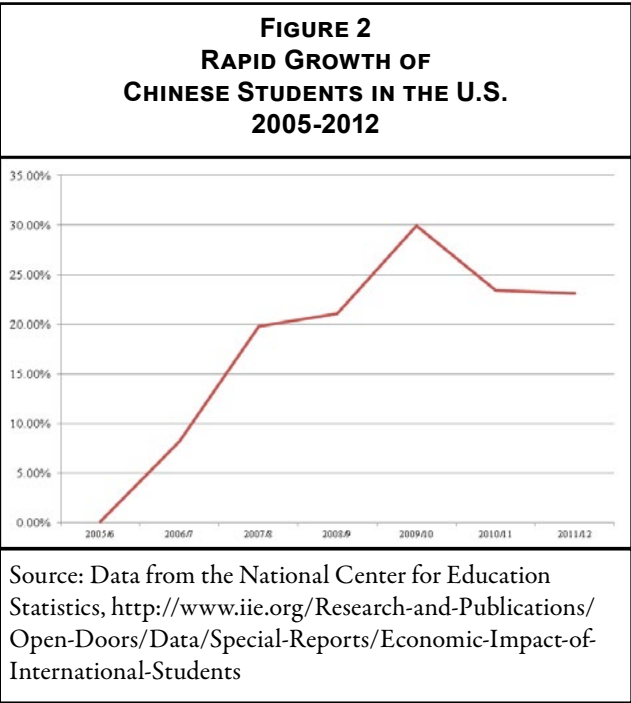
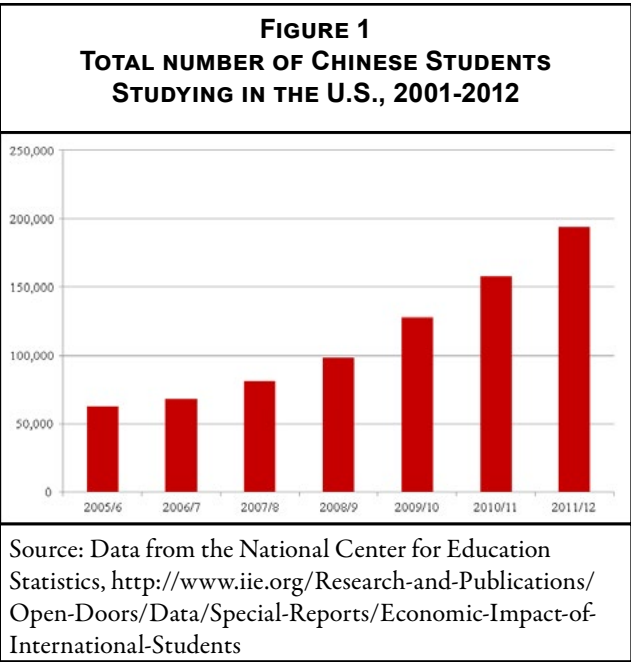
Education has been a high priority in China for thousands of years. On average, the country’s high-net-worth individuals spend 170,000 yuan (about \$27,000), to educate each of their children. This was the third-highest area of their spending, after travel and luxury goods.

American businesses, management know-how, and capital have been flowing to China for the past 30 years, but it is education that reverses the tide. Studies show that an overwhelming majority of China’s wealthiest want to send their children to foreign universities and the United States is their first choice. Ninety percent of the country’s richest people have plans to send their children abroad to study, according to independent research by China’s Industrial Bank Co. and the Hurun Report. Their Chinese Luxury Consumer White Paper (2012) reports that 9 of out of every 10 Chinese with assets of more than 100 million yuan (\$16 million) plan to send their children abroad, while 85% of those with at least \$1 million said they would send their children overseas for education.

The first graduate from China may well have been Yung Wing, who had graduated from Yale in 1850. By 1880 there were 70 Japanese and 108 Chinese students studying in American universities, compared with a dozen Japanese and almost no Chinese in European universities (*The Chinese-American Museum of Chicago*, 1880). Noticeably, since then China has become the largest source of international student source for the U.S. schools in the recent years. Figure 1 shows the growth of the total number of students from China.

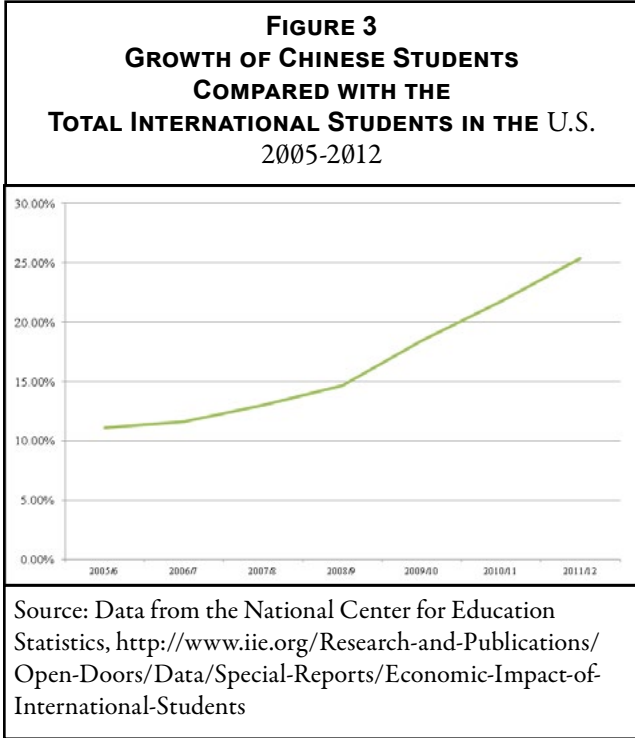
For Chinese students in the 2010 to 2011 term, the top field of study was business/management, with engineering following close behind. The benefits of studying abroad are felt both by individuals and entire nations. For this reason educators and researchers are interested in the motives and reasons that encourage Chinese students to study in the U.S. For thousands of years, education has been placed as a top priority by Chinese families and with China’s economic reforms during the past decade leading a growth in wealth and a shrinking family size (only one child per family) sending children to international universities has become less burdensome. Currently, more than 92% of these students have their studies funded privately, according to CGG’s report (Wang, 2012). Meanwhile, many U.S. universities are facing an increasingly tough financial situation with a shortage of domestic students, a decrease in corporate support, and declines in government subsidies. In such a situation, Chinese students with money to spend may fill that financial gap (Joseph, 2012).

Besides economic well being, many Chinese students decide to study abroad because they believe there is a better



quality education in foreign countries. (Yan, 2012; Albrecht, Malagueno, Holland & Sanders, 2012).

The growth in Chinese students may also reflect a confluence of factors. First, more Chinese citizens are completing college and thus eligible to apply to graduate school. Second, many U.S. schools are recruiting more aggressively overseas and marketing their programs to a wider talent pool. Word of mouth then fuels the trend. Once some students attend a program, they recommend it to friends

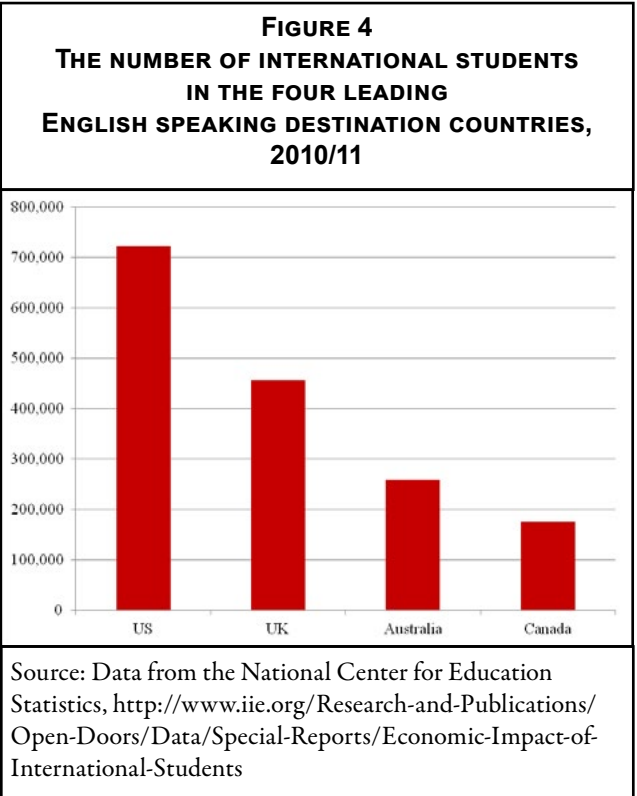


back home. Many schools have set up their gateway offices in China, i.e. Columbia University and Ohio State University. The latter saw the applications from China to the university’s Fisher College of Business jump 30% between the 2010 and 2011 academic years. Meanwhile, new specialized master’s programs appeal to students, particularly those from China, eager to delve deeper into a single subject and gain a credential to compete with the growing population of educated young adults, without taking much time out of the workforce. As previously stated, perhaps the most incredible figure is that some 90% of China’s mega-rich want their children to study in the US, according to one recent study, not to speak of the top leaders’ children, including the Party Chief, Xi, whose daughter studies at Harvard University. (Korn, 2012; Ark et al 2008; Casiano, 2011; Foadi, 2006; Lee, 2012; and Fischer, 2012).

When looking into the Chinese applicants’ backgrounds, many schools find that Chinese applicants possess some outstanding characteristics. First, they are China’s best students who are probably aware that if they attend universities in China, they may not able to go to the best universities in the world. For example, the recent QS ranking listed just 7 universities out of the top 100 that were situated within China and Hong Kong. Another recently published list from the Times of London has just 3 in the top 100. Even the best universities have been hit by scandals. Second, their parents are rich, and it may make more sense to aim for a U.S. colleges, rather than letting

their children go through the highly competitive transition from high school to preferred universities in China where the road from secondary to post-secondary education involves the dreaded hurdle of the strenuous national university entrance examination. Unlike U.S. institutions that value candidates who present themselves as unique, their Chinese counterparts want students who excel on entrance exams that require years of rote learning and possess a strong grasp of math and science. Some critics say China’s state-run education system—promoted as the hallmark of Communist meritocracy—are being overrun by bribery and cronyism. Such corruption has broadened the gulf between the privileged and non-privileged classes (Levin, 2012). Third, these young individuals are ambitious and many want to go to Ivy League schools, a symbol for those parents who raise their children successfully. Fourth, they desire to learn more about critical thinking, and very importantly, they want to be exposed to things aside from just test taking. (Mellman & Hilburn, 2012; Henze & Zhu, 2012; Taylor, 2012; and Zhang, 2012).

The four leading English speaking destination countries—the U.S., the UK, Australia, and Canada—all witnessed sizable growth from 2002 to 2011. Figure 4 shows the total number of international students in these four countries in the 2010/11 school year. It is a surprise that the UK with about a fifth of the U.S. population, had 455,600 international students compared to the 723,277



international students studying in the U.S. that same school year.

Despite the continued growth of international enrollments in U.S. schools, the country's share of globally mobile students has been steadily declining over the last decade, from the peak of 27% in 2002, to 20% in 2009, and a continued decline to 16.6% in 2010. Meanwhile, foreign students contributed more than \$21.8 billion to the U.S. economy in the 2011/12 academic year, through living and educational expenses (NAFSA, 2012). Although the majority goes to the United States, other English-speaking countries such as Britain, Canada and Australia attract most of the rest. This has caused some concern for those in the U.S. who worry that the country might be losing its appeal among international students. Chinese students comprise 25.38% of all international students newly enrolled in American schools, or about one in every hundred American college students, which means that they and their families contribute more than \$4 billion to the American economy, according to the U.S. Department of Commerce (Mong, 2012). How can the U.S. maintain its leadership position in this globally competitive market? Do American educators understand Chinese students?

METHODOLOGY

With the focal questions in mind, this research focused on Chinese students' motives for studying in the U.S. A survey was developed to investigate the issues related to the subject of this study, Chinese students' motives to leave their home country and study in the U.S. The following variables were based on literature reviews.

Variable Selection

The following variables serve as motives that affect Chinese students in their decision making for studying abroad from the literature review.

- 1. Gain a new perspective on my own country.
- 2. Can attend a better school overseas, but not able to attend the schools I want due to Gaokao.
- 3. It is easy to be admitted by a foreign school.
- 4. It is also costly if I study in my home country.
- 5. My friends have gone abroad, so I would.
- 6. I want to be away from my country.
- 7. I must study abroad because my parents' wish.
- 8. There are more fields of studies offered by foreign schools.

- 9. Political easiness in programs abroad.
- 10. Better living conditions, housing, eating, and environmental, i.e. clean air, etc.
- 11. The educational system is better overseas.

Hypothesis, test of hypothesis, and sampling

The hypotheses for this research are to find if there are any significant differences in the Chinese students' motives for choosing to study in the U.S.

- H₁ There is no significant difference for Chinese students to gain a new perspective between China and the U.S.
- H₂ There is no significant difference for Chinese students to attend a better school either in China or in the U.S.
- H₃ There is no significant difference for Chinese students to be admitted by a foreign school either in China or in the U.S.
- H₄ There is no significant difference for Chinese students to attend schools either in China or in the U.S. as far as cost is concerned.
- H₅ There is no significant difference for Chinese students to attend school either in China or in the U.S. because their friends have gone.
- H₆ There is no significant difference for Chinese students to attend school either in China or in the U.S. as there is no difference between the two countries.
- H₇ There is no significant difference for Chinese students for where their parents wish them to study.
- H₈ There is no significant difference for Chinese students to find more fields of studies either in China or in the U.S.
- H₉ There is no significant difference for Chinese students to find political easiness in programs either in China or in the U.S.
- H₁₀ There is no significant difference for Chinese students living conditions, housing, eating, and environmental, i.e. clean air, etc. either in China or in the U.S.
- H₁₁ There is no significant difference for Chinese students between the educational systems in China and the U.S.

Alternatively, there are significant differences in each of these hypotheses.

Due to the nature of this empirical study, the questionnaires were distributed to Chinese students in a large university campus in the Northeast of the United States

for a convenient sampling. The respondents were asked to evaluate the selected variables in a five point Likert scale, with 5=most important, 4=important, 3=neutral, 2=not important, and 1=least important.

One sample Student's *t*-test. A *t*-test is any statistical hypothesis test in which the test statistic follows a Student's *t* distribution if the null hypothesis is supported. It is most commonly applied when the test statistic would follow a normal distribution if the value of a scaling term in the test statistic were known. When the scaling term is unknown and is replaced by an estimate based on the data, the test statistic (under certain conditions) follows a Student's *t* distribution. The estimate value for testing hypotheses in this study is 3 which are either important or not important. The one sample t-test requires that the dependent variable follow a normal distribution. When the number of subjects in the experimental group is 30 or more, the central limit theorem shows a normal distribution can be assumed. If the number of subjects is less than 30, the researcher should plot the results and examine whether they appear to follow a normal distribution. If the distribution appears to be non-normal, and/or if the number of test cases is significantly less than 30, then a one sample median test, which does not require a normal distribution, should be used to test the hypothesis. [Hamburg, 1977; Conover, 1980; Davis and Cosenza, 1985; SPSSX, 2002; Wikipedia, 2012]. Five percent of the *t*-tests one tailed probability level was selected to signify the differences between preferences.

RESULTS

Over 200 respondents were surveyed at a college campus in the eastern U.S., with 87 completed responded for analyses, representing 43.5 percent of the total surveyed. Table 1 presents the general background information of the respondents.

It is noticeable that roughly a third of the Chinese who took the survey has a family income over US\$75K a year equivalent, and most of the students were born after 1978 when one child per family policy was initiated (Source: <http://healthland.time.com/2013/01/10/little-emperors/>). Over 97 percent of the respondents took College entrance exams and stood at the top 50 percent, while currently, over 50 percent of Chinese high school graduates are able to go to college in China. In comparison, in the U.S. over 70 percent of the high school graduates go to college (Source:<http://www.bls.gov/news.release/hsgsec.nr0.htm>;Source:<http://zhidao.baidu.com/question/57277001.html>). In other words, these respondents had alternatives for their college selections: either stay in China or go to the U.S.

Table 2 presents the test results of One-Sample *t*-Test, with means, *t* values, degrees of freedom, and significance of the tests.

MANAGERIAL IMPLICATIONS AND RECOMMENDATIONS

The test results of One-Sample *t*-Test reject eight null hypotheses: *Gain a new perspective on my own country, It is easy to be admitted by a foreign school, It is also cost-*

TABLE 1 BACKGROUNDS OF THE RESPONDENTS			
Variables		Groups	Valid %
1.	Age	<18	9.4
		18-35	90.6
2.	Gender	Male	58
		Female	42
3.	Family annual income	<\$30k	21.4
		\$30-50k	27.4
		\$50-75k	17.9
		>\$75k	33.3
4.	Education	College	83.5
		Graduate	16.5
5.	Marital status	Married	8.2
		Single	91.8
6.	Sources of financial supports	Parent	57.6
		Own saving	3.5
		Obtained scholarship/GA	18.8
		Combination of various sources	20
7.	Number years studied in the U.S.	<1 year	17.6
		1 year	9.4
		1-2 years	8.2
		>2 years	64.7
8.	How many schools did you apply to?	1 school	9.5
		2 schools	3.6
		3 schools	15.5
		>3 schools	71.4
9.	If you took Gaokao, you stood at	top ¼	45.5
		top ½	51.5
		lower ½	3

ly if I study in my home country, My friends have gone abroad, so I would, I want to be away from my country, I must study abroad because my parents’ wish, Political easiness in programs abroad, Better living conditions, housing, eating, and environmental, i.e. clean air, etc. In other words, these eight variables present that they are either more important or less important in Chinese students’ motivations to come to the U.S.

In One variable- *Gain a new perspective on my own country*, the respondents indicate that it is significantly more important as a motive. This would recommend that researchers should focus on this motive, and further explore the issues related to it.

With regard to the other seven variables: *It is easy to be admitted by a foreign school, It is also costly if I study in my home country, My friends have gone abroad, so I would, I want to be away from my country, I must study*

abroad because my parents’ wish, Political easiness in programs abroad, Better living conditions, housing, eating, and environmental, i.e. clean air, etc., the respondents express that these are less important. The insignificances of these variables should advise researchers that these may not be their primary research focus on Chinese students’ motives for studying in the U.S.

The test results of One-Sample *t*-Test accept three null hypotheses: *Can attend a better school overseas, but not able to attend the schools I want due to Gaokao; There are more fields of studies offered by foreign schools; The educational system is better overseas*. In other words, the acceptances of these hypotheses recommend that the Chinese students do not view these issues differently.

What comes through from this search is that non-academic reasons are primarily driving Chinese students to study in the U.S. Cultural aspects and a desire to gain a non-Chinese world perspective emerge as primary motives for study in the U.S. This may be due to the understanding and realization by the Chinese of a global economy and the need to understand the ‘internationalization’ of business. These attitudes could also be considered to be consistent with attitudes of all affluent middle classes who have moved beyond daily sustenance and have achieved long term security.

LIMITATIONS AND FUTURE RESEARCH

While this study is limited by sample size and confined to Chinese students studying at one university in the north-east United States it does provide direction and insight for future researchers to build upon. The sample size can be accepted as a good representation of the motives of Chinese students who wish to study in the U.S. as the north-east united States has a large number of Chinese students (as opposed to a state with very few Chinese students where such a sample would be non-representative).

However, due to the limited sample size and issues addressed in this study, we believe that there are additional issues which need to be explored. Academic research on the motives of international student populations (4% of the total US college students), particularly Chinese students (about 1% of the total US college students) in the U.S. is limited. While much has been written in terms of their numbers and how universities are accommodating international students there is limited primary research on the understanding of ‘why’ Chinese students choose to study in the U.S. It is imperative in servicing this population that universities first understand the motivation behind studying in the U.S. as only then can colleges and universities hope to build programs to cater to the long term facilitation of this population.

Future empirical studies would better serve the advancement of knowledge in this area by increasing the sample size across numerous colleges, and broadening the scope by examining any differences in motivation in terms of major, public versus private colleges, and geographic location within the U.S. A further recommendation would be to look at any major differences between undergraduate and graduate Chinese students as well as differences between graduate Chinese who completed bachelor degrees in the U.S. and those who didn’t.

The growing number of the Chinese students in the U.S. has raised some challenging questions for both educators and researchers. In the future, researchers will need to know more about: what are the expectations of these Chinese students when they land in the U.S.? Are their expectations met during their studies or after their studies? If their expectations are not met, what educators in the U.S. schools need to do? A demographic of this size cannot be ignored and needs to be understood.

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BOOK REVIEW:
MAKING THE CASE FOR LEADERSHIP:
PROFILES OF CHIEF ADVANCEMENT OFFICERS IN HIGHER EDUCATION

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ABSTRACT

Making the Case for Leadership offers high profile insiders' assessments of higher education advancement--and the characteristics necessary for success. The authors employ a leadership competency approach to identify the knowledge, skills, and attributes of 10 high performers from "advancement shops" at prestigious US public and private universities and colleges. The research findings are presented in two summary tables and limitations discussed. The link between development's operating environment, characterized by multiple audiences and governance processes shared with faculty and diverse stakeholders/resource providers, and development success traits is suggested. Croteau and Smith's assumption that the terms "Advancement" and "Development" are synonymous raises a key issue for the emerging higher education marketing research stream. Future research into how university organizational design is moving "marketing" and "enrollment management" (sales) out of the "advancement shop" and into senior management is justified.

(Croteau, Jon D. and Smith, Zachary A. (2012). *Making the Case for Leadership: Profiles of Chief Advancement Officers in Higher Education*. Lanham, Maryland and Plymouth, UK: Rowman and Littlefield.)

INTRODUCTION

Making the Case for Leadership offers high profile insiders' assessments of higher education advancement--and the characteristics necessary for success--through the voices of 10 chief advancement/development officers at prestigious US public and private universities and colleges. Croteau and Smith use a leadership competency approach to identify the knowledge, skills, abilities, and attributes of high performers in advancement. The authors conducted ten in-depth interviews with advancement leaders rated by their peers as successful. Fourteen leadership competencies emerged, along with observations suggesting how the organizational design of advancement within the university structure impacts the required leadership traits and fundraising/marketing strategy implementation.

**DEFINING THE TERM:
ADVANCEMENT**

Croteau and Smith describe the growth of Advancement as a profession in higher education and acknowledge the blurring of the terms "Advancement," "Development," "Marketing," "Communications" and "External Relations."

Toward the end of the [20th] century....Colleges and universities realized a coordinated effort was most effective at generating and increasing private support, and as a result, the functions of alumni relations, development, marketing and communications, government and community relations and public relations, and public affairs departments began merging into one *advancement* unit. (p. 14).

THE RESEARCH

The authors’ operational definition of advancement—“the majority of institutional external relations functions, *the most important of which is development*” (p. 17)--defines the focus of the interviews. The diffuse organizational responsibility for “advancement” is repeatedly emphasized: “shared governance and faculty tenure are the underpinnings of a distinctive culture that drives its operational processes. Few industries have these unique horizontal organizational characteristics” (p. 20). This discussion is pivotal. Of the 10 respondents, seven were chief *development* officers, with no university marketing responsibility. Of the three chief *advancement* officers, one only has responsibility for “public relations.” Hence, the study indirectly raises interesting questions for the marketing of higher education: who are the marketing leaders in higher education, where does marketing reside in the organizational structure in the 21st century and how does the role of marketing vary by sector? To what degree have all sectors, including small privates, public comprehensives and for-profit providers, brought “marketing” or “enrollment management” to the senior executive level?

Making the Case for Leadership reports in detail a rich data set generated by experts in the field. The sample selection and the exploratory nature of the research limit its contribution. No theory or model shaped the interviews; the interview questions were general self assessments. The sampling frame represents a narrow sector of higher education: large public institutions and well known private institutions with strong reputations, where it may be that strategic marketing is less critical to institutional success (Table 1).

The advancement leaders interviewed were selected in three phases: first, by peer ratings of professional success, then convenience sampling and finally, self-selection, yielding a non-representative sample. Of the 10 advancement officers interviewed, seven were female. However, Croteau and Smith acknowledge that males hold the majority of top advancement positions in the population sampled.

Advancement Leadership Competencies

The self report data yielded 14 themes, with six competencies receiving slightly more emphasis (Table 2). The authors’ future research will test the competencies and their relative importance with a large-scale survey.

This research complements a growing stream of advancement practitioner (or practitioner turned consultant) analysis of the advancement environment in higher education (Haytko, Burris and Smith (2008), Hayes (2009),

TABLE 1 INSTITUTIONS REPRESENTED IN RESEARCH SAMPLE	
Employing Respondents	
at time of interview	in the past
Broad Institute (MIT and Harvard)	Claremont McKenna College
Columbia University	Cornell University
Dartmouth College	University of Chicago
Indiana University	Dartmouth College
Johns Hopkins	Harvard
Purdue University	The Ohio State University
Smith College	Northwestern University
Stanford University	University of California (Berkley, Los Angeles, Riverside)
University of Michigan	University of Michigan,
University of Washington	University of Pennsylvania
	University of Tennessee

Lauer (2010), McGee (2010), McMillen (2010), Nagel and McGee (2012). Like many of those self-report analyses, *Making the Case for Leadership* would benefit from incorporating theoretical frameworks drawn from general leadership studies, leadership research in business settings or from source fields like sociology or psychology to structure the interview questions and/or analysis. Linking leadership competencies to well-known leadership scales could support the rationale for the research and validate the “themes” uncovered by Crouteau and Smith. For example, one leader interviewed noted the frequency with which the Meyers-Briggs indicator INTJ (introversion, intuition, thinking, judgment) appears in advancement staff members. (Pelzel, p. 151). Future research might also evaluate the changing role--and organizational structure--of the marketing and communications function in other higher education sectors in the US and globally. Among the well established, highly visible institutions sampled, the marketing/communications function may play a lesser role than in smaller public comprehensives and private institutions.

Call for higher education marketing research

The authors and the interviewees call for more professional training, academic degree programs and scholarship in advancement:

TABLE 2 LEADERSHIP COMPETENCIES IN ADVANCEMENT	
Strongly supported themes	Additional themes
Intellectual Curiosity	Ability to Think Critically
Effective Communication Skills	Tenacity
Thoughtfulness about Organizational Culture	Focus on Excellence
Belief that Talent Management is a High Priority	Ability to Motivate, Inspire and Influence
Strong Interpersonal Skills	Ability to Tolerate Ambiguity
Self-Awareness	Passion for the Organizational Mission
	Ability to Think Strategically
	Ability to Accept Responsibility and Lead by Example

Advancement organizations have experienced tremendous change over the past few decades as they increase in complexity, sophistication and importance to their institutions” (Feagin, p. 75).

In the next five to ten years, all of our institutions will need to dedicate more resources to presenting the strength and distinctions of our institutions.... we must invest more in thinking about what shapes the reputation of our institution....bring in the very best people ...to manage the communications function....there is going to be quite a change in the kind of professional needed to do our work in the next five to ten years (Pelzel, p. 156).

SUMMARY

Making the Case for Leadership offers intriguing insights into the complex university advancement environment, characterized by multiple audiences and governance processes shared not only with faculty, but also with diverse stakeholders and resource providers. The nuggets of “practical, actionable” advice the study offers practitioners also raise substantive marketing research questions. Drawing on research in areas such as services marketing, boundary spanner roles and influence strategies to develop more robust, theory-based research in marketing leadership in higher education will deepen and extend understanding in the areas of the field that Croteau and Smith charted in *Making the Case for Leadership*.

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INTERNATIONAL STUDENT-ATHLETES AND STRESS: IMPLICATIONS FOR AMERICAN UNIVERSITIES' ADMINISTRATORS

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ABSTRACT

This article explores the difficulties that international student-athletes encounter while attending an institution of higher education in the U.S. Most international student-athletes are able to quickly adapt to their new environment; however, there are some that struggle to integrate themselves into the new culture and the new team environment. Many stressors are the same for international students and international student-athletes; however, student-athletes face additional stressors related to maintaining a scholarship and on-court / on-field performance, as well as team dynamics and their relationship with their coach or coaching staff. Student athlete stressors and coping mechanisms are explored and analyzed in the grounded theory study. Implications for college and university administrators, as well as coaches are also explored.

INTRODUCTION

Demand for premium higher education, coupled with globalization and an expanding middle class in developing countries have increased the number of international students that pursue degrees in the United States. The total number of international students increased by 8% in 2008/2009, while new enrollments increased by 16% during the same period. This represents the largest percentage increase in new enrollments since 1980. The total number of international students who are pursuing higher education degrees in the United States totaled 671,616 during the 2008-2009 academic year; while the previous year the total was 623,805; this represents a 7.7% increase. The highest number of international students comes from countries like India (15.4%), China (14.5%), South Korea (11.2%), and Canada (4.4%) (Open Doors 2009).

International students provide several benefits to U.S. universities' classrooms. According to Lee and Rice (2007, p. 1), these benefits include increased diversity in college campuses that generate different opinions and points of view within the classroom, and an increased awareness of different cultures that domestic students gain from international students. Furthermore, international students also bring knowledge and expertise in technical areas such as engineering, technology, and sciences.

International students have received much attention from academic researchers throughout the years; however, the fact that a good portion of international students are also athletes has been largely ignored. According to the

National Collegiate Athletic Association (NCAA), during the year 2008-2009, 8.4% of all student-athletes in all divisions (divisions I, II, and III) of NCAA sanctioned sports are international student-athletes (NCAA Ethnicity Report, 2010, p. 6). The organization reports that there were 420,000 student-athletes participating in 23 sports at 1,000 member institutions during the 2008-2009 academic year. If the proportion of international student-athletes is 8.4%, then there are approximately 35,000 international student-athletes competing in NCAA sanctioned sports. This number does not include other collegiate athletic associations such as the NAIA (National Association of Intercollegiate Athletics), which also sanctions intercollegiate sports and which undoubtedly has international student-athletes in its ranks. These athletes represent a significant portion of the U.S. international student population who may be exposed to increased levels of stress related to culture shock and adaptation issues, university life, academic requirements, as well as on-court/on-field performance requirements.

LITERATURE REVIEW

Would-be international students trying to pursue an education in the U.S. may encounter difficulties before they even set foot on American soil. More stringent immigration regulations make it harder to obtain student visas. In addition to the immigration difficulties that international students may encounter, social factors also affect these individuals ability to succeed as international students. Moreover, additional stress is placed on students when

trying to determine basic academic procedures, living arrangements, and forging meaningful social relationships. International students have to contend with daunting cultural adjustments, yet the educational institutions places the responsibility of adapting to the new environment solely on the students, instead of at least attempting to accommodate some of their needs (Lee & Rice).

Culture Shock

The use of the term “culture shock” is widespread amongst international students. Culture shock is nothing more than an attempt to describe the difficulties that individuals encounter when making the transition from one culture (their own, or one to which they are familiar) to a different one. This transition is characterized by feelings of disorientation and loss that are related to the cultural differences to which the individual is exposed. Additionally, this transition may precipitate social isolation that can be caused by actual or perceived racial discrimination, lack of English proficiency, as well as conflict with the host culture, which the individual may not be able to grasp (McLachlan & Justice, 2009).

As previously stated, all new learning situations bring about feelings of anxiety, fear, loss, disorientation, and stress. For an international student, the need to adopt the host culture as a new way of life may just be a defense mechanism, as well as a strategy of adaptation and an attempt to social belonging. Nonetheless, this process of adaptation is not an easy one because it “demands a process of resocialization, involving the unlearning of old social patterns and their substitution by new ways of thinking and behaving” (Brown & Brown, p. 345, 2009). Conflict arises in an individual when the realization surfaces that there are dissimilarities in cultural values from an individual’s home country and the host country. This conflict is often characterized by high levels of uncertainty and normlessness which will prevail until the individual makes proper adjustments (Brown & Brown).

Stress and Anxiety

Stress among international students

Different studies on stress have demonstrated that stress is felt on an individual basis rather than along the lines of specific cultures. What a specific individual may perceive as a peril, another one may see as a challenge to seize on. The extent to which a student experiences stress depends on a combination of different factors such as language proficiency, level of familiarity with the academic system, and the length of time that the student has spent in the new environment (Sovic, 2008). Some issues that

may be factors in the level of stress international students experience include weather differences, food differences, academic and social differences, feelings of homesickness, loneliness, pressure to perform due to academic and/or financial pressures, and reluctance to seek help (McLachlan & Justice). Other factors may be less evident, such as gender and age. International students can have similar causes of stress as local students; however, international students are more likely to encounter situations in which these stressors are compounded, making it more difficult to deal with such situations (Sovic).

Some international students have reported perception of racism as a cause of stress. Such instances include on-campus interactions with faculty and administrators, as well as the denial of financial assistance, scholarships, and/or job opportunities. Some off-campus interactions in which students experienced discrimination include daily living experiences such as living accommodations and shopping. It is not possible to accurately know how much of those reports corresponds to actual discrimination caused by language barriers, foreign status, or race, and how much is just a case of misperception. However, it is clear that students from Asia, India, Latin America, and the Middle East report considerable more discrimination instances than those from European countries, Canada or New Zealand (Lee & Rice).

According to Abbassi and Stacks, feelings of anxiety amongst international students are universal, meaning that all international students will experience these feelings; however, they also suggest that the intensity of these feelings varies across cultures and gender (2007).

Stress among student-athletes

According to Kimball and Freysinger (2003), student-athletes participation in collegiate sports can be distressing; however, “it was also a source of positive stress and a means of coping, [...] student-athletes constantly negotiate the distress their sport participation engenders” (p. 134). The stress that student-athletes experience is of both a positive (eustress) and negative (distress) nature, and this stress is constantly changing according to different situations and over time. Additionally, the capacity that student-athletes who effectively deal with eustress or distress rely on resources that are available to them and to the abilities that they have developed to deal with stress (Kimball & Freysinger).

Distress in student-athletes can manifest itself due to highly demanding situations that act in conjunction with an individual’s limited emotional abilities to effectively cope with those situations. Although stress may not be acute in every single sport, it is nonetheless present in all

sports and experienced by nearly all athletes. For athletes, the ability to effectively cope with stress becomes imperative to achieve a high level of performance (Anshel, Williams, & Williams, 2000).

Aside from academic requirements, student-athletes are required to perform at a high level on the field or court. However, high performance level is not the only stressor that these student-athletes face every time they compete; they constantly face the following stressors:

- a physical or mental error;
- a reprimand from the coach;
- cheating by an opponent;
- an opponent’s performance success;
- pain or discomfort;
- an undesirable, or “bad”, call by the official; and
- environmental condition (Anshell, et.al., p. 758).

Previous studies have reflected that student-athletes’ happiness is significantly correlated to internal personality factors such as self-esteem, lack of distress, and mindfulness. In this instance, mindfulness indicates that student-athletes favor the ability to make adjustments to ever-changing situations, which in turn leads to an increase in happiness levels that is specific to different aspects of life. This is significant, given that these internal personality factors are more significant to a student-athlete’s level of happiness than external factors such as scholarships and playing time (Denny & Steiner, 2009).

Coping With Stress

Student-athletes need to cope with stress in two different dimensions. These two different dimensions have to do with the type of stress the individual is facing: stress that is faced while performing in the individual’s sport, and the stress that is related to academic and social life.

Successfully coping with stress while on the field or court requires a different mindset than coping with stress in any other setting. While performing on the field or court the individual needs to engage in “preplanned cognitive and motor responses” that will allow him/her to perform at a high level even after having experienced a coach’s reprimand, a bad call, or a successful attack by the individual’s opponent (Anshel, et. al. p. 758); whereas coping with other forms of stress will consist of defining the problem or issue that is causing distress, generating alternative solutions, evaluating the alternatives, choosing the best suited alternative, and implementing the alternative as a solution to the problem. In the context of being in the field of play

or the court, the athlete may not have the time to engage in such process (Anshel et. al.).

The problems that international student-athletes face are not new, and these students have found ways in which they can cope with the stresses that they face. Some of these coping mechanisms consist of creating a surrogate family; become close to faculty and finding mentors; make friends fast; make more American friends; develop confidence, independence and openness; and using university services (McLachlan & Justice). Although these coping strategies work well, not all international students are willing to try them. Moreover, international students report that making American friends is a difficult, slow, and frustrating process while also expressing a desire to have more and deeper interactions American students (McLachlan & Justice).

METHODOLOGY

Setting and Sample

The study took place at a public university located in Northeast Louisiana. The name of the student-athletes and the sport in which they compete are not disclosed in order to protect their privacy. The institution in which the study took place has 272 student-athletes, of which 23 are international student-athletes. The research process consisted of interviews with 12 out of a total of 15 international student-athletes who are business majors. The decision to use business majors was made in order to have a more homogeneous sample that would be exposed to similar levels of academic stress. The sample was made up of 2 freshmen, 2 sophomores, 4 juniors, 2 seniors, and 2 graduate students from a non-NCAA sanctioned sport.

Sample descriptive statistics

The sample consists of 7 male athletes and 5 female athletes; additionally, 9 different countries were represented in the sample, and they were distributed as follows: 3 students came from the Czech Republic, 2 from the Republic of South Africa, and 1 each from Israel, Brazil, Jamaica, Holland, France, Sweden and Australia. Four of the students in the sample are native English speakers; moreover, four students who are not native English speakers indicated that they were proficient in English when they arrived to the campus. The sample also indicated that four students had been to the U.S. prior to their arrival to the University, while the rest had never been to the U.S. before. The sports represented in the sample include: tennis (4), water ski (3), golf (3), and track and field (2). All of the students joined their teams as freshmen except for one

student who transferred to the institution from a junior college.

Procedure

Prior to starting the research study, the researcher submitted a proposal for the study and informed consent form to the university’s Institutional Review Board (IRB). The researcher did not provide any financial incentive to the participants of the study, and the student-athletes’ participation in the research study was strictly voluntary. Student-athletes also had the option to terminate their participation in the study at any time they wished. The interviews were conducted in the researcher’s office and at different places located on or off campus. The interviews were somewhat informal and the questions that were asked often spurred conversations that were unique to the interviewee; but significant to the research study. The interviews lasted 30 to 90 minutes.

Data Collection and Analysis

The data yielded from the interview process was codified and analyzed in order to develop hypotheses and theory as prescribed by the grounded theory method of research, which is an alternative to formal theory development that reduces ethnocentrism. Grounded theory is “derived from the study of the phenomenon it represents” (Strauss & Corbin, 1990, p 23). Through the use of this method, theory is generated, expanded, and corroborated through the collection and analysis of data that corresponds to the phenomenon of interest. In grounded theory, the researcher does not start with a theory in mind in order to prove it, but, starts with a particular area of research and whatever is relevant to that area of research is then used to develop theory (Strauss & Corbin). Sampling must continue to be conducted until the “point of theoretical saturation” is reached. This saturation point means that sampling will continue to be performed until:

- 1. No new or relevant data seem to emerge regarding a category;
- 2. the category development is dense, insofar as all of the paradigm elements are accounted for, along with variation and process;
- 3. the relationships between categories are well established and validated (Strauss & Corbin).

FINDINGS

The findings illustrate some of the difficulties that international student-athletes encounter when arriving to the campus as well as experiences gathered throughout their academic careers. A summary table of findings is located in Appendix A.

The Journey Begins:
Coming to School in the United States

Initial impressions of their new surroundings

The great majority of subjects reported feeling out of place immediately, or that the place was not very nice or just plain different. Some felt unhappy and lonely, while others noticed that people in the area were “nice and caring”. Students noted that it was hard to be at school a week early when the campus is empty because they do not have anybody with whom they can spend time, and most if not all university services are closed.

Characterizing the transition to
their new surroundings

In terms of transitioning to their new housing accommodations, campus, and community a minority of students reported hard and slow transitions; it is important to note that the students that claimed to have slow and hard transitions had a hard time integrating themselves into their respective athletic teams, and having difficulties trying to communicate with others. The great majority of those interviewed felt that the transition was easy and almost pain free.

Preconceived ideas about the area/school

When asked about their preconceptions about the school and the area, most students responded that they did not know what to expect. However a few had been in different areas of the United States before, and thought that life in Louisiana would be similar. A couple of students were told (while in their home countries) that the area had very conservative and religious views and that they should keep their views and opinions to themselves.

Researching the area or school

Most students did not heavily research the area or the institution prior to coming to school. Most of them did come to the school because other athletes that they knew from their own country were already there. These students relied on personal connections over any other fac-

tors such as school or athletic program reputation, size, location, or team success level. Additionally, the majority of the students (7 out of the 12 interviewed) had other options from which to choose.

Moreover, most students who had additional offers chose this institution because of the type of offer presented to them, while others chose the school because of the warmer climate that is characteristic to the area. A small number of students picked the school because of the description of the team and practice facilities that coaches provided to them.

Adapting to the New Environment

Biggest obstacles

The main obstacle that students encountered when they got to the school was the lack of adequate public transportation and the need for a car; hence the need to rely on teammates who already had a car. Another big obstacle for them was the cafeteria food, which most characterized as “not good”, most found that it was difficult to perform at a high level while undergoing abrupt changes in diet. Additionally, students reported time management as being a challenge, since they have to be able to successfully juggle academic as well as athletic requirements.

Developing friendships

Students reported that it is very easy to make friends on campus. All students reported having more international friends than American friends; however, these friends tend to be international student-athletes as well. It appears that international student-athletes do not share meaningful relationships with international students who are not athletes. A few international student-athletes did mention that they had a diverse group of friends; however, most of those friends were athletes.

Factors that help students to adapt

All students reported that the team environment helped them adapt to their new environment. Some also mentioned the coach as being an important factor, as well as having teammates that are from the same country. A few students mentioned that friends who are enrolled at other schools also helped them to adapt to their new surroundings. Additionally, some of them thought school academics were less demanding than they had anticipated.

Negative and Positive Feeling Ideation

Negative feelings experienced while transitioning

Most students reported feeling homesick; moreover, they reported that feelings of homesickness and loneliness were more prevalent while being alone in their dorm room, or while doing school work. Some of them reported feeling overwhelmed over the amount of schoolwork they had to do at one time. They did specify, however, that the feeling of being overwhelmed was not something they would consider to be stressful. Yet, a couple of students reported second-guessing their decision to come to the United States to pursue a college degree when feeling overwhelmed with schoolwork, or when having to take general education classes. They mentioned experiencing an “identity crisis” and thinking to themselves “who am I, and what am I doing here?” Other students voiced their displeasure with the fact that they had to take general education classes as opposed to just classes that are related to their field of study.

Coping with negative feelings

When asked what they did to cope with negative feelings, most students replied that they would spend time with friends and/or teammates, do fun things to distract themselves, or talk to parents on the phone or internet. A small minority did mention that they would just “tough it out”.

Positive experiences

Students reported competition as their top positive experience. Coupled with competition, winning awards and/or being recognized for their efforts on the field or court was also highly ranked. Others commented on how well they felt when interacting with their friends and/or teammates, as well as traveling around the country and seeing different places.

Experiencing adverse situations

The most common adverse situation reported was experiencing conflict with coaches. Additionally, experiencing conflict with teammates was also a problem for these students. Some students reported that coaches were tough during practices and during competition; this situation caused these students to stop enjoying practices and competition. Some of the interviewees (who were not in the football team) reported thinking that coaches were treating them like “football players”, and felt coaches were not able to adequately discipline, motivate, or offer constructive criticism.

Coping with adverse situations

Students held meetings within the team to resolve conflict between teammates and coaches. They also mentioned that a lot of the time they just ignored those teammates that were a negative force within the team. Some of them asked their parents for advice on how to deal with conflicts with teammates and coaches.

Theory Development

The data collection phase yielded responses that were similar to the findings of the literature review. After coding the responses from the survey participants, several common responses were found that allow the researcher to develop several hypotheses:

1. International student athletes are more likely to successfully adapt to their new environment when they are able to integrate themselves into their respective athletic teams.
2. International student athletes tend to form strong relationships primarily with other international student athletes regardless of whether or not they are part of the same athletic team, or from the same country.
3. Competition and practice help international student athletes cope with the stress of academic life in a foreign country.
4. International student athletes believe that the presence of conflict within their team affects their performance in academic and athletic life.

IMPLICATIONS FOR THE DIFFERENT LEVELS OF THE ORGANIZATION

The first issue that all levels of the university (especially coaches and athletic counselors) need to realize is that, primarily, international student athletes come to the United States to obtain a college education. A small percentage of these athletes join the professional ranks after their university career is over; however, most of these international student athletes' priorities and focus are to obtain their college degree.

College of business and social sciences administrators and faculty

Based on the responses derived from the interviews, it was clear that the university's college of business was doing a good job at satisfying the needs of international student-

athletes. College of business administrators, however, need to be cognizant of the additional stress to which international student athletes are subjected; thus scheduling the classes that these athletes need to take at times when their practices typically take place disrupts the students' ability to fulfill their commitment to their teams.

Faculty need to be flexible in their scheduling of exams or major evaluations so that these students are able to make up major assignments and exams if they missed those due to travelling requirements imposed by their sport. Faculty members should also be cognizant of low levels of academic performance from international student athletes, as this may be a sign of additional stress faced in the students' personal life or a sign of conflict within the students' team. Faculty members also need to be aware that a lot of these student athletes' first language is not English; therefore, offering additional support, explanation of some concepts or words that may not be clear to these students would help these students to be successful in the classroom.

University administration and staff

University administrators need to develop systems and procedures that minimize stress when a new international student arrives on campus. International students in general reported that being on campus a week early is very tough on them because the campus is empty and nothing around campus is open. Moreover, most international student athletes are used to being part of a team. Being on campus alone with no teammates around may exacerbate feelings of loneliness and distress. Coaches need to make sure that they (or a teammate) are available to mentor these students prior to the start of the semester; this would minimize the feelings of stress to which international students athletes are often subjected when they first arrive to their new environment. According to the survey participants, the registration process at this particular university is extremely confusing for them; thus, it is recommended that the athletic teams assign a mentor that could provide guidance to international student athletes through the initial process of registration as well as the other administrative procedures of which they need to take care upon arriving.

Conflict resolution between coaches and team members

International student-athletes would like a clear understanding of what to do and in whom to confide when problems arise with their coaches. International student athletes are typically afraid of bringing to light conflicts with coaches to university administrators due to fear of

retaliation or loss of scholarship support. Due to this fear, athletic counselors should be trained to listen to these athletes when they complain about their coaches or assistant coaches. Having a coordinator that oversees the coaches' performance for the university as a whole may not suffice if the issues are not brought up to the coordinator's attention. Therefore, the counselors could become the point of contact for student athletes to voice their concerns, especially if more than one complaint has been raised against one specific coach or coaching staff. The coordinator can then launch an investigation and can protect student athletes from retaliation. This type of process would better encourage international student athletes to come forward with situations that may have arisen with their coaches or teammates. Furthermore, these counselors should also be able to spot lower levels of academic and athletic performance, as this could be a sign of increased levels of stress. Once lower performance levels are spotted, the athletic counselor can set up a meeting with the athlete in question to determine the cause of the dip in performance. A high level of trust must be first developed between individual athletes and their counselors by ensuring confidentiality in all of their conversations.

Faculty and coaches

Most of the interviewees reported not feeling stressed about the prospects of losing their scholarship due to their academic or athletic performance. Most of the stress these student-athletes felt was self-inflicted because they wanted to make a good first impression. However, not all stress was self-inflicted as some international student athletes mentioned that their coach put excessive pressure on them during competition and practices, making it very difficult for them to perform at a high level. The same group of athletes mentioned that seeing one of their teammates quit the team during practice due to the coach's pressure put additional stress on them. Most of these athletes were in the same team and reported instances of excessive force bordering on abuse, punitive practices to those who complained, and favoritism towards other members of the team exhibited from their coaches. Some of the members of this team also made it clear that they do not want to invite friends from their home countries to play for their team, and firmly believe that there are better schools for whom to play to pursue their college education; thus, by conducting tough practices these coaches are hurting their own athletic programs and making recruiting more difficult for themselves.

Coaches need to be sensitive to the fact that the way in which they conduct their practices has an effect on the athletes' motivation, academic and athletic performance, and in the way the team members will relate to each other.

By engaging in the type of practices that are mentioned above, the team as a whole performs in a poorer manner, team members feel alienated, and may ultimately start to question their decision to pursue their education in the United States.

Most student-athletes reported that when the season for their sport is ongoing, it is very easy to fall behind in their academic work; thus careful planning is a must for them. Most students plan on a weekly basis, a situation that sometimes causes them additional stress. Most international student athletes reported that their coaches were flexible when the athletes' amount of academic work they had to complete increased, but some teams have coaches who are not as experienced managing a team and who may cause these athletes to add increased levels of stress to their daily lives by scheduling practices that are too long during the season, and by not allowing students enough time to take care of their academic work. Once again, sensitivity and empathy on the part of the coaches is important when scheduling practices when the season is ongoing.

STUDY LIMITATIONS

A number of limiting factors may have affected the conclusions reached in this study. The total number of participants ($n = 12$) is not by any means ideal; however, the total number of student-athletes who are business majors is 15; thus, a sample of size 12 would be a good indicator of the total population.

The sports in which most international student-athletes participate are not the main sports in American campuses (basketball, football, and baseball); therefore, the pressure to perform coming from the overall student body and the community as a whole may not be as prevalent. Additionally, a great portion of the student-athletes that participated in the study were either European or from English speaking countries, which are notorious for having highly demanding high school curriculums. A more diverse sample of student-athletes may have yielded very different responses related to adaptation to the English language and American academic requirements.

CONCLUSION

The process of adapting to a new way of life in American campuses for international students is not easy. Coping with language proficiency, a new culture, administrative hurdles, inexperienced or insensitive coaches and/or faculty, a forced change in diet and an empty campus upon arrival are some of the issues that these students immediately encounter. Adding the requirement (whether or not self-imposed) to perform on the field or court does not make the transition any easier.

Stress due to negative feelings or questioning their own decision to come to the United States to pursue a college education is something that the majority of student-athletes experience during the course of their college career. International student-athletes mainly deal with these negative feelings by surrounding themselves with teammates and friends who have experienced or are going through the same situation. These international student-athletes also relieve their stress by immersing themselves in the practice of their respective sports. Sadly, when conflicts arise within the team, with their coaches, or due to increased practice work load, international student-athletes lose an important factor that helps them to relieve some of the stress they feel. Coaches should be aware that most student-athletes find practices to have beneficial cathartic effects, and should be instrumental in helping students to release at least some of their stress during their practice sessions.

The most positive experiences and main adverse situations to which international student-athletes were exposed involved their on-field or court performance, and interacting with teammates and coaches; therefore, coaches should foster a positive team atmosphere, and be sympathetic to their needs.

Administrators should be aware that complex administrative processes also have a negative effect on most, if not all international students. Helping these international students navigate through all of these processes would also help these student-athletes minimize their stress levels.

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APPENDIX A		
SUMMARY OF FINDINGS		
Question	Responses	#
Initial impression of surroundings	Negative impressions	9
	Neutral response (the place is different)	3
	Campus was empty when I arrived	2
	Other	8
Transitioning to new environment	Easy time adapting	9
	Uncomfortable due to different factors but not a hard transition	6
	Hard and slow transition	5
Preconceived ideas about the area/school	No preconceptions. Very little knowledge	12
	Thought it would be like the rest of the U.S.	2
	Other	3
Researching the area/school	Did not research the area	9
	Researched the area	3
Did student have other options?	Yes	7
	No	5
If options were available, why this school?	Because of the offer presented to student	3
	Because of the weather in the area	2
	Because of team environment and facilities	2
	Other	5
Biggest obstacle to adaptation	The need for a car	5
	Interpersonal communication and language	5
	Cafeteria food perceived as “not good”	3
	Other	15
Factors that helped students to adapt	The team	10
	Easy to make friends	5
	The coach	3
	Other	13
Negative feelings experienced while adapting	Loneliness and homesickness	9
	Felt overwhelmed due to having too much to do	4
	Questioning decision to come to the U.S.	4
	Other	6
How did students cope with negative feelings?	Spending time with friends	6
	Talking to parents on the phone or internet	4
	Doing fun things	3
	Tough it out	2
Positive experiences	Competing in their sport	5
	Spending time with friends and teammates	3
	Achieving on the field, course or court	3
	Other	6
Adverse situations experienced	Conflict with coaches	10
	Conflict with teammates	3
	Academic problems	2
	Other	3
Coping with adverse situations	Held meetings with coaches and teammates	4
	Held meetings with teammates	2
	Ignored the sources of conflict	2
	Other	5
Mix of friends of international student athletes	More international friends than American friends	6
	Diverse group of friends, most of whom are athletes	5
	Other	1
*Some categories show more responses than the sample size due to the fact that respondents usually had more than one response to each question.		

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A COMPARISON OF WEB-BASED AND PAPER-BASED COURSE EVALUATIONS

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ABSTRACT

Student evaluations of college teaching have been endorsed and criticized for as long as they have been used as part of important decision-making practices in higher education. With the growth of distance education, the need for alternative approaches for these assessments has increased. We were interested in the extent to which outcomes were comparable across in-class and on-line course evaluations. We conducted a randomized controlled trial across 7 colleges, 25 departments, and 41 instructors at a large urban research university in the southeastern part of the United States. The distribution of ratings across demographic and comparison groups was similar. Response rates were lower for students participating online; however, none of the scale score differences between groups exceeded an effect size .21 and the estimated benefits were large. We discuss the advantages and disadvantages of alternative approaches for evaluating instruction in the context of past, current, and future research and practice.

The practice of using student ratings to evaluate college teaching and studying factors which may affect the responses dates back to the early 1900s and the pioneering work of Remmers (1927, 1928, 1930) and his colleagues (Brandenburg & Remmers, 1927; Remmers & Brandenburg, 1927; Remmers, Martin, & Elliot, 1949). The body of knowledge related to traditional pencil-and-paper student evaluation of teaching (SET) ratings is broad and summaries of it have appeared over the years. For example,

Centra (1993) reviewed what was known using four broad clusters of writing, including:

1. 1927 to 1960 when the work of Remmers, "The Father of Student Evaluation Research" and his colleagues at Purdue University was dominant;
2. 1960s when the use of student evaluations was almost entirely voluntary;

3. 1970s when the focus was on demonstrating the technical adequacy and usefulness of ratings; and,
4. 1980s to the then present day when the research provided continued clarification and amplification of prior findings with syntheses of extant studies as well as new investigations. (p. 49)

Using several articles published in the *American Psychologist* as a base, McKeachie (1997) summarized opinions and evidence related to the number of dimensions of SET ratings that should be used in personnel decisions, the validity of the ratings relative to teaching effectiveness, and the potential for controlling biases if they are evident in the ratings. More recently, Sproule (2000) reviewed methodological concerns related to student evaluations of teaching and Algozzine et al. (2004) summarized what was known about evaluating "...the effectiveness of instruction in postsecondary education and proposed areas for improvements, as well as considerations for future research" (p. 1). The knowledge base here is presented positively by some (cf. d'Apollonia & Abrami, 1997; Gillmore, 1984; Greenwald & Gilmore, 1997; Marsh, 1987; Marsh & Roche, 1997; McKeachie, 1997; Ramsden, 1991; Ruska, 1996; Seldin, 1989, 1998; Shingles, 1977; Trujillo, 1986; Wachtel, 1998) and equivocally or negatively by others (Algozzine, Beattie, Bray, Flowers, Gretes, Mohanty, & Spooner, 2010; Centra, 1979; Damron, 1995; Haskell, 1997a, b, c, d; Mohanty, Gretes, Flowers, Algozzine, & Spooner, 2005, 2006; Young & McCaslin, 2013). Regardless of arguable strengths or weaknesses, based on longevity alone, student ratings of instruction remain "...an unavoidable reality of higher education and the messages communicated...in them often play a role in merit, promotion and tenure decisions" (Vennette, Sellnow, & McIntyre, 2010, p. 102). The constancy and power of this practice is driving new interest in the methods of delivery used to collect course evaluation ratings in both distance education and traditional campus-based courses (cf. Anderson, Brown, & Spaeth, 2006; Anderson, Cain, & Bird, 2005; Avery, Bryant, Mathios, Kang, & Bell, 2006; Cohen, Carbone, Beffa-Negrini, 2001; Crews & Curtis, 2011; Dommeyer, Baum, & Hanna, 2002; Dommeyer, Baum, Hanna, & Chapman, 2004; Donovan, Mader, & Shinsky, 2006; Harrington & Reasons, 2005; Hmielseski & Champagne, 2000; Johnson, 2003; Kanagaretnam, Mathieu, & Thevaranjan, 2003; Kasir, Schroeder, & Holstaad, 2001; Kuhtman, 2004; Layne, DeCristoforo, & McGinty, 1999; Morrison, 2011; Sorenson & Johnson, 2003; Stewart, Waight, Marcella, Norwood, & Ezell, 2004; Vennette, Sellnow, & McIntyre, 2010).

Granello and Wheaton (2004) point out that web-based data collection procedures offer a number of positive features such as "...reduced response time, lower cost, ease of data entry, flexibility of and control over format, advances in technology, recipient acceptance of the format, and the ability to obtain additional response-set information" (p. 388). In the developing world of online technologies, it is no surprise that Internet-based surveys are being considered on campuses across the country as alternatives to traditional pencil-and-paper methods when conducting end-of-course student evaluations of instruction; but, again, the knowledge base is equivocal. For example, while convenience, completeness, efficiency, cost-effectiveness, and student preference are among positive features, concerns related to technology, higher percentage of negative responses, and lower response rates have dampened the ease and speed with which online assessments have been deemed acceptable to faculty and other decision makers (Anderson, Cain, & Bird, 2005; Carini, Hayek, Kuh, Kennedy, Ouimet, 2003; Dommeyer, 2006; Dommeyer, Baum, Chapman, & Hanna, 2002; Donovan, Mader, & Shinsky, 2005; Paolo, Bonaminio, Gibson, Partridge, & Kallail, 2000; Seok, DaCosta, Kinsell, & Tung, 2010; Sorenson & Johnson, 2003; Vennette, Sellnow, & McIntyre, 2010; Watt, Simpson, McKillop, & Nunn, 2002; Winer & Sehgal, 2006).

To address challenges associated with the ongoing implementation of student evaluations of teaching, we explored the use of an online alternative in a campus-wide study. We were interested in the extent to which response rates, ratings, and costs were comparable across in-class and on-line administrations of course evaluations. We used existing structures and practices within our university to complete the study.

METHOD

Participants and Setting

We conducted our study at a large public urban research university enrolling more than 25,000 students in the southeastern region of the United States. Each of the institution's seven colleges (Architecture, Arts & Sciences, Business, Computing & Informatics, Education, Engineering, Health & Human Services) participated.

Our research design sought participation from eight course sections (i.e., group of students taking a course at a particular time of day or night) from each college, including two small ($n < 30$) introductory undergraduate sections, two large ($n \geq 30$) introductory undergraduate sections, two upper-level undergraduate sections ($n > 10$), and two graduate sections ($n > 10$). Deans for each college

presented the opportunity to take part in the pilot study to all eligible faculty in their college and participation was voluntary. From this, prospective participants from sections that met specific criteria (stratified courses) were selected and provided with a description of the project and the opportunity to participate. If any of the selected participants chose not to be included, additional participants were randomly selected from the list of volunteers. Section sizes below 10 were not included as they were considered exceptional and potentially different from other classes. As a result of logistical issues, one college had only seven courses participate and another college had only one course participate resulting in a final sampling plan that included 48 course sections with 774 students randomly assigned to complete the course evaluations on-line and 775 randomly assigned to complete the course evaluations in-class. This blocking (i.e., assigning students to groups within sections of courses) controlled for instructor effects and was an important strength of our design.

We received usable evaluations ($n = 1198$, overall response rate of 77%) from courses taught by 41 instructors in 25 departments representing the following colleges: Architecture (16.2%), Arts & Sciences (22.7%), Business (4.0%), Computing & Informatics (13.9%), Education (14.4%), Engineering (13.9%), and Health & Human Services (14.9%). Of the usable evaluations, seven hundred and thirty-four (61.3%) of the evaluations were completed using the traditional in-class method and 464 (38.7%) were completed using the online administration. The distribution of responses across colleges and type of administration was not statistically significantly different, $X^2(6) = 4.55$, $p > .05$.

Procedure

In-class course evaluations were conducted using instruments distributed and completed during class time in the traditional framework for campus-based courses (i.e., during a session near the end of the semester). Peers selected for the on-line evaluation participated in an electronic administration during a two-week window near the end of the semester.

The greatest challenge in converting to an on-line course evaluation system is the decline in student response rates that institutions often experience during the first year of transition; however, with a centrally-supported, controlled environment in which to administer course evaluations, student response rates generally return in year two to the previous rates (cf. Anderson, Cain, & Bird, 2005; Norris & Conn, 2005; Ravenscroft & Enyeart, 2009). Several additional potential issues requiring attention emerged in our study. To encourage participation, students in the on-line course evaluation group received up to six e-mail

reminders, each containing a link to the evaluation instrument. Once students completed the survey, they did not receive additional reminder e-mails.

Instrumentation. Prior to implementing the study, we obtained current copies of course evaluation instruments from each participating college and department. These were then converted to electronic formats for the online evaluation group via a third-party vendor (*Campus Labs*). While there were a few university-required core evaluation items (e.g., Overall, I learned a lot in this course. Overall, this instructor was effective.), there was no common university-adopted instrument and the number (i.e., 7-27) and content of items varied across the participating departments and colleges; however, for this study, no modifications were made to the items or instruments submitted to the research team.

To reconcile data for subsequent analyses, two members of the research team independently identified common items representative of the following domains across the different evaluation instruments: Course purpose, positive learning environment, varied instructional methods, use of instructional time, material relevance, learning effectiveness, instructional effectiveness, instructor preparedness, instructor availability, grading fairness, grading usefulness, and overall satisfaction. For example, the "course purpose" item (i.e., The course has clearly stated objectives) was item 8 on the College of Architecture instrument, item 6 on the Business Administration Marketing Department instrument, and item 7 on the College of Education instrument. We then compared the overall satisfaction score and the 11 domain scores across web-based and paper-based groups.

Design and Data Analysis

The research design was a randomized controlled trial (RCT) of students assigned to in-class or on-line course evaluation administrations. Half of the students in a section of the a course being offered at a particular time of day or night piloted the on-line course evaluation and the other half completed the traditional in-class course evaluations. By doing this, we controlled for "teacher effects" in that every instructor was rated by students in both the on-line and in-class group. Since students were nested within courses, rating comparisons between the two treatment conditions were completed by using multilevel modeling techniques (Bickel, 2007). In the cases where there were multiple sections for a given course, the sections were combined. An average of 30 students responded per course (minimum = 6, maximum = 109). Data analysis included comparisons of responses rates and ratings obtained using different methods and a prospective analysis of the cost-benefits of using online evaluations. We used

the .05 level of significance; and, calculated effect sizes adjusted for the clustering effects of the nested design (i.e., ES = group differences divided by the model-estimated pooled within group standard deviation from HLM analyses) and confidence intervals (CI) to document the statistical and practical levels of obtained differences (cf. Cohen, 1988; Peugh, 2010; Roberts & Monaco, 2006; Thompson, 2006).

We believe that the research design selected (i.e., randomly assigning participants within courses to each group rather than selecting entire courses to complete either the student course evaluation on-line or in-class) was more rigorous and provided us with more powerful results than reported in prior research. Another design concern was the lack of a common course evaluation instrument. In attempting to reconcile the data for analysis, it was obvious that the content of student course evaluations from each college varied a great deal and was designed to measure very different aspects of teaching and learning. Thus, we had to derive common themes reflective of 12 domains of interest rather than use responses to the same items for comparisons of ratings across methods. We do not believe that this greatly restricted our findings given the large number of individual responses that contributed to our comparisons.

RESULTS

Response Rates

A total of 1,549 students were randomly assigned within the participating courses to complete their course evaluations in-class using the paper-based process or to complete their course evaluations through the on-line system. ($n_{\text{In-class}} = 775, n_{\text{On-line}} = 774$). A total of 1,171 students ($n_{\text{In-class}} = 714, n_{\text{On-line}} = 457$) provided sufficient information to be included in the analysis. At least five students responded in 39 different courses; however, one course was dropped from the analysis as only two students responded and a small number of students were dropped from the analyses ($n = 25$) because of incomplete data. The response rate was very high for the in-class condition (92.13%) and lower for the on-line condition (59.04%).

A number of faculty participants cited confusion with the selection of the on-line participants (e.g., students were not sure if they received the e-mails). This may have had an effect on the response rates in the study, as faculty noted the possibility of confused students accidentally completing the in-class course evaluations, even though they were in the group designated to complete the on-line student course evaluations. Students were likewise confused by receiving email from *Campus Labs* to notify or remind

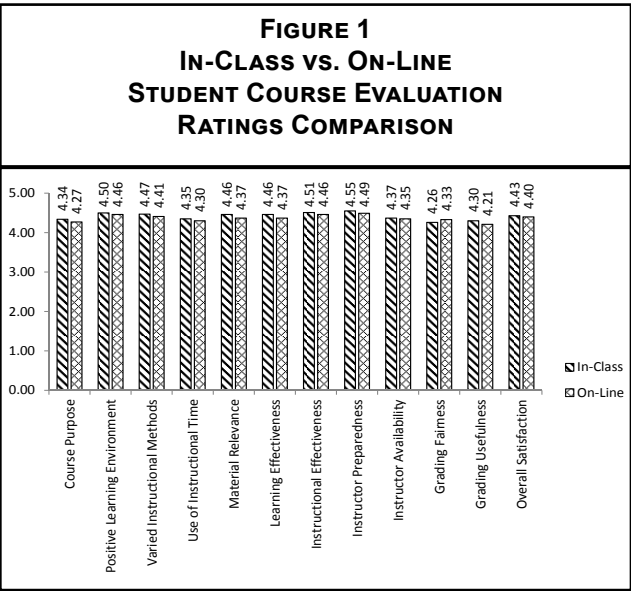
them to complete the web-based evaluation. Since they were not familiar with *Campus Labs*, many of them may have treated the reminders as spam and likely never completed the evaluation. This could have had a significant impact on response rate, since the emails did not come directly from the university.

Ratings

The level-one, within-course variance, models, included the scale scores constructed from the course evaluation items as the dependent variables. A separate model was conducted for each outcome measure. Treatment group membership was entered as an uncentered predictor variable in the level-one models. The level-two models, the between-course models, were unconditional models with no predictor variables. Completely unconditional models were calculated as the first step in the analysis and 79.1% of the variance in course evaluation ratings was found to be within courses, while 20.1% of the variance in the ratings was between courses.

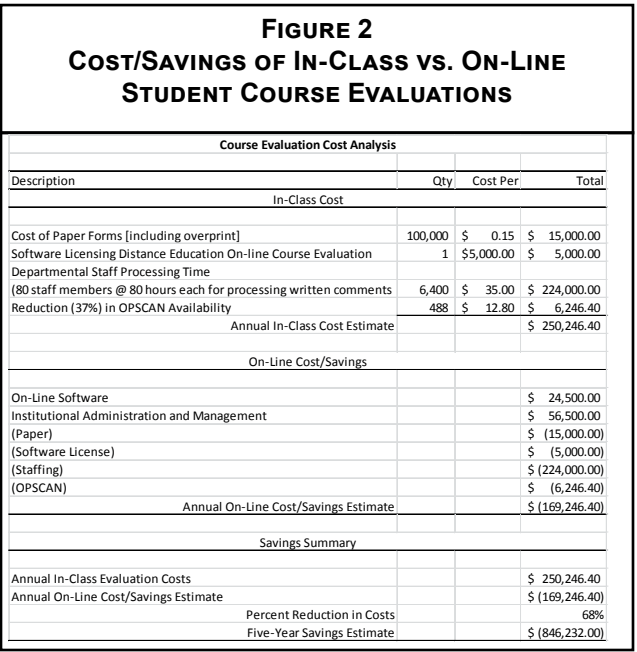
In general, average ratings across group and area of rating were above 4 (on the 5-point scale), reflecting positive evaluations. There was a small, statistically significant difference, $t = 2.44, p < .05$ between the groups on overall satisfaction; ratings for the in-class group ($M = 4.43, SD = 0.64$) were slightly higher than those for the on-line group ($M = 4.40, SD = 0.66$); however, when expressed as a standardized mean difference effect size based on the pooled within course standard deviation estimates from the HLM models, the practical significance of the difference was small ($d = .16$) and 0.00 was included in the 95% confidence interval. Students in both conditions were, on average, positive about the course experience. All scale score means, across both groups, were not lower than 4 on the 5-point scale. As shown in Table 1, a similar pattern of small, statistically significant differences was found for 9 of the 12 scale scores. For the remaining three scale scores, there was not a statistically significant difference between the groups. In general, the differences between ratings obtained using in-class and on-line evaluations were small ($Range = -.07$ to $.09$ on 5-point scale); and, for none of the scale scores were the between group differences exceeding an effect size of approximately .21. We also compared the distribution of very low and very high ratings across our groups. As illustrated in Table 2, “strong” opinions (i.e., ratings of 1 or 5), were similarly distributed across in-class and on-line evaluations. Coupling these findings with the possibility that the statistically significant differences were due in part to the large sample sizes in our analyses, we judged the practical and observed value of all of the group differences to be small (see Figure 1).

TABLE 1 COMPARISON OF STUDENT EVALUATIONS ACROSS ADMINISTRATION METHOD								
	Group						95% CI	
	In-Class		On-Line					
Area of Rating	M	SD	M	SD	<i>t</i>	<i>ES</i> ¹	LL	UL
Grading Fairness	4.26	0.94	4.33	0.93	1.16	.08	-.04	.19
Grading Usefulness	4.30	0.88	4.21	1.02	2.38 ²	.17	.05	.29
Course Purpose	4.34	0.84	4.27	0.95	2.21 ²	.15	.03	.26
Use of Instructional Time	4.35	0.89	4.30	0.93	2.85 ²	.21	.09	.33
Instructor Availability	4.37	0.82	4.35	0.89	1.65	.12	.01	.24
Overall Satisfaction	4.43	0.64	4.40	0.66	2.44 ²	.16	.04	.28
Material Relevance	4.46	0.76	4.37	0.89	2.75 ²	.17	.06	.29
Learning Effectiveness	4.46	0.83	4.37	0.90	2.73 ²	.17	.06	.29
Varied Instructional Methods	4.47	0.78	4.41	0.86	2.81 ²	.16	.04	.27
Positive Learning Environment	4.50	0.76	4.46	0.86	2.11 ²	.13	.01	.25
Instructional Effectiveness	4.51	0.82	4.46	0.84	2.35 ²	.16	.04	.28
Instructor Preparedness	4.55	0.66	4.49	0.76	1.58	.15	.03	.26
1 <i>ES (Effect Size) = d = (M_{In-Class} – M_{On-line})/ SD_{Pooled}, where .20 reflects small practical difference (cf. Cohen, 1988)</i>								
2 <i>p < .05</i>								



Costs

We reasoned that on-line course evaluations would generate substantial savings to the institution for materials



and staff time (see Figure 2). Conservative estimates indicate that 80 hours of departmental staff time from each of 80 staff members is required to complete paper-based course evaluations with an annual cost of \$224,000 for

TABLE 2 PERCENT OF LOW AND HIGH RATINGS ACROSS PAPER- AND WEB-BASED ADMINISTRATIONS				
	Rating			
	Low		High	
Area of Rating	In-Class	On-Line	In-Class	On-Line
Overall Satisfaction	0.1%	0.2%	32.5%	25.9%
Instructor's Preparedness	0.3%	0.3%	62.8%	62.8%
Instructor's Availability	0.6%	1.4%	55.1%	56.0%
Positive Learning Environment	0.7%	1.9%	62.4%	62.0%
Materials Relevance	0.8%	1.1%	58.5%	56.9%
Grading Fairness	0.9%	1.9%	51.8%	54.8%
Varied Instructional Materials	1.0%	1.5%	60.7%	58.0%
Course Purpose	1.2%	2.1%	52.6%	52.3%
Instructional Effectiveness	1.3%	1.5%	65.6%	61.6%
Use of Instructional Time	1.3%	1.7%	56.1%	53.6%
Learning Effectiveness	1.4%	1.5%	61.3%	57.5%
Grading Usefulness	1.6%	4.0%	51.6%	49.8%

personnel¹. Additional costs include \$15,000 for customized paper forms; \$5,000 in licensing costs for the existing web-based evaluation system currently used for distance education courses (i.e., this cost would be removed if the entire campus went to web-based student course evaluations); and \$6,246 in OPSCAN personnel costs (total annual cost is \$250,246). The cost of licensing web-based course evaluation software for the entire university is \$24,500 annually. Coupled with the survey administration and management costs of \$56,500, we estimated that the university would realize a cost savings of \$169,246, or a 68% savings in the operating costs of the student course evaluation process (i.e., a five-year savings of more than three-quarters of a million dollars).

DISCUSSION

In a recent study, Young and McCaslin (2013) compared student evaluations of faculty in a college of business administration using “traditional in-class” and “online” methods and found no “significant differences in mean scores...in the majority of cases” (p. 11). A “major limitation of this study was the use of only eight classes within one college...” and the researchers indicated that “[f]uture

1 Personnel cost projections derive from estimates by departmental assistants involved in study. Variation across the institution can create considerable variability in personnel cost estimates.

research would do well to a formal study of large number of classes within the university...” (p. 16). (e.g., Liberal Arts and Science, Engineering, Education and instruction in more than 30 courses), there were small, statistically significant differences that slightly favored the in-class student course evaluations; however, given the large sample size and the consistently low effect sizes, there was low practical significance in the difference in the ratings. The magnitude of the differences aside, variations in ratings may be due to unique and different contextual opportunities created by on-line and in-class course evaluation administrations. For example, students may think more negatively given more time and distance from the instructor when evaluating a course outside the classroom. Although expectations are that instructors are not present during in-class course evaluation administrations, the perception of more anonymity online may also have been a source of variation across scores in our study. Again, the obtained differences between ratings on on-line and in-class assessments were small; however, additional randomized controlled trials are warranted to support future decision making and policy related to this important higher education practice.

Because the domains selected typically resulted in the favorable ratings noted above, these small differences across methods should not surprise administrators or faculty. More important from a policy perspective, the in-class course evaluation method has several limitations, including:

- Allocating materials escalates institutional costs needed for paper, printing, distribution, collection, scoring, reporting, and storage.
- Transcribing comments creates opportunities for subjective interpretations based on the quality of the handwriting, requires additional resources of staff time, and delays feedback to course instructors.
- Administering evaluations in the classroom limits the amount of time students are able to dedicate to the evaluations, requires devoting a portion of class time to completing evaluations, and poses limitations on the effectiveness of the evaluations (i.e., students complain of being unable to contribute thoughtful comments in a short timeframe).

Additionally, decentralized student evaluation systems lack uniform administrative support, which makes university-wide data comparisons of faculty teaching difficult and unwieldy when provisions for administrative oversight, support, and coordination have not been considered.

The on-line course evaluation method has several benefits to faculty, students, and the institution, including:

- Shorter turnaround time to deliver feedback to faculty, department chairs, and deans.
- Increased ability to perform statistical analyses with course evaluation data.
- Improved ability to perform longitudinal comparisons of institutional and individual results.
- Improved ability for individual faculty to evaluate results across all their assigned courses.
- More substantive feedback from students on open-ended questions.
- Increased efficiency from less manual manipulation required by administrative staff.
- Better data, since errors are less likely and open-ended responses are generally more complete.
- Open-and continuous- access for—students rather than attendance-based opportunity restricted to a single day in class.
- Substantial savings to the institution for materials and staff time, including reduced printing, distribution, collection, and storage costs.

Additionally, while a detailed quantitative and qualitative analysis of the open-ended responses is ongoing, a cursory review of these responses indicated that there was a significant increase in the quantity of open-ended responses on

the online student course evaluations. This was even more significant, as a number of the participating departments omitted the open-ended responses from their pencil-and-paper evaluation instruments. This preliminary *post-hoc* finding aligns with previous reports that cite additional time as a key indicator of both quality and quantity of open-ended responses as well as with prior findings that transcription and other errors are less likely and open-ended responses are generally more detailed when completed using online evaluation methods (cf. Kasiar, Schroeder, & Holstaad, 2001; Layne, DeCristoforo, & McGinty, 1999; Ravelli, 2000; Venette, Sellnow, & McIntyre, 2010; Young & McCaslin, 2013).

While response rate differences for in-class and on-line administrations in our study may be a function of the experimental nature of work and may disappear when a single option is offered, achieving adequate response rates and identifying strategies to improve them is a consistently reported faculty concern (cf. Crews, 2011; Dom-meyer, Baum, Chapman, & Hanna, 2002). Additional challenges and potential disadvantages include the need to obtain faculty buy-in, responding to faculty and student concerns for anonymity and privacy, and changing the culture of higher education to support on-line student evaluation of teaching (New Jersey Institute of Technology, 2008).

CONCLUSION

Our research was designed to examine commonly-reported concerns and other issues related to the implementation of on-line student course evaluations. We believe our work provides guidance for faculties interested in exploring the use of on-line student course evaluations as an alternative for in-class paper-pencil scan-sheet methods. More specifically, the foundations of information provided to faculty councils and other decision-making bodies for review, consideration, and consultation regarding future changes in student evaluation of teaching procedures should include sufficient evidence of similarities and differences in response rates between in-class and on-line evaluation formats; documentation of the extent to which ratings are comparable between in-class and on-line formats; analysis of similarities and differences in qualitative feedback to determine if evaluation delivery medium impacts results; and, support for the cost-efficiency of resource use between in-class and on-line formats.

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