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Web Site Evaluation: A Study of Collegiate Recreation Programs Web Sites

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WEB SITE EVALUATION: A STUDY OF COLLEGIATE RECREATION PROGRAMS WEB SITES

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INTRODUCTION

University web sites are undergoing a metamorphosis (7). A university's web site used to be simply a decorative addition to the school's resources. In years past, academic information and demographics, program offerings, and athletics were the main focus of the web site. This latest transformation, however, includes student and faculty interaction as well as information. Universities continue to make technological advances to their web sites with features such as student portals, with Blackboard being a popular portal program, online class registration, online payment of bursar accounts, and web-based classes, also known as distance learning. A logical evolution, therefore, is that the progress of the academic web sites will give impetus to individual departments not necessarily related to the actual education of the students. University-based student organizations and student services departments, in addition to athletic departments and recreation programs and other university departments and groups, as well, are increasing their presence on the web through tactics such as online newspapers and magazines (or e-zines), blogs, photo albums of sporting events and other activities, and interactive features such as online program registration, online payments, available software, and online chats and file sharing. The collegiate recreation program web site is not immune to these changes. Recreation program web sites at universities across the country are developing as the infusion of Information Technology reaches even one of the most non-technical aspects of campus life – Recreational Sports.

With all of this new technology and sophisticated web architecture, the question of "What makes a collegiate recreation program's web site effective?" is raised. Effectiveness and evaluation techniques have been studied in other areas of Recreation and Tourism (15), but not in collegiate recreation. Is the distribution of information about programs and classes the deciding factor, or is information about hours of operation, available equipment, and additional facilities the most important factor when evaluating a web site. Perhaps it is user interaction, including the ability to sign up and pay for classes online, make facility reservations online, and the ability for users to sign up and pay for new memberships or renew their existing memberships online, with payment; that is the crown jewel of technical proficiency for collegiate recreation programs web sites.

The purpose of this exploratory study is to evaluate the web sites of collegiate recreation programs on a technical level in regards to the features of the web site and to try and measure the anticipated impact of the typical user of the web site in regards to level of participation in recreational sports.

REVIEW OF EXISTING LITERATURE

In recent years, there has been an increase, albeit minute, in the number of articles written about web sites and their evaluation. The articles are often written about studies that were performed to evaluate web sites. Moreover, a considerable amount of these articles are written more about the methodology used to perform the evaluation than the evaluation and subsequent outcomes themselves. There is no deficiency in the range of types of web sites evaluated in the studies. Topics of discussion and evaluation of the specific web sites vary from algebra to government libraries. *Interactive Algebra Websites for Students* (3) summarizes the evaluation process of web sites that contain Algebra related content. Another article, *How to Evaluate Websites: Obtaining the Modeling Physics* Curriculum (8) discusses the evaluation of science-based web sites. A non-academic evaluation article, *Formative Evaluation of a Family Life Education Web Site* (14), delves into the world of family life education, it's presence on the World Wide Web on numerous web pages, and the evaluation of one particular site. Many articles that focus their attention on web site evaluation center around educational web sites although not all of the web site evaluations are limited to the subject matter of education and learning. *Web Usage Statistics and Web Site Evaluation: a Case Study of a Government Publications Library Web Site* (19) evaluates a government publication web site by looking at the usage statistics of the web site. *Evaluating and Designing the Quality of Web Sites* (12) states that their evaluation model, called 2QCV3Q, and it's methodology, is suitable for evaluation of web sites associated with tourism, education, customer service, and the business world in general. *A Framework and Methodology of Evaluation E-Commerce Web Sites* (17) discusses the importance of e-commerce performance on the corporate web site. Other sites focus their attention on their methodology more so than their target population of web sites. In addition to the numerous web sites categorically evaluated by type, there are many more studies that are centered more on the methodologies used as an evaluation tool than the type of web site that is being evaluated. A *Group-Decision Approach for Evaluating Educational Web Sites* (4) presents a group approach as compared to the fuzzy theory or grey system for its preferred method of evaluation. The authors also created and named their evaluation tool the EWSE (Educational Web Site

Evaluator), a computer-assisted web site evaluation based on an experimental approach. The ESWE has a high level of accuracy when properly selecting the appropriate criteria for a web site. Additionally, a comparative approach is often times used to evaluate the effectiveness of web sites (11).

In *An analysis of official athletic department Web sites for NCAA II, NCAA III, and NAIA colleges; an attempt to build a model for small college official athletic department Web sites*, (7) the author discusses a methodology that could have been used as the sole basis for this study. The author's findings, that small colleges overall use their sites to post basic content daily but fail to fully use the potential of the Internet as a marketing tool, could easily be applied to recreation programs. Furthermore, another finding by Klubberud that there is an overall need to bolster both human and monetary resources for the purpose of site operation, maintenance, and enhancement is also evident from the research done in this study, especially in the area of user interaction such as online program registration and online facility reservation.

Determination of quality recreation program web sites requires a background not only in Information Technology, but in Recreational sports as well. Accurate and proper evaluation of collegiate recreation program web sites entails knowing the technical aspects that make a web site appealing to the technically advanced user while having knowledge of the recreation programming content that makes the web site useful. Deciphering the usefulness of different programming languages, flash animation, picture, movies, and sound coupled with the analysis of the relevant worth of up-to-date news and information, results of intramural leagues and club sports competitions, and descriptions and schedules of fitness classes is what is required to effectively evaluate collegiate recreation program web sites.

In recent history, there has been tremendous growth in collegiate recreation programs, not only in the size of the program, but in the size and number of buildings in the program. A majority of colleges and universities have plans to increase the size of their existing facilities or plan on building new facilities in the next few years. According to a study performed by NIRSA (S. Hubert, personal communication, October 5, 2005), the National Intramural and Recreational Sports Association, at the year's end of 2004, a total of 333 colleges and universities reported involvement in facility planning, construction, remodeling, and /or expansion projects. The main focus of many program's renovations, expansions, re-building, or addition of facilities is the recreation center and, more distinctly, the fitness center. It would follow that collegiate recreation programs that have newly expanded or renovated facilities would be looking to not only promote those facilities in the easiest way possible – their web site, but the program would also be looking to add new classes, programs, and activities that would best utilize that new space and, thusly, make these new additions to their programs known as well. The web site is the easiest way to get that information out to the greatest number of people. Advantages of using the web site as a marketing tool to advertise and promote new programs and activities offered at a recreation center include: extremely low cost of distribution, especially when compared to television, which is the only other media that could provide the same dynamic presentation of material and information that a web site is capable of; a certain permanency of that information – the information will remain on the web site as long as it is pertinent and relevant, and thusly, as long as a visitor would be in need of accessing that informa-

tion; always-current and up-to-date information – the information can be changed at a moment's notice, if the need arises.

Usability studies would benefit the webmasters and editors of collegiate recreation program web sites since data could be collected that would help the web sites be tailored to and cater to the needs of the individual program's participation constituents.

Research that incorporates usability studies exists for web site evaluation, as found in *Studies Show What it Takes to Be a Top Site* (13); however none of the studies focus on recreational sports. The offerings of collegiate recreation programs differ and vary widely by institution, but the core of information can be separated into a basic group of common categories. A majority of universities have divided their recreation programs into the same five categories. Sport Clubs, also known as Club Sports, Intramurals, or Intramural Sports, Outdoor Recreation or Outdoor Adventure, Fitness/Wellness or Group Fitness, and Aquatics are the groups that many recreation programs are split in to. Moreover, the web sites include pages for these five categories as well as pages specifically for the program's facilities, open recreation opportunities, membership opportunities, and group fitness classes. User-friendly design of these sites does not depend so much on the information that the program wants to share and the technology used to deliver that information as it depends on the way that the information is presented and the way that the technology is used to deliver the information.

The underlying truth to be discovered in this research project is not necessarily the overall quality of a collegiate recreation program's web site, but the actual effectiveness and usefulness of that web site. A site may be very technically advanced with features such as a search engine, site map, and FAQ page and contain all of the bells and whistles such as animation, movies and sounds, an introduction page, and a low-bandwidth version. There are studies focusing on the technical aspects, as with *A Model of Visual, Aesthetic Communication Focusing on Web Sites,* but none of these studies center their research on the technical aspects of recreation program web sites (16). Nevertheless, if the page is not user-friendly, or informative, users will not perceive any reasons or, more importantly, have any motivations by the recreation program, to return to the site on a regular basis. Moreover, the ability for users to interact or have something to gain by visiting the web site, with features such as online registrations for membership and/or classes and reservation systems, as compared to just gathering information, is a major component in the deciding factors of what makes a collegiate recreation program's web site effective and functional to the typical user.

As this research project developed, the methodology continued to transform affecting the data collection methods, the focus of the study, and most importantly, the purpose.

This study is an exploratory study and that fact that should be taken into account when discussing the findings and results. The FIFE does not contain a definitive list of web site features and characteristics, but it does list many of the features that will increase a web site's effectiveness and user interaction. There are characteristics and features of collegiate recreation programs not evaluated in this study that would increase interaction and overall participation, however the universities with the greatest interaction and overall participation would, most likely, have the characteristics and features that are evaluated in this study.

METHODOLOGY

Existing Methodologies

Although there are only a few articles written on the subject of web site evaluation methodology, there is a myriad of topics for these methodologies to cover. In addition, the range of backgrounds and bases for the methodologies is as varied as the topics. A contextual approach is the underlying theory of the methodology for the evaluation of web sites by undergraduate college students. In *Chucking the Checklist: A Contextual Approach to Teaching Undergraduates Web-Site Evaluation* (9) the author suggests that librarians teach web site evaluation to undergraduate college students so the students may be able to decipher the difference between good information and bad information at web sites of questionable reliability. More importantly, the goal of the librarian-taught evaluation is for the students to be able to recognize the web sites that are most evidently fraudulent and untrue. *A Group-Decision Approach for Evaluating Educational Web Sites* (4) uses a group decision-making approach, coupled with fuzzy theory and grey system, which are types of soft computing technologies. The authors of the article, who are also the principle researchers of the study that warranted the writing of the article, created their own evaluation system, the Educational Web Site Evaluator (EWSE), a computer-assisted web site evaluation system. The EWSE is proficient with the selection of the proper criteria required individual web site evaluation and provides the evaluation greater accuracy when evaluating results. In *Automated Web Site Evaluation* (5), the author incorporates existing automated web site evaluation methodologies with a new approach to study automated web site evaluation. The new methodology, named WebTango, suggests an approach that helps web architects design and build web sites which maximize usability and accessibility.

Another methodology that is closely related to automated web site evaluation is web site evaluation performed by a robot. Robots, like automated evaluation, can provide unbiased results that are completely free of human intervention and influence. WebCriteria Inc. of Portland, Oregon provides an assessment service of a company's site or its competitors' sites using benchmarks established by utilizing a robot, which can reliably duplicate the same decisions, continuously and without bias or error, to evaluate the sites on usability and user friendliness, newness, and the speed at which the page(s) load. How the methodologies work is just one of the distinguishing characteristics when discussing web site evaluation. Another factor worth mentioning is the basis of the methodology – what prior methods and philosophies is the new methodology based upon. In the study, *Evaluating and Designing the Quality of Web Sites* (12), the authors create an evaluation model based upon classic rhetoric principles. The highly flexible model, named 2QCV3Q, can yield results in a variety of fields including education, customer service, and business and single out the features and characteristics of web sites that denote quality. 2QCV3Q can also provide suggestions for improvement when certain elements are properly associated together.

If the "how" of an existing methodology can be used to describe the process by which the methodology uses to achieve its results – a successful web site evaluation – and the "where" can be used to describe the basis, or history of the methodology, then the "what" of the methodology would describe the focus of the evaluation.

One such focus of web site evaluation methodologies is human-computer interaction. *Five Psychometric Scales for Online Measurement of the Quality of Human-Computer Interaction in Web Sites* (18) not only looks at web site evaluation using five existing scales of human-computer interaction, but it proposes the use of a comprehensive set of psychometric instruments to measure the quality of web site interaction. Some evaluation methodologies center on one specific subject matter. *Formative Evaluation of a Family Life Education Web Site* (14), evaluates a site that spotlights family life education. Other evaluation methodologies solely use specific data sets. *Web Usage Statistics and Web Site Evaluation: a Case Study of a Government Publications Library Web Site* (19) uses usage statistics as the data for the evaluation of a government publication web site.

PROJECT METHODOLOGY

The methodology created and used for this study has a qualitative part, with its contextual analysis, and a quantitative part, with the development and implementation of the evaluation tool. The quantitative section has the dependent variable of the overall evaluation score, as well as independent variables which include the US News & World Reports ranking of the best universities, tuition, staff size, student tuition fees paid by full-time undergraduates for recreation, and The Princeton Reviews ranking of jock schools and overall intramural participation.

The instrument, known as the FIFE (Frishman Internet Features Evaluation), that was used to evaluate the collegiate recreation program web sites is an adaptation from a marketing evaluation tool created by Dr. Duarte Morais and of Dr. Jacquelyn Cuneen. The MIME (Morais Internet Marketing Evaluation) was created in 1997 and revised by Alan Frishman in 2005, with the help of Dr. Duarte Morais. Eventually, the MIME was altered enough from its original form that it was renamed the FIFE. Although the author and creator of the FIFE is Alan Frishman, it must be mentioned that the FIFE would never have come to fruition, or even existence, if it had not been for the hard work of Dr. Duarte Morais and Dr. Jacquelyn Cuneen to create the MIME and the assistance of additional content experts with the edits and revisions that Alan Frishman made on the MIME and later, edit the FIFE. There were at least seven revisions to the MIME before it was completely redone and named the FIFE. The FIFE underwent frequent revisions as well, at least six, before it was finalized. During the pilot testing of the FIFE, several revisions were made after the evaluation process had begun. Since this is an exploratory study on the subject of collegiate recreation program web site evaluation, the pilot testing portion of the evaluation process was instrumental in making the changes to the FIFE that were necessary for it to be a precise assessment tool for the myriad of web site designs that were evaluated for this study. It would not have been possible to accurately create the FIFE without actually evaluating web sites during its construction. A small number of the evaluation characteristics were removed during the revision process and many more were added with optimism that the FIFE would become the defining collegiate recreation program web site evaluation tool that it needed to be (and with anticipation, is).

The original MIME was divided into the following categories: Name of the Web Site, Owner of the Web Site, Purpose of the Web Site, Target Audience of the Web Site, Attractiveness/Design, Organization/Information, Time and Software Needed, Easiness to Find, Interactiveness, and a section for

general notations and comments. The FIFE contains the following categories: Language, the programming language used to write the web site; Organization of Information, the way the information is presented and some of the convenience features of the web site; Page Construction and Content Files Types, the technical aspects of the page and the content on the page; Membership Information, information related to membership at the program's recreation center and/or fitness center; Contact Information, the contact information of the program and it's staff; Content Information, the information pertaining to the specific areas or departments of the recreation program and their offerings; and Program Registration and Facility Reservation Information, the information pertaining to program registration and facility reservations. Early revisions of the FIFE included a section about the impact of the web sites during evaluation and the anticipated impact of the web sites on the visitors to the site. Upon continued review and improvement of the FIFE, this section was moved to a separate evaluation tool that will be utilized during a separate evaluation process session with evaluation and discussion during a subsequent focus group discussion.

The MIME had no weighted responses. All characteristics carried the weight of one unit. During the revisions of the FIFE, it was found that weighted responses for some of the characteristics allowed for a more accurate evaluation of the features and characteristics of the web sites. An incremented weighting of related characteristics, which was modeled after a simple Likert scale, created by Rensis Likert, was used in the Membership Information section and the Program Registration and Facility Reservation Information section to allow for an increased evaluation score for the recreation programs that offer an advanced choice for acquiring membership, class/program registration, or facility reservation, based on the program's use of technology and the interactiveness of their web site. The process implemented during the creation and editing phases of the FIFE was a methodology known as the Hermeutic Circle. During the process, changes are made to the methodology itself, including data collection methods, data analysis methods, and the summary of the results, depending on the results and findings of the research, as the data is being collected.

RESULTS

The results will be presented in two differing formats. The first style is a contextual analysis, the study of the role of the group context on actions and attitudes of individuals. This section discusses the world of recreational sports as a whole and the effects of existing technologies on the collegiate recreation program web site itself.

The second section is a traditional explanation of the findings using descriptive statistics such as the high and low values for a category, the mean and median, and the standard deviation. Results are presented in tables and graphs to increase the ease of interpretation.

CONTEXTUAL ANALYSIS

An interesting piece of information that was uncovered during the research and evaluation of the web sites is that not all collegiate recreation program web sites are designed and maintained by the recreation programs themselves. Many web sites, however, are still designed and maintained by the actual recreation program. The Pennsylvania State University, also known as Penn Sate, states

clearly on their web site that "This web site is maintained by the Recreational Sports Office." Some web sites are designed and maintained by the university's Information Technology Department, as with the Campus Recreation Department at Clemson University, whose webmaster is Steve Robbins, Director of Information Technology Services. Still other collegiate recreation program web sites are designed and maintained by third party web hosts which may be small companies or large corporate conglomerates; CSTV Networks, Inc. for instance. CSTV, or College Sports TV, is a network of 250 university affiliated web sites that host intercollegiate athletics and currently has 15 million subscribers. Also, collegesports.com is host to conference web sites as well as the web sites of individual teams. The official web site of the Atlantic Coast Conference is hosted by CSTV at http://theacc.collegesports.com. The Recreational Sports department at Harvard University is hosted at cstv.com on the collegesports.com network at http://gocrimson.collegesports.com/ot/harv-recreation.html as well as by the university at http://www.hcs.harvard.edu/~recsport. While CSTV Networks, Inc. and the collegesports.com network host the Recreational Sports Department as well as the Athletics Department for Harvard University, this is definitely the exception. The majority of the 250 universities that are partnered with CSTV Networks Inc. only have their athletic programs affiliated with collegesports.com, and not their recreational programs. Another note of surprise came from the evaluation of the Campus Recreation web site at Florida State University. The Florida State University Campus Recreation web site is designed and maintained by a much smaller company than CSTV Networks Inc., Campusrec.com. Campusrec.com offers a university the entire web site package – an address, hosting (and maintenance), and design. Unfortunately, campusrec.com does not list all of the collegiate recreation program web sites that it currently hosts. It appears that campusrec.com offers complete hosting, where all pages are on the campusrec.com servers in addition to splash screen hosting, where the user is redirected to the university's sometimes lengthy and garbled URL after typing in the shorter, easier-to-remember campusrec.com URL. The use of an outside company for web hosting gives a program an extension besides the ".edu" extension of the parent school. Of all the schools evaluated in the study, only Florida State University with a ".com" extension and The University of Texas at Austin with an ".org" deviated from the typical ".edu" extension associated with learning institutes.

The original question raised by this study was "Is there a relationship between a collegiate recreation program's web site and an arbitrary ranking by US News and World Reports or The Princeton Review?" US News and World Reports annually publishes an article with a listing of the nation's best universities. The universities on the list are divided into different categories, depending on the university. A few of the categories include Top National Universities, Top Master's Universities by geographic region, Top Business Programs, Top Liberal Arts Colleges by geographic region, and Universities with the top Engineering Doctoral Programs. Several factors are considered when assigning a ranking to a particular school. Some of the criteria evaluated include 2004 graduation rates, retention rates, a peer assessment score, classroom size, student-faculty ratio, SAT/ACT scores, acceptance rate, and the percentage of freshmen who were in the to 10% of their high school class, as well as many others.

The Princeton Review annually publishes a book discussing the best universities in the

nation. The 2006 edition looks at 361 schools, providing information about each one to aid students in making a choice. As a part of their examination, The Princeton Review assembled 62 lists in eight categories to assist in the differentiation of the schools. The lists are only the top twenty of a category and the complete list for any category is not available from The Princeton Review. In addition, not all of the 361 schools in the book are on a top twenty list. Many schools are just discussed in the book and included to be in the top 361. Furthermore, there is no ranking for the 361 schools themselves. A school is either on the list or not on the list, but The Princeton Review makes no suggestions about which of the schools are at the top of the list and which are at the bottom, as with the Best Universities list compiled by US News and World Reports. The purpose was to raise the question about correlations between these ratings and the technical proficiency and aesthetic quality of the web site. Other factors considered for correlation and beta testing against the collegiate recreation program's web site evaluation score and the program itself were the cost of undergraduate tuition, the amount of student fees paid per semester that go directly into the recreation program's budget, and the size of the staff at the particular program, including professional staff, support staff, and grad assistants or interns. Groundskeepers, maintenance staff, and custodians or janitors were not included in the classification of staff numbers since not all schools consider these positions to be part of their recreational staff. Depending on the classification of the buildings and grounds at the individual schools, some of these positions fall under academics instead of recreation due to the classification of the "owners" of the buildings and grounds.

A higher expenditure for the recreation program would warrant a larger program, with more facilities, departments, programs, classes, and trips. There are extenuating circumstances, however, that might result in a different outcome. Debt repayment, usually for the reduction of loans and bonds that were taken to build new facilities are major portions of a number of university's student fees for activities. At a few of the universities, the debt reduction portion of the student fees is as large as the programming portion of the fee. The University of Texas at Austin charges $58.50 for loan repayment and $32.81 for operation expenses whereas Iowa State University's split is $23.00/$19.45 and the University of North Carolina' breakdown is $40.00/$32.00 (See Table 2). Other schools have to pay for the rent of certain facilities, as well as all utilities, from their budget which is funded from student fees. In addition, there are some universities whose entire recreation program budget is funded through their athletic department and the student fees for the recreation program itself are very low or even nonexistent. Notre Dame's recreation program budget is part of the 39 million dollar athletic budget and there are no student fees except those paid for specific programs/classes/trips that require and additional fee. This does not change the fact, however, that there is a separate student fee for Athletics and that the recreation program is indirectly funded through this fee. Notre Dame's recreation program operating budget, however, is listed at $575,000, the lowest of any university in the study. On the other hand, Florida State University's budget, stated at almost $3,000,000 is comprised mainly of a collected student fee, with a small portion coming from membership fees to non-students. Maryland's budget of $9,600,000 is not surprising since their student fee collected is one of the highest at $138 per semester, although it is not known what amount of that, if any, is collected for debt reduction. The University of Texas's budget of over

$12,000,000 contains funding outside that of the collected student fee of $91.31. Many of the other universities in the study receive funding in addition to the collected student fee. As noted earlier, Florida State University is the exception to this finding.

ANALYSIS

The analysis section will not only present the results of the evaluations of the collegiate recreation programs web sites and the programs themselves, but it will evaluate the effectiveness and accuracy of both sections of the evaluation tool, the FIFE – Frishman Internet Features Evaluation, as an assessment instrument with sound methodology for evaluating the usefulness, user-interactions, and user-friendliness of web sites.

These schools included in the study are The University of Alabama, The University of Arkansas, Auburn University, Baylor University, Boston College, Clemson University, The University of Connecticut, Duke University, The University of Florida, Florida State University, The University of Georgia, The Georgia Institute of Technology, Iowa State University, The University of Kentucky, Louisiana State University, The University of Maryland, The University of Miami, The University of Mississippi, Mississippi State University, The University of Nebraska, The University of North Carolina, North Carolina State University, The University of Notre Dame, The Pennsylvania State University, The University of South Carolina, The University of Tennessee, The University of Texas, Texas A&M University, Vanderbilt University, The University of Virginia, Virginia Polytechnic Institute and State University, and Wake Forest University (See Table 7). The selection process of the 32 schools included in the study started with the two lists compiled by The Princeton Review, the "Jock Schools" list and the "Everyone Plays Intramural Sports" list. The schools on the "Jock Schools" list ranked highest when looking at the following factors: intercollegiate and intramural sports and the popularity of the Greek system. The schools on the "Everyone Plays Intramural Sports" list are the schools with the greatest popularity for intramural sports. For example, The United States Air Force Academy, which was not included in the study due to its lack of a web page for its recreational program, boasts over 3,000 participants per season and an astounding 90 intramural sport activities per day, according to their web site.

Of the 32 schools in the study, sixteen are on The Princeton Review "Jock Schools" list and nine are on the "Intramurals" list (See Table 1). There are only 18 unique schools since the two lists had seven schools that appear on both lists. The 18 schools in the study that appear on one of the two Princeton Review lists are Auburn University, Baylor University, Clemson University, The University of Connecticut, Duke University, The University of Florida, Florida State University, The University of Georgia, Iowa State University, The University of Nebraska, The University of North Carolina, North Carolina State University, The University of Notre Dame, The Pennsylvania State University, The University of Tennessee, The University of Texas, Texas A&M University, and Wake Forest University. Brigham Young University was going to be added to the study since they are on the "Intramurals" list, however they do not have a web page for Recreation Sports. They have a page for Intramurals and a separate page for Fitness, but they do not have a page that encompasses all of the facets of their recreation program on one page with links to the individual program area pages. In addition, The Princeton Review had a list of the

top 20 schools with the lowest participation in intramural sports. The schools on this list, however, were generally small, private schools and none of them were on the US News list. Therefore, the list and the schools were not included in the study due to their size and obscurity. Twenty-eight of the 32 schools in the study are found on the US News and World Reports list. This ranking is included in the study even though there are no significant correlations between the evaluation scores of the universities and their place on the list. As a side note, the schools in the study almost completely cover the range of the US News rankings. Duke University is fifth, out of the 120 schools on the list and The University of Kentucky is 120th (See Table 1). The other 26 schools fit nicely in between with a median ranking of 59 and a standard deviation of 31.1345 (See Table 8).

After initial review of The Princeton Review lists, it was found that the majority of the schools on the list were from two conferences - The Atlantic Coast Conference (The ACC) and The Southeastern Conference (The SEC). It was decided to include all of the schools from both of these conferences as well as the other major Division IA universities from the lists. Brigham Young University and The Air Force academy were on at least one of the lists, but were excluded from the study since neither university has a web page exclusively for their recreation programs.

IMPLICATIONS

This study was exploratory in the area of collegiate recreation program web site evaluation and its results should be viewed accordingly. As an introductory study, the results are not conclusive, but the research lends itself to further study with more definitive results. The literature review was difficult since it was not easy to find previous articles or studies on recreation programs and evaluations of recreation programs, let alone evaluation of collegiate recreation programs' web sites. There has been a good deal of research performed on methodologies (4) and evaluation tools (12), usually for specific application to a specific web site (14) or subject matter (3).

Fortunately, previous research was performed on the closely related topic of web site marketing and was done by Duarte Morais in 1997. The MIME - Morais Internet Marketing Evaluation was the basis for the FIFE – Frishman Internet Features Evaluation, the evaluation tool used in this study. The FIFE is not without its flaws. During the first few of its first versions, the FIFE contained line item characteristics that were subjective. Their response was dependent more on the opinion of the evaluator than on the content of the web site. In addition to the biased characteristics, other line items were either repetitive or mutually exclusive with other line items. The mutually exclusive line items meant that either one or the other would be selected, thus offering no greater or lesser a score since one and only one of the two line items would ever be selected. It was a case of "one or the other" and as originally written, offered an inaccurate assessment of those particular characteristics. Even in its final draft, the FIFE has room for improvement. Many of the line items are actually evaluating the collegiate recreation program itself instead of its web site. Line item [7.19], for example (See Form 1), indicates whether or not the web site has a page for an outdoor recreation program. A "No" indication, however, does not specify between an absence of a page devoted to outdoor recreation or a lack of an outdoor recreation program in the particular collegiate recreation program. It is not actu-

ally known which is the case by the "No" indication – lack of a page or lack of a program. Another problem that occurred during the evaluation process was that many characteristics or features of some of the line items were evident on some of the pages, but not necessarily on all of the pages. Line item [6.1], the appearance of an email address for the organization, for instance, was available on the fitness page of the collegiate recreation program's web site, but not evident on the main page, or even on the collegiate recreation program's contact page. Finally, the area of the FIFE in greatest need of improvement is the missing line items for a myriad of different characteristics. These characteristics were not included in the final draft since the thought to include them only occurred after evaluation of several web sites that were not in the initial pilot group that was used to originally create and edit the evaluation tool. All of the characteristics listed here are found on several of the web sites that were included in the final evaluation. Many of the missing characteristics consist of an absence of program-specific line items for some of the areas of recreation, such as intramural sports and club sports.

Future revisions of the FIFE will include the following line items: the presence of the guidelines for participation in intramural sports, the presence of the rules for the individual intramural sports, the presence of the results for intramural sports, the presence of a general handbook for intramural sports and/or club sports, the presence of contact information for intramural sports and/or club sports, and the presence of individual web sites for the club sports.

Universities chosen for evaluation are already in the upper echelon of collegiate recreation programs, as proven by their presence on one of lists complied by The Princeton Review. The entire list of schools on the Everybody Plays Intramurals list would have been desirable, but was not available from The Princeton Review.

Table 1 - Evaluation Totals by School

School	Total With Membership	Total Without Membership
University of Alabama	46	49
University of Arkansas	41	42
Auburn University	13	13
Baylor University	47	50
Boston College	42	45
Clemson University	36	37
University of Connecticut	41	42
Duke University	42	42
University of Florida	50	50
Florida State University	64	65
University of Georgia	44	45
Georgia Tech	55	58
Iowa State University	57	60
University of Kentucky	30	30
Louisiana State University	44	45
University of Maryland	60	61
University of Miami	32	33
University of Mississippi	40	41
Mississippi State University	50	53
University of Nebraska	41	42
University of North Carolina	51	52
North Carolina State University	54	54
University of Notre Dame	48	49
Penn State University	47	53
University of South Carolina	38	41
University of Tennessee	55	58
University of Texas at Austin	59	67
Texas A&M University	50	51
Vanderbilt University	57	58
University of Virginia	58	61
Virginia Tech	57	57
Wake Forest University	44	45

Table 2 - Descriptive Statistics

Organization of Information	
Mean	8.0938
Median	8
Mode	10
Standard Deviation	2.775
Range	11
Minimum	1
Maximum	12

Page Construction	
Mean	3.9375
Median	4
Mode	3
Standard Deviation	1.2427
Range	6
Minimum	2
Maximum	8

Membership Information	
Mean	1.75
Median	1
Mode	1
Standard Deviation	1.778
Range	8
Minimum	0
Maximum	8

Contact Information	
Mean	4.8125
Median	5
Mode	5
Standard Deviation	1.3305
Range	6
Minimum	1
Maximum	7

Content Information	
Mean	23.2813
Median	24
Mode	22
Standard Deviation	4.3123
Range	21
Minimum	8
Maximum	29

Registration/Reservation	
Mean	6.5313
Median	6
Mode	1
Standard Deviation	4.3772
Range	17
Minimum	1
Maximum	18

Total Without Membership	
Mean	46.6563
Median	47
Mode	41
Standard Deviation	10.3911
Range	51
Minimum	13
Maximum	64

Total With Membership	
Mean	48.4063
Median	49.5
Mode	42
Standard Deviation	11.0741
Range	54
Minimum	13
Maximum	67

US News Ranking	
Mean	62.3929
Median	59
Mode	78
Standard Deviation	31.1345
Range	115
Minimum	5
Maximum	120

Language	
HTML	22
PHP	8
ASP	2
NSF	1
SHTML	1
CGI	0
JSP	0
XML	0

URL Nomenclature	
CampusRec or a variation	10
RecSports	10
Abbreviation or Acronym	6
Other	3
Recreation	2
Unknown	1

Student Fees	
Mean	63.6152
Median	51.5
Mode	0
Standard Deviation	49.9334
Range	188
Minimum	0
Maximum	188

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