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Publicizing Your Program: Website Evaluation, Design, and Marketing Strategies

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This research was undertaken to study and improve the marketing efforts of the Department of Educational Technology (EDTECH) at Boise State University, recognizing the need to generate revenues based upon the new self-support structure instituted at the university and EDTECH Department. In investigating the marketing opportunities for the Department, the EDTECH website was identified as a critical element in the publicity of the graduate online program. Therefore, the researcher focused the evaluation on the effectiveness of the EDTECH department website (<http://edtech.boisestate.edu>) and other marketing strategies in increasing student enrollment and addressing student needs. Through analyses of website log files, student surveys, and competing programs, the study offers suggestions for improving the overall marketing of the program, with specific recommendations for the department. A review of search engines and their criteria provides a comprehensive background for understanding the complexity and ramifications of website design. This study offers important insights into website purpose, coding, and ancillary marketing opportunities. Four recommendations are presented, including a comprehensive list of website design standards, applicable to any university department or program.

An important goal of the Department of Educational Technology (EDTECH) at Boise State University is to systematically increase enrollment of students in the program. This goal has now become even more important, due to a new funding protocol offered by the university and adopted by the department, called "self support." This funding mechanism in its most simplistic explanation allows a department to retain and use student fees associated with that department. Unlike traditional university funding, which is appropriated by the State General Fund, self-supporting departments generate their own revenues and pay their own expenses, based upon student enrollments in that department. The more enrollments a department can generate, the more funds it can receive. Through this type of program, a department has opportunities to offer more courses, hire more faculty members, and exercise more fiscal freedom associated with the generation of its own revenues. However, along with this increasing fiscal freedom is the need to run the department more like a business, marketing its program to attract new students. Therefore, this evaluation study was undertaken to examine how the EDTECH program was being marketed and how this marketing could be expanded and improved.

The EDTECH department at Boise State currently offers graduate degree and certificate program, all online. This online format, once limited in scope, has now become more mainstream and competitive. For instance, the number of online degrees has been dramatically increasing, from about 50 in 1989 to over 1100 today (GetEducated.com, n.d.; Peterson's Distance Learning, n.d.). Universities across the country, as well as entirely virtual universities such as the University of Phoenix (<http://www.phoenix.edu>) are offering online graduate degrees in educational or instructional technology. Students now have many choices and options in deciding upon a graduate degree program in educational technology.

In identifying ways that people find out about university programs, it is important to acknowledge how the Internet has changed these ways. As the Internet and especially the World Wide Web (Web) have developed, offering multiple ways to quickly search and identify relevant resources, ways of conducting research have changed. Going to a physical library is becoming less necessary, as online search engines can locate and list resources from user-created queries. Additionally, libraries now have online databases, complete with indexed search features, allowing articles to be accessed and printed from the convenience of one's home. Therefore, one way to publicize your program to potential students is to have a well

designed website, which effectively markets your program and can easily be found.

The EDTECH program is publicized through many ways, but probably its most important and efficient vehicle is the website: <http://edtech.boisestate.edu>. This website has many purposes; among them is to deliver information to prospective students and students enrolled in the program. It is also used as an advertising medium to sell the program to prospects. Advertising through a website can offer distinct advantages, such as being readily accessible 24/7, quickly adaptable to provide new information, a resource for collecting and analyzing information from visitors and also from interactive forms, and a place for feedback.

Creating and maintaining a dynamic, useful website involves many considerations. In its overall structure, the website needs to be accessible, professional, and appealing to the target audience. It needs to meet the needs of its users. It should load quickly. The site should have a strong presence on the Internet and Web, optimized for search engine queries. Interactivity can be a powerful aspect of a department's website, with asynchronous and synchronous features used where appropriate. New types of content management software make it possible to include interactivity and communication, such as user discussion forums, a place for chatting online, the ability to upload and share images and files, a place to post events, and a myriad of other customized options. Podcast feeds on a website can generate interest in a product or service or simply to provide information by way of an audio format. Many businesses, for instance, are now using podcasts as a way to encourage consumers and experts to talk about products they have an interest in. General Motors (GM) uses its "Fastlane" blog (<http://fastlane.gmblogs.com/about.html>) for this purpose. Additionally, GM's blog has a podcast link where consumers can subscribe to a feed (a subscription service that automatically downloads audio and video content to one's computer) to hear various interviews and other audio and sometimes view video content (<http://fastlane.gmblogs.com/archives/podcasts>). Websites not only can provide information, they can create communities where visitors can find out what they need to know and continue to visit the site to see what is new. They are excellent ways to effectively publicize a university program.

Therefore, this research focuses on the publicizing potential of the EDTECH website and how it is currently being used, evaluating its effectiveness and potential through various means: (a) examining search engine criteria; (b)

analyzing website log file statistics; (c) gaining feedback from online student surveys; (d) and critiquing websites from competing programs. While this research concludes with recommendations specific to the EDTECH website, other university departments can easily adapt and apply many of these recommendations to their own website design and marketing program.

RESEARCH QUESTIONS

The researcher evaluated the effectiveness of the EDTECH website in (a) publicizing its program to potential new students, (b) its priority of listing in online searches, and (c) meeting the needs of its users. In the process of conducting the evaluation, other ways of publicizing the department website and program arose, which became a fourth question. Therefore, the research questions were:

1. How effective is the EDTECH website in publicizing its program and how might it be improved?
2. Is the HTML coding and other search engine criteria effective in promoting the EDTECH website to the top of the list in search engine queries?
3. How might the EDTECH website better meet the needs of its users?
4. What other ways can the program's publicity be increased or improved?

EVALUATION METHODOLOGY

To address these questions, the following procedures were conducted:

- + Review of the literature about website search engines, providing a theoretical framework from which to make commendations and recommendations.
- + Analysis of the EDTECH website log file, using descriptive statistics.
- + Survey of current EDTECH students and analysis of the results.

COMMENDATIONS

Before conducting evaluation research, it is important to identify and discuss commendations. The current EDTECH website can be commended in many ways. It is visually attractive, with an easy to understand vertical navigation structure. The content on the home page stresses the online program, which has been determined to be a highly important feature for the students. It has undergone some aesthetic changes over the past two years, resulting in a Flash-enhanced home page and a new logo for the Department. Images on the website reflect the student population, such as working mothers and students of various ages. The words “friendly, affordable, flexible, and convenient” flash on the home page image, conveying important features of the program. Course information, online forms, and relevant materials are posted on the website, enabling prospective and current students to access information and materials easily and quickly. A link for internship opportunities and essential links to resources at Boise State make the website all-inclusive and convenient. The website URL is descriptive and easy to remember: <http://edtech.boisestate.edu>. The website is a valuable resource for the department, and its continual updating and maintenance are recognized as important goals for the department. Thus, it is the intent of this evaluation to not detract from the strong points of the website, but to examine its use and offer clear options for improving its design and content.

REVIEW OF THE LITERATURE

Creating an Online Presence

Creating and publishing a website is a relatively easy process. It is another story, however, to design and maintain a website that can be easily found through search engine queries. This process requires an understanding of current search engine criteria, along with a host of other variables. Therefore, an important question is, “How will/do users locate our website?” Simply being listed in the search engines is not likely to increase traffic. In fact, despite the large numbers of search engines that are available, only a few are capable of generating the desired traffic. For instance, if people using the main search engines and directories have not found what they want on the first or second page of a search result query, they will simply type in a new search phrase, where frequently they will find the same results again

(Nobles, n.d.). As a result, proper website design for optimal search results is essential in successfully publicizing a site with the major search engines.

An expanding business built around this need to have a position near the top of search results has developed, called search engine optimization (see Appendix A). To give an idea of its size, a recent search on Google (March 10, 2005) using the keyword phrase “search engine optimization” resulted in 6, 820,000 hits.

Essentially, search engine optimization (SEO) is the process of improving a web site for higher search engine rankings. There are hundreds of sites online that offer their services to optimize websites. However, it is questionable whether they can really provide all of the answers to search engine placement and positioning, since search engines keep their criteria fairly secret, and their methods are not static. Therefore, it is a premise of this research that a basic understanding of what search engines look for when indexing a site, along with directing our focus to the search engines used by our visitors can provide valuable criteria for improving website publicity. Before analyzing your website according to search engine criteria, a basic understanding of search engines and how they work is essential.

Three Types of Search Engines

The term “search engine” is often used generically to describe crawler-based search engines, human-powered directories, and hybrid search engines. These types of search engines gather their listings in different ways, through crawler-based searches, human-powered directories, and hybrid searches.

Crawler-based search engines. Crawler-based search engines, such as Google (<http://www.google.com>), create their listings automatically. They “crawl” or “spider” the Web, then people search through what they have found. If web pages are changed, crawler-based search engines eventually find these changes, and that can affect how those pages are listed. Page titles, body copy, and other elements all play a role.

The life span of a typical web query normally lasts less than half a second, yet involves a number of different steps that must be completed before

results can be delivered to a person seeking information. The following graphic (Figure 1) illustrates this life span (from <http://www.google.com/corporate/tech.html>).

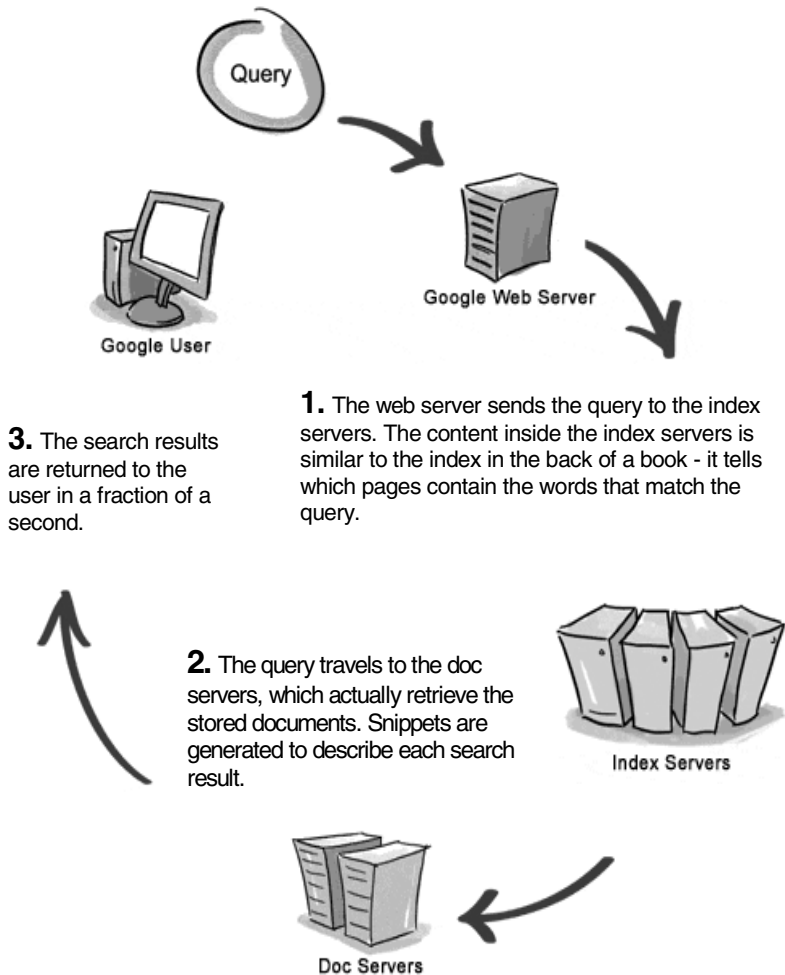


Figure 1. The life span of a typical crawler-based search engine query

Human-powered directories. A human-powered directory, such as the Open Directory Project (<http://www.dmoz.org/about.html>) depends on humans for its listings. (Yahoo!, which used to be a directory, now gets its information from the use of crawlers.) A directory gets its information from submissions, which include a short description to the directory for the entire site, or from editors who write one for sites they review. A search looks for matches only in the descriptions submitted. Changing web pages, therefore, has no effect on how they are listed. Techniques that are useful for improving a listing with a search engine have nothing to do with improving a listing in a directory. The only exception is that a good site, with good content, might be more likely to get reviewed for free than a poor site.

Hybrid search engines. Today, it is extremely common for crawler-type and human-powered results to be combined when conducting a search. Usually, a hybrid search engine will favor one type of listing over another.

THE PARTS OF A CRAWLER-BASED SEARCH ENGINE: SPIDER, INDEX, SEARCH ENGINE SOFTWARE

Crawler-based search engines work through the interaction of three elements: (a) the spider or crawler, (b) the index, and (c) search engine software. The first element is the spider, which visits a web page, reads it, and then follows links to other pages within the site. The spider returns to the site on a regular basis, such as every month or two, to look for changes.

Everything the spider finds goes into the second part of the search engine, the index. The index, sometimes called the catalog, is like a giant book containing a copy of every web page that the spider finds. If a web page changes, then this book is updated with new information.”:

Sometimes it can take a while for new pages or changes that the spider finds to be added to the index. Thus, a web page may have been “spidered” but not yet “indexed.” Until it is indexed, it is not available to those searching with the search engine.

Search engine software is the third part of a search engine. This is the program that sifts through the millions of pages recorded in the index to find matches to a search and rank them in order of what it believes is most

relevant. They determine relevance by following a set of rules, known as an algorithm. Exactly how a search engine's algorithm works is not disclosed to the public. However, the following general rules apply to all search engines, which can be categorized as "on the page" (more controllable) and "off the page" (less controllable) factors:

"On the Page" Factors

Location and frequency of keywords. One of the main rules in a ranking algorithm involves the location and frequency of keywords on a web page. Location involves searching for pages with the search terms appearing in the HTML title tags, which are assumed to be most relevant. Search engines will also check to see if the search keywords appear near the top of a web page, such as in the headline or in the first few paragraphs of text. For instance, Figure 2 contains an example of HTML coding positioned within the EDTECH website header tag. Notice that the title tag includes important words as to the content of the webpage/site. The keyword metatag data are also highlighted. (To view any page's html source, simply select "view" from the browser menu bar and then "page source.")

Frequency is the other major factor in how search engines determine ranking. A search engine will analyze how often keywords appear in relation to other words in a web page. Those with a higher frequency are often deemed more relevant than other web pages.

While all major search engines follow this procedure to some degree, they each have their own specific criteria. Some search engines index more web pages than others. That is why when search terms are inserted in different search engines, different results occur. Search engines may also penalize pages or exclude them from the index, if they detect search engine "spamming." This occurs when a word is repeated hundreds of times on a page to increase the frequency and put the page higher in the listings. Search engines watch for common spamming methods in a variety of ways, including responding to complaints from their users.

While web designers can control the coding and design of their websites, there are additional factors in search engine criteria that are less controllable, often called "off the page" factors. These will be discussed next.

```
<html>

<head>
<meta http-equiv="Content-Language" content="en-us">
<meta name="GENERATOR" content="Microsoft FrontPage 4.0">
<meta name="ProgId" content="FrontPage.Editor.Document">
<meta http-equiv="Content-Type" content="text/html; charset=windows-1252">
<title>Educational Technology at Boise State University</title>
<meta name="keywords" content="education, educator, educational, educational technology, instructional, instructional technology, graduate, graduate certificate, graduate certificates, masters degree, master's degree, online masters degree, online master's degree, educational research, instructional theory, integration, integrating technology, technology integration, multimedia, evaluation, assessment, authentic assessment, teaching online, online teaching, graduate certificate, problem based learning, problem-based learning, instructional theory, learning theory, online, Internet, internet, asynchronous, interactive, technology, constructivist, constructivism, accredited, regionally accredited, national council for accreditation of teacher education, NCATE">
<meta name="Microsoft Border" content="1">
</head>
```

Figure 2. Behind the scenes look at the header metadata of the EDTECH homepage (March, 2005)

“Off the Page” Factors

Link analysis. To maintain an accurate representation of web pages indexed in a search, search engines also use link analysis to determine relevance. By analyzing how pages link to each other, a search engine can often determine

what a page is about and whether that page might be important, resulting in a rank increase. This is considered an “off the page” factor, as it cannot be as easily controlled and manipulated by web designers.

Click through measurement. Another “off the page” factor is click through measurement. This refers to the way search engines watch what someone selects from a list of search results. Search engines will eventually drop high-ranking pages that do not attract clicks, while promoting lower-ranking pages that generate more. As with link analysis, search engines have systems in place that will identify artificial links created by unethical web designers.

All crawler-based search engines work through the basic parts previously described, but there are differences in how these parts are adjusted. Information about search engines for this research has been drawn from online resources and journal articles (Goldsborough, 2005; Guenther, 1999, 2004; Sullivan, 2004) and from the three major search engines: Google (2004), Yahoo! (2005) and MSN. For this research, it is critical to obtain and analyze the most recent information, since search engine criteria are constantly changing.

Major Crawling Search Engine Criteria

Comparing and understanding the differences in crawling-type search engines can greatly assist a web designer in writing and coding the pages. Table 1 provides an accurate and concise comparison of the major crawling search engines and their criteria for sorting and ranking query results. Each of the terms is defined.

Deep crawl. All crawlers will find pages to add to their web page indexes, even if those pages have never been submitted to them. However, some crawlers are better than others. This section of the chart shows which search engines are likely to do a “deep crawl” and gather many pages from your web site, even if these pages were never submitted. In general, the larger a search engine’s index is, the more likely it will list many pages per site.

Frames support. This shows which search engines can follow frame links.

Robots.txt. The robots.txt file is a means for webmasters to keep search engines out of their sites.

Table 1
Major Crawling Search Engine Criteria

Crawling	Yes	No	Notes
Deep Crawl	AllTheWeb, Google, Inktomi	AltaVista, Teoma	
Frames Support	All	n/a	
robots.txt	All	n/a	
Meta Robots Tag	All	n/a	
Paid Inclusion	All but...	Google	
Full Body Text	All	n/a	Some stop words may not be indexed
Stop Words	AltaVista, Inktomi, Google	FAST	Teoma unknown
Meta Description		All provide some support, but AltaVista, AllTheWeb and Teomamake most use of the tag	
Meta Keywords	Inktomi, Teoma	AllTheWeb, AltaVista, Google	Teoma support is "unofficial"
ALT text	AltaVista, Google, Teoma	AllTheWeb, Inktomi	
Comments	Inktomi	Others	

Meta robots tag. This is a special metatag that allows site owners to specify that a page shouldn't be indexed.

Paid inclusion. Shows whether a search engine offers a program where you can pay to be guaranteed that your pages will be included in its index. This is NOT the same as paid placement, which guarantees a particular position in relation to a particular search term.

Full body text. All the major search engines say they index the full visible body text of a page, though some will not index stop words or exclude copy deemed to be spam. Google generally does not index past the first 101K of long HTML pages.

Stop words. Some search engines either leave out words when they index a page or may not search for these words during a query. These stop words are excluded as a way to save storage space or to speed searches.

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Meta-description. All the major crawlers support the meta-description tag to some degree. The ones named on the chart are very consistent, according to <http://searchenginewatch.com>.

Meta keywords. Shows which search engines support the meta-keywords tags.

ALT text/comments. This shows which search engines index ALT text associated with images or text in comment tags.

GOOGLE AND MSN SEARCH ENGINES

While it is important to understand how search engines work and the individual criteria of search engines, it is also important to identify and focus research on the search engines that are most often used. The three most popular search engines as of the date of this research are Google, Yahoo!, and MSN. Searchers use well-known, commercially backed search engines generally for more dependable results. Google, Yahoo!, and MSN are more likely to be well-maintained and upgraded when necessary to keep pace with the growing volumes of information available on the Internet and Web. When researching the web log statistics of the EDTECH website, the two main search engines being used were Google and MSN. Therefore, this research will focus on these two search engines.

GOOGLE SEARCH ENGINE: [HTTP://WWW.GOOGLE.COM](http://www.google.com)

Google is well known and is the preferred choice for many searching the Web. The crawler-based service provides both comprehensive coverage of the Web along with great relevancy. Google stands alone in its focus on developing the “perfect search engine,” defined by cofounder Larry Page as something that, “understands exactly what you mean and gives you back exactly what you want” (Google, 2004).

The software behind Google’s search technology conducts a series of simultaneous calculations requiring only a fraction of a second. Traditional search engines rely heavily on how often a word appears on a web page.

Google uses a system called PageRank to examine the entire link structure of the Web and determine which pages are most important. It then conducts hypertext-matching analysis to determine which pages are relevant to the specific search being conducted. Google's corporate information says that "by combining overall importance and query-specific relevance, Google is able to put the most relevant and reliable results first" (Google, 2004).

Google provides the option to find more than web pages. On the top of the search box on the Google home page, one can search for images, participate in discussions that are taking place on Usenet newsgroups, locate news information, or perform product searching. Using the "More" link provides access to human-compiled information from the Open Directory, catalog searching, and other services.

Google is also known for the wide range of features it offers, such as cached links that offer the resurrection of dead pages or older versions of recently changed ones. It offers excellent spell checking, easy access to dictionary definitions, integration of stock quotes, street maps, and telephone numbers. The Google Toolbar has also won a popular following for the easy access it provides to Google and its features directly from the Internet Explorer and Firefox browser.

In addition to Google's unpaid editorial results, the company also operates its own advertising programs. The cost-per-click AdWords program places ads on Google as well as some of Google's partners. Similarly, Google is also a provider of unpaid editorial results to some other search engines. The basics of getting listed in Google's search engine are listed at the following URL: <http://www.google.com/webmasters/1.html>.

Since Google is a fully automated search engine, using robots known as "spiders" to crawl the <Web on a monthly basis and find sites for inclusion in the Google index, it is not necessary to submit a website to be included in the index. The vast majority of sites listed with Google are not manually submitted for inclusion.

Getting Listed on Google

1. Google does not accept payment for inclusion (known as "paid inclusion") of sites in their index, nor for improving the ranking of sites. The

method by which they find pages and rank them as search results is determined by the PageRank technology developed by founders, Larry Page and Sergey Brin.

2. The best way to ensure Google finds a site is for a page to be linked from lots of pages on other sites.

MSN SEARCH: HTTP://WWW.LIVE.COM

MSN has recently upgraded their search engine and is now using its own search engine technology. Originally called MSN Search, it is now called Live Search. MSN suggests the following guidelines for successful indexing:

- Use only well-formed HTML code in your pages.
- Ensure that all tags are closed, and that all links function properly.
- If a site contains broken links, MSNBot may not be able to index the site effectively, and people may not be able to reach all pages.
- If a page is moved, set up the page's original URL to direct people to the new page, and tell them whether the move is permanent or temporary.
- Make sure MSNBot is allowed to crawl the site, and is not on a list of web crawlers that are prohibited from indexing the site.
- Use a robots.txt file or metatags to control how MSNBot and other web crawlers index the site. The robots.txt file tells web crawlers which files and folders it is not allowed to crawl. The Web Robots Pages (<http://www.robotstxt.org/wc/robots.html>) provide detailed information on the robots.txt Robots Exclusion standard.
- Keep URLs simple and static. Complicated or frequently changed URLs are difficult to use as link destinations. For example, the URL www.example.com/mypage is easier for MSNBot to crawl and for people to type than a long URL with multiple extensions. Also, a URL that doesn't change is easier for people to remember, which makes it a more likely link destination from other sites.

Content Guidelines

- The best way to attract people to a site, and keep them coming back, is to design pages with valuable content that the target audience is interested in.
- In the visible page text, include words users might choose as search query terms to find the information on the site.
- Limit all pages to a reasonable size. MSN recommends one topic per page. An HTML page with no pictures should be under 150 KB.
- Make sure that each page is accessible by at least one static text link.
- Create a site map that is fairly flat (i.e., each page is only one to three clicks away from the home page). Links embedded in menus, list boxes, and similar elements are not accessible to web crawlers unless they appear in the site map.
- Keep the text that you want indexed outside of images. For example, if a company name or address wants to be indexed, make sure it is displayed on the page outside of a company logo.

Items and Techniques Discouraged by MSN Search

The following items and techniques are not appropriate uses of the index. Use of these items and techniques may affect how a site is ranked within MSN Search and may result in the removal of a site from the MSN Search index:

- Loading pages with irrelevant words in an attempt to increase a page's keyword density. This includes stuffing ALT tags that users are unlikely to view.
- Using hidden text or links. Only use text and links that are visible to users.
- Using techniques to artificially increase the number of links to your page, such as use those terms to guide the text and construction of web pages.

- Users are more likely to click a link if the title matches their search. Choose terms for the title that match the concept of designated pages.
- Use a “description” metatag and write the description accurately and carefully. After the title, the description is the most important draw for users. Make sure the document title and description attract the interest of the user but also fit the site content.
- Use a “keyword” metatag to list key words for the document. Use a distinct list of keywords that relate to the specific page on the site instead of using one broad set of keywords for every page.
- Keep relevant text and links in HTML. Placing them in graphics or image maps means search engines can’t always search for the text, and the crawler can’t follow links to other pages on the site. An HTML site map, with a link from your welcome page, can help make sure all your pages are crawled.
- Use ALT text for graphics. It is good page design to accommodate text browsers for visually impaired visitors, and it helps improve the text content of the page for search purposes.
- Correspond with webmasters and other content providers and build rich linkages between related pages.
- “Link farms” create links between unrelated pages for no reason except to increase page link counts. Using link farms violates Yahoo!’s Site Guidelines and will not improve page ranking.

AWSTATS PROGRAM

The EDTECH department uses a program called AWStats (<http://awstats.sourceforge.net/>), to analyze its websites. This software is available for download on a server free of charge and generates advanced web, streaming, ftp or mail server statistics graphically. The log analyzer shows all possible information the log contains, in a few graphical web pages, which makes it easier for a layperson to analyze and interpret. AWStats is highly respected, with commendations from several organizations: <http://>

awstats.sourceforge.net/awstats_award.html. This analyzer has been installed as of February 11, 2005. The data for March of 2005 were initially analyzed for this report, with additional data analyzed for the month of August, 2006. (Yearly reports are not yet available for the researcher.) The most recent entire month for a follow-up report as of the date of this research update was August, 2006. Therefore, data from the month of March, 2005 were compared to the most recent month, August, 2006.

In March, 2005, for instance, the Google search engine was used by 83% of the visitors, followed by MSN (8%) and Yahoo! (3%). Looking at monthly reports comparing March, 2005 to August, 2006, there has been a drastic change from the use of Google as a search engine to MSN, with MSN search engine gaining the majority of use (82%) in August of 2006 (Figure 3).

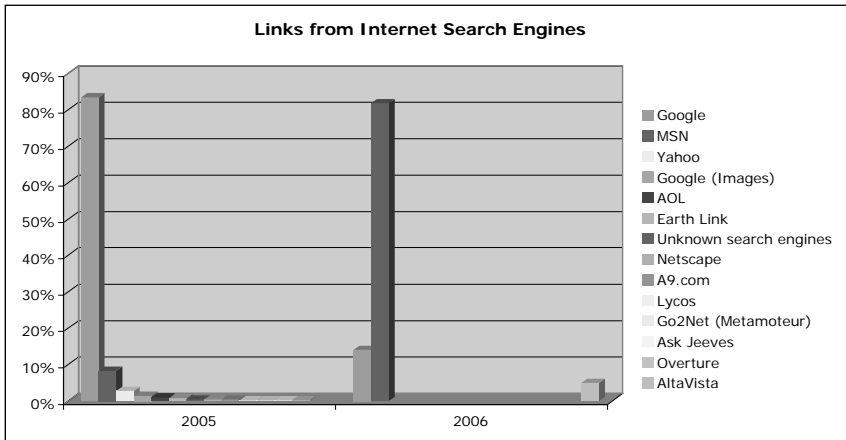


Figure 3. Links from Internet search engines, comparing March, 2005 to August 2006

How important are search engines to the visitors to the EDTECH site? It is important to note that most of the connections to the site come from a direct address or bookmark (56.7%), followed by links from an external page (26%) with Internet search engines being the smallest percentage/importance (15%). This percentage has stayed almost the same, comparing the original statistics from March, 2005, to those of August, 2006 (Figure 4).

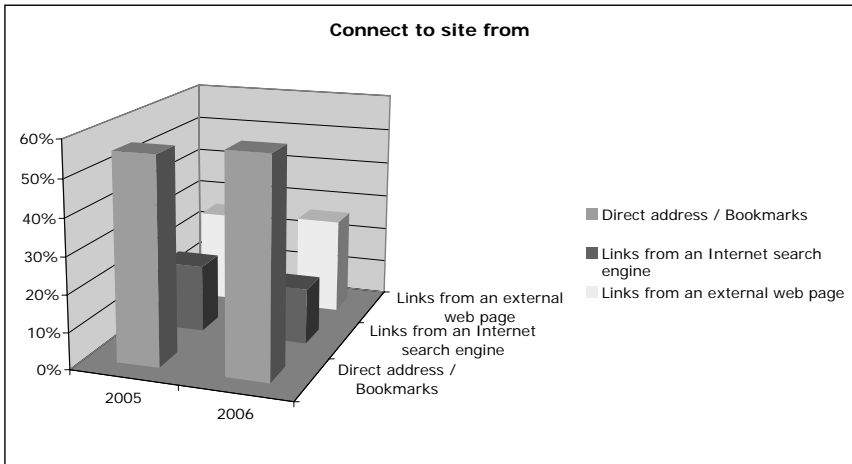


Figure 4. Connections to the EDTECH site from different sources, comparing March, 2005 to August, 2006

It is also important to know what browsers and types of operating systems and browsers site visitors used. These statistics have changed from March, 2005 compared to August, 2006, with the Windows XP operating system losing ground to Macintosh (Apple) and Internet Explorer becoming less popular, with Mozilla Firefox browser gaining ground (Figures 5 & 6).

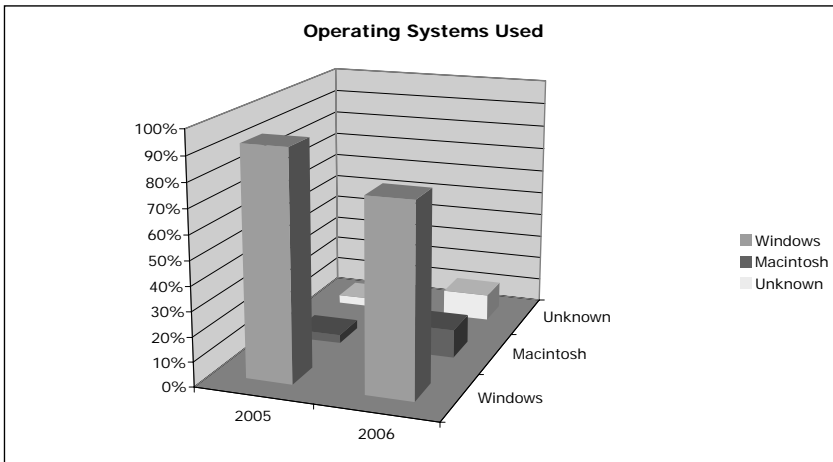


Figure 5. Operating systems used in March, 2005 and August, 2006

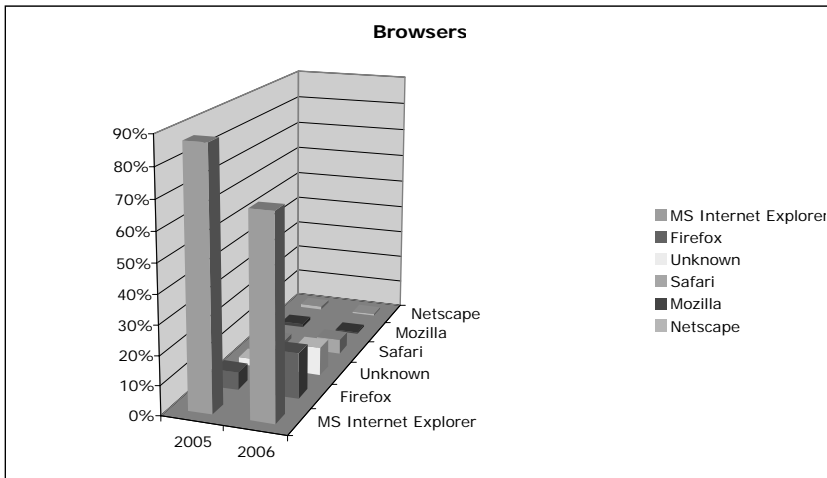


Figure 6. Browsers used in March, 2005 and August, 2006

As discussed earlier, web log statistics indicate that as of August 2006, 15% of users connected to the EDTECH site through a search engine. While this percentage is not as high as the direct bookmark or links from external sources, it is still important to understand how to optimize the website for major search engines based on the top two search engines identified by the web log files: Google and MSN. It appears as though MSN is now replacing Google as the top search engine used by EDTECH website visitors, with Yahoo being using very little. Therefore, while Google and MSN search engines are discussed, it is advisable to now look more closely at the MSN search engine criteria, to make sure that the website is optimized for this engine.

Although search engines provide a valuable resource for locating sites online, there are many other ways users find the EDTECH site. Since data became available and continuing through August of 2006, more than half of the EDTECH visitors access the website through direct address or bookmarks. In other words, users who access the site are already users of the site. Also, more than 25% of visitors find the site from external links. For instance, various Boise State web pages and the Blackboard Course Management System (<http://blackboard.boisestate.edu>) create strong links to the site. While the popularity of external links changes from month to month, a pattern of external links from Boise State webpages, the Blackboard course

management system, subpages of the EDTECH website, and the Idaho Electronic campus, a database of distance courses offered by Idaho universities and financed by the Idaho State Board of Education, are predominant players in this category.

STUDENT SELF-REPORTING SURVEYS

An e-mail request to complete an online survey was submitted to a database of EDTECH graduate students. This survey was written by the researcher and included both quantitative and qualitative data, thus providing a rich resource for this study. The student surveys demonstrate high content validity, in that the items represented the information that the survey was designed to evaluate. Also, the accuracy of the survey data are extremely high, since the data were collected electronically and imported into statistical analysis programs, both Microsoft Excel and SPSS. There are reduced chances for error when data is collected in this fashion. Finally, the student survey results corroborated with the web log file data, providing more support for their reliability.

The survey is available online at: http://edtech2.boisestate.edu/bschroeder/edtech_student_survey.htm and also detailed in Appendix B.

Descriptive Statistics from Student Surveys

As of April 21, 2005, approximately 25% ($n=59$) of the total e-mails sent responded to the survey. This sample represents the general population of the total EDTECH student body, with 98.3% of the respondents being in the master's degree program, 1.7% being in the Technology Integration program, 1.7% in the Online Teaching program, and 1.7% in the Technology Coordinator Program. Also, 72% of the respondents were female and 28% male, very similar to the population distribution of females (72.25%) and males (27.75%) enrolled in the education program at Boise State.

As far as employment, 78% of the respondents indicated they worked full-time, 17% part-time, and 5% are not working. Sorted by gender, the breakdown of employment is 82% fulltime, 12% part-time, and 6% not

working (males), and 76% fulltime, 24% part-time, and 5% not working (females), a nonsignificant difference between genders.

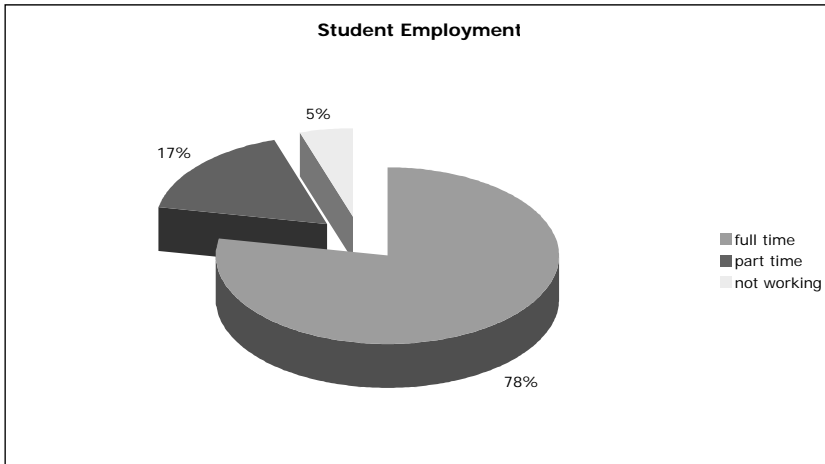


Figure 7. Employment status of survey respondents

How Respondents Discovered the Program

About 40% of the respondents indicated that they found out about the program through the EDTECH website. Following that was searching the Internet, with 25.4% of the respondents. (This percentage corresponds very closely with the statistics from the EDTECH web log analysis, which indicated that 25% of the visitors used the Internet to find the website.) The Boise State website and friends each comprised 22% of the total respondents. It is very important to note that the categories of print and events were not used at all or very little (0% and 3.4% respectively) in the respondents' indications for how they found out about the program.

Important Features of the Program

The researcher also wanted to find out what features of the program were important to the EDTECH students. It was not surprising to discover that

98% listed the online aspect of the course as important, with being able to continue to work while taking the coursework coming in as second. The following chart shows the ranking of importance of these criteria:

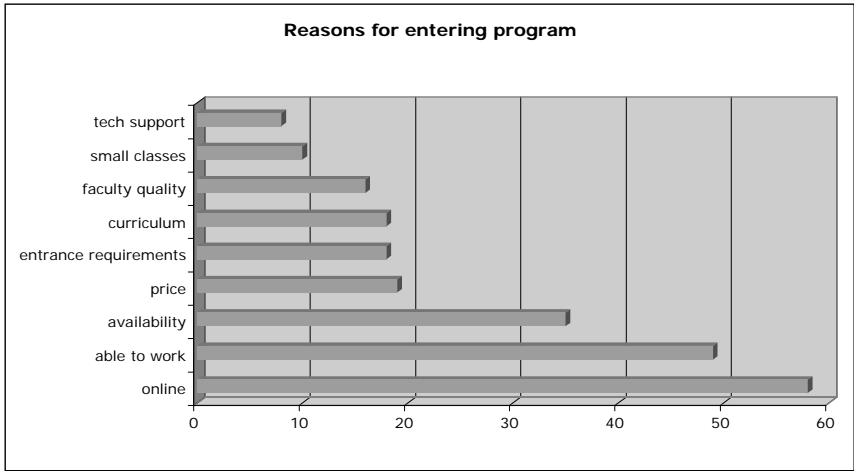


Figure 8. Reasons for enrolling in the EDTECH program

Importance of the EDTECH Website from Student Surveys

A ranking of the importance of the website was done on a scale from one to five, with five (5) representing the highest importance. The median of both male and female respondents was four (4), with the mean ranking for the entire group being 3.75 (3.77 for female and 3.69 for males).

Frequency of Visiting the EDTECH website from Student Surveys

The usage of the EDTECH website by the survey respondents indicated that 86% visited the website once per week, with 28.8% of those surveyed indicating that they hardly ever visited the website.

RECOMMENDATIONS

There is much to consider in evaluating the recruiting methods of any university program or department. Identifying and valuing a department's website as a very important vehicle for publicizing the program is crucial. Also, addressing and following through with other ways to publicize the program should be an important goal. Researching and comparing competing programs is another essential task. Analysis of web log statistics and student surveys can provide rich information from which to formulate and update recommendations.

Recommendation 1: Designation of Webmaster to Work Exclusively On Site

The process of designing a web site to maintain a strong web presence is dynamic and complex, since search engines are constantly changing their criteria. Unfortunately, it is not a process that can be done once and then forgotten. It involves the persistent examination of website rankings with search engines, an updating of web content, an examination of competing websites and programs, and an unrelenting desire to create the best site possible. It is a job that requires more work than meets the eye. It is a job that requires a skilled webmaster, or someone who is willing to put in the time and effort to learn and implement web guidelines. Therefore, it is the recommendation of this evaluation that a position for an EDTECH webmaster be created, requiring the continual maintenance of the website according to the design and content standards, correspondence with instrumental webmasters, and the monitoring of departmental publicity efforts. This person should have the ability to focus solely on improving the publicity of the site. Included, but not limited to this person's duties would be:

1. Increasing awareness of website design and content standards for all people working on website.
2. Continual examination and recording of search engine queries, noting position and placement on the search engine results page.
3. Maintaining a presence on the Internet and Web through implementation of departmental web standards.

4. Monthly examination of competing websites and programs.
5. Downloading, review, and possible implementation of user website feedback.
6. Sending out e-mail notifications of website enhancements and changes.
7. Weekly review of web log statistics, with monthly report to department chair.
8. Making recommendations for website changes.
9. Updating current knowledge of search engine criteria through examination of search engine websites.

Recommendation 2: Website Design and Content Standards

It is another recommendation of this evaluation to create Web Design and Content Standards in order to implement a more stringent, informative, and coherent program of web design for the department. A checklist of standards should be developed that the webmaster could work from. These recommendations can be applied to any organization and are provided as a helpful list in Appendix C.

Recommendation 3: Build and Maintain Strong Relationships with Other Webmasters

As discussed previously, some of the users of the EDTECH website are directed there from external links. It is imperative that the department nurture and build rich relationships with those who are responsible for creating and maintaining these links. Monthly correspondences with webmasters are suggested.

Since a webmaster has not been assigned to maintain and monitor the website, along with various publicity tasks, this is not currently being done. It is the recommendation of this report that a highly-qualified person with

web design and people skills be sought and hired for this position. As the website continues to evolve, with more opportunities for cross-linking and support through various organizations, the EDTECH program can be more aggressively publicized.

Recommendation 4: Publicize the Website though Departmental Standards

It is also recommended that the department implement additional standards that will further publicize the website. Some of these recommendations have been implemented since the release of this study.

1. All instructor course websites should include a text-based link to the EDTECH website.
2. All e-mail correspondences from the department should include an automatic signature that includes a link to the website.
3. Phone messages should also include the website address, with information such as “For additional information or questions about our program, go to our website, edtech.boisestate.edu.”
4. Any web page that faculty authors should include a text-based link to the website.
5. All letterheads, envelopes, business cards, brochures, and so forth, should include a highly visible web address.
6. All predominant signs in the department, including instructor name plaques, should include the website address.
7. E-mails should be sent out to users on a periodic basis, informing them of new website content or announcements, which could increase traffic on the site.

CONCLUSIONS

This evaluation offers many insights into the workings of web search engines, how users find and use websites, and the many ways to more effectively publicize a university program, especially if your program is run by a self-support mechanism. It is not meant to be comprehensive, but rather offers ideas on standardizing web design and ways of improving one's presence on the Internet and Web. Like search engine criteria, publicizing and maintaining a website is a dynamic, recursive process, subject to examination, tweaking, revision, and then examination once again. Most importantly, it requires a dedicated effort by the webmaster and the staff and faculty of the department. The intended outcome of this process is for a steady increase in enrollment and current user satisfaction of the website.

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APPENDIX A: SEARCH ENGINE RESOURCES

Pandia

<http://www.pandia.com>

Learn how to search the Web more efficiently, read about search engines, optimization and sites devoted to searching.

Spider Food Forums

<http://forums.spider-food.net>

Virtual Promote

<http://www.virtualpromote.com>

Another excellent search engine optimization community.

WebMaster World

<http://webmasterworld.com>

Fantomaster

<http://fantomaster.com>

Provides a wealth of information, extensive guidance on cloaking, and many tools for search engine optimization.

WebWorkshop

<http://www.webworkshop.net>

In depth articles, forums, and commentary.

Web Search at About.com

<http://websearch.about.com>

Search Engine Lowdown

<http://searchenginelowdown.com>

Search Guild

<http://searchguild.com>

Google Guy Says

<http://www.markcarey.com/googleguy-says>

Offers review regarding commentary from Webmaster Worlds member named Google Guy

A Promotion Guide

<http://www.apromotionguide.com>

A good reference for SEO. Articles, news and other information about website promotion and search engines.

Search Engine Watch

<http://searchenginewatch.com>

The industry standard. Danny Sullivan's Search Engine Watch is considered by many to be the most authoritative search engine optimization resource on the Web.

SearchEngines.com

<http://searchengines.com>

One of the most organized and comprehensive search engine resources on the net with easy to use navigation.

Self Promotion

<http://selfpromotion.com>

Great resource and an excellent free submission service. Also check out the "Getting Listed in Yahoo!" tutorial.

Spider Hunter

<http://spiderhunter.com>

APPENDIX B: ONLINE STUDENT SURVEY

Some questions about you:

Are you currently enrolled in the EdTech graduate program at Boise State?

In which program are you enrolled?

How many credits have you taken so far in the program?

If you are currently enrolled, are you holding a full-time position, part-time position, not working?

Are you a teacher?

What is your age?

What is your gender?

What is your zip code?

Why did our program appeal to you (select all that apply):

- Online program/flexibility of time
- Availability
- Could still work while taking classes
- Quality of faculty
- Small classes
- Updated Curriculum
- High rating of program/Accreditation
- Entrance requirements
- Competitive price

- Technical support
- Personal response to questions
- Other (Please explain):

How did you find out about the master's degree in Educational Technology program here at Boise State? (Check all that apply)

- BSU EDTECH website: <http://edtech.boisestate.edu>
- Gradschools.com: <http://gradschools.com>
- Boise State website: <http://www.boisestate.edu>
- Friend/word of mouth
- Print advertisement/direct mailing
- Internet/Internet Portals
- Recruiting Event
- Other: Please list:

How important was our EdTech website (<http://edtech.boisestate.edu>) in your decision to enroll/find out more about our program?

- Very important, it was the only resource I researched
- Important, it was a major resource for information
- Somewhat important, it was one of the resources I used
- Hardly important, I knew about it, but did not use it for information
- Not important, I didn't know about it

Did you conduct searches online for educational technology master's degree programs?

If so, what search engine(s) did you use? (check all that apply):

- Google
- MSN
- Yahoo
- AltaVista
- Other
- N/A

What other programs/schools were you considering?

How often do you visit the EdTech website for information about the program?

Do you have any suggestions for change/improvement to our website?

APPENDIX C: WEBSITE DESIGN STANDARDS

1. Ensure that your website includes valuable content in which the target audience is interested. Content should be up-to-date and valuable to the user, providing reliable information and resources. One way to do this is to create an online feedback form which requests visitor comments on site design and other features that might need changing or improving. Calendars and deadline dates should be accurate and current.
2. Emphasize the important attributes of your program, such as “master’s degree offered entirely online.”
3. Create page title metatags that match the concept of each page.
4. Consider using a drop down vertical navigation structure, which would create an uncluttered and more focused starting point. Directional arrows (such as the > symbol) should be used to indicate further content within or underneath those links.
5. Include words in the visible page text that users might choose as search query terms to the find the information on the site.
6. Use a “description” metatag and write the description accurately and carefully. After the title, the description is the most important draw for users.
7. Use a “keyword” metatag to list key words for the page. Use a distinct list of keywords that relate to the specific page on the site instead of using one broad set of keywords for every page.
8. Use only well-formed HTML code. (If using a web editing program, Dreamweaver is recommended over Microsoft FrontPage.)
9. Ensure that all tags are closed, and that all links function properly.
10. Keep relevant text and links in HTML.
11. Create an HTML site map, with a link from the website homepage.
12. Make sure that each page is accessible by at least one static text link.

13. Spiders read information from the top left corner over. To make the best use of this, use text instead of images.
14. Use ALT text for all graphics.
15. Use text for visible page titles.
16. Create a “text only” link to accommodate text browsers for visually impaired visitors.
17. Keep URLs simple and static. Complicated or frequently changed URLs are difficult to use as likely destinations.
18. Limit all pages to a reasonable size. MSN recommends one topic per page and an HTML page with no pictures should be under 150 KB. Guidelines for the department should be to aim for web pages including pictures to be no more than 40KB.
19. Linked pages should be only one to three clicks away from the home page.
20. Create a “bookmark this site” on web pages, making it even easier for visitors to come back to the site and also for search engine spiders to index the page.
21. Include information zones providing information on authors (as needed), modification dates, and complete contact information.
22. Check website in both Internet Explorer and Firefox browsers.
23. Provide a clear link to return to the home page from all of the pages.
24. Make sure title metatag contains no more than 80 characters.
25. Provide text on home page that is relevant to page content. Use metatag analyzer to check metatag effectiveness and other statistics: <http://www.widexl.com/remote/search-engines/metatag-analyzer.html>
26. Make sure author metatag contains no more than 52 characters.

27. Check the sizes of images and make sure they are compressed for webpage viewing. (Adobe Photoshop Elements has a very easy feature called “Save for Webpage” that compresses images.)
28. Get web log statistics software (<http://awstats.sourceforge.net/>) to review your website and check it regularly.
29. Reduce the number of meta-keywords in the HTML code. Many search engines will only be able to scan the first 100-200 characters and ignore the rest when displaying the site to searchers. Need to weigh importance on the first few keywords and avoid repetition wherever.
30. Continually ask and monitor student and user feedback on website, making adjustments as necessary.
31. Use XHTML 1.0 strict if possible, adhering to the guidelines as presented in the following World Wide Web Consortium webpage: <http://www.w3.org/MarkUp/#recommendations>
32. Include relevant pages that address the purpose of your website, such as student portfolios or student home pages.
33. Consider using a content management system software to increase the interactivity of the website, to include student forums, file/image uploading, online chatting, and other formats that would provide feedback, stimulate student discussions, and create a community of EDTECH students and faculty.
34. Consider making the site more interactive and personal, by including weekly or monthly podcasts, answering questions, delivering announcements, etc. The podcasts could be delivered through a blog, which would encourage and facilitate asynchronous feedback through comments.
35. Continually look at your site from the aspect of a user and think about how it can be improved.