

An Analysis of the Most Useful Elements of an
Instructor-created Web Site

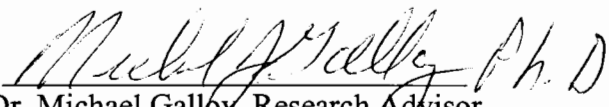
By

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Abstract

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The investigator in this study sought to establish and confirm the elements of an instructor-created web site that students viewed as important. This was accomplished by surveying students enrolled in traditional business education classes, at Western Wisconsin Technical College, where the instructor utilized a course web site. The survey asked students to identify elements of a course web site they felt were necessary or helpful, as well as any elements they felt did not add value to a course web site.

A survey was developed and distributed to 250 individuals, and 219 participants responded. The survey focused on four categories of course web site elements: course-related, instructor-related, college-related, and other elements. Since the purpose of the study was to determine the most useful elements of an instructor-created web site, those features that had an average rating of important, or very important, were considered to

represent valid elements. The investigator also conducted a literature review on common web site features, based on experts and practitioners.

It is the investigator's belief that the results of this study provide an outline of elements that students prefer to see on a course web site. This outline can be used to build college-wide design guidelines for creating an instructor web site.

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Chapter 1

Introduction

Introduction and background

The Wisconsin Technical College System (WTCS) was formed in 1911. “The mission of the WTCS emphasizes training for long-term vocational education or immediate employment” (Snider, 1999). Technical colleges must respond quickly to the expectations of business, industry and students. An Education Communications Manager at Wisconsin Technical College System Foundation, Robin Soine (1998), stated,

Education doesn’t take place in a vacuum. Community colleges were born out of the need to supply the globe with a highly skilled workforce – a workforce that is held accountable for what it has learned. Colleges today would lose ground and lose sight of their true purpose if they ignored the demands and expectations of business and industry.

Current expectations of business and industry require changes in post-secondary education. In the past, most post-secondary education took place on campus within the same four walls. Today, along with traditional classroom meetings, students and educators are interacting for learning purposes from work, home, and school or anywhere in between. “Students are becoming less place bound and often seek educational alternatives” (McQueen, 1999). Technology has made this possible.

Specifically, advances in technology have made Internet access available to almost everyone. Free Internet access is available at local libraries. And, it would be difficult to find a college campus that does not offer Internet access. The majority of community college students in the Midwest have access to the Internet from home.

Telephone and cable companies provide local Internet to individual homes. Additionally, there are many nation-wide Internet service providers. These companies like, Yahoo, Net-Zero and Earthlink are providing Internet service for a very reasonable price. "As of early 2002, 166 million Americans had access to the Internet from their homes" (World Almanac & Book of Facts, 2003). Community college students are getting busier and spending more time surfing the Internet (Zhang, 2001). Many community college students have families and are working. The majority of these students are working between 20 and 45 hours per week (Zhang, 2001). The combined demands of family, work and school causes students to look for new ways to juggle all three. One of the easiest to change is the manner in which education is received. Enabling students to get some of their course material via the Internet allows more flexibility.

As the students are changing, so must the content and delivery of curriculum. Students have many options when looking for education. They are no longer limited by geographical restrictions. Therefore, not only must educators remain current in their program specific fields, but they must also utilize current technology in delivery methods. Changes in technology have caused a chain reaction in the way that we relate to one another, work with one another and learn from one another (Lindsey-North, 2000). Many instructors are utilizing the Internet by creating course web sites to supplement traditional face-to-face instruction. "Some students respond better to course content, participate more in discussion and learn material more effectively via the course website" (Lindsey-Northy, 2000). The contents of these course related web sites vary greatly. The contents of a course related site can vary from a single web page to multiple web pages including a syllabus, assignments, interactive quizzes, grade postings and more.

Just as college students are getting busier, so are their educators. Among the challenges educators encounter, determining the expectations of business and designing instruction that face those “real world problems” are two that frequently surface (Soine, 1998). In addition to teaching and remaining current in course subject matter, each year educators are asked to perform more and more non-teaching related duties. These non-teaching duties can include, short-term and long-term budget planning, student advising, program marketing, clerical duties, accreditation requirements, and more. It becomes difficult for educators to decide which elements are most beneficial to their students for the purpose of learning. With all of the demands on an instructor’s time, it is only logical to assume that as new time requirements are added to an educator’s load, something must be given up. The question then becomes what to eliminate?

If students do not find a course web site useful, they will not use the site. If students do not utilize a site, it will be difficult for an instructor to justify the time spent creating and maintaining the site therefore potentially eliminating a beneficial tool for student learning. In addition to useful information on a course web site, the site should be easy to navigate. In order to promote usability, any web site designer should create a site with the users in mind. The designer should be aware of user expectations and how and why they will utilize the site (Bunz, 2001). Spending time up front designing a course web site that students will find easy to use and useful will increase the likelihood an instructor will continue to maintain the site.

Statement of the Problem

Lack of information on student use of a course-related, instructor web site makes it difficult to justify the time spent by an instructor creating and maintaining the site.

Data collected to highlight essential features would aid in time justification and direct instructor efforts to the most beneficial aspects of a web site. Therefore, the data collected and summarized will emphasize the essential features and applications necessary to justify the time and effort devoted by the instructor to the development of an accessible and effective website. Are students interested in eye-catching animation and graphics or basic course material? Do students utilize instructor-contact information? Should the web site contain information and links to college-wide policies and/or activities?

This study evaluates the features of a course-related, instructor web site to determine which features are most useful to students. The evaluation will be limited to students who have taken a course, with an instructor's web site, within the past nine months at Western Wisconsin Technical College.

Purpose of the Study

“A good web site requires more than colored text, a few graphics and a few links” (Bunz, 2001). The purpose of this study is to determine the most useful features of an instructor-created web site. The results can be used by technical colleges to determine if an instructor's web site contains the essential features. Additionally, it can be used to build college-wide design guidelines for creating an instructor web site.

Research Questions

The following questions will be answered by the data gathered through this study:

1. What course-related elements do students prefer to see on a course web site?
2. What instructor-related elements do students prefer to see on a course web site?
3. What college-wide elements do the students prefer to see on a course web site?
4. Are there other elements that students would prefer to see on a course web site?

Significance of the Study

As more and more instructors at technical colleges begin to incorporate web sites into their courses, it is important that these sites contain necessary and useable features. This study will determine features that are preferred by students.

This study will provide a list of student preferences in a prioritized order, which will allow instructors to create a more effective web site. Additionally, this list could be used to format a design guideline which will minimize time spent on a web site. By understanding issues relating to web design, more instructors may develop or adopt a course web site.

Limitations of the Study

The limitations of the study are:

1. The population for evaluation was limited to students enrolled in courses with an instructor created web site at Western Wisconsin Technical College.
2. The sample was restricted to students enrolled in business courses at Western Wisconsin Technical College. Although the results may provide valuable information to other education institutions, the intentions are to provide information specifically for Western Wisconsin Technical College.
3. The researcher developed the instrument used in this study.

Assumptions of the Study

The following assumptions were made:

1. Students prefer elements on instructor or course web sites that contribute to their learning process.

2. A student will not use an instructor's web site if the information contained is not useful to the student.

Definition of Terms

Chat Room: a virtual room where a chat session takes place (Webopedia.com, 2004).

Discussion Board: an online threaded discussion (Estes, Bronack, & Schoeney 1999).

Hyperlink (link): from one site a user clicks on a link that sends them to another site (World Almanac & Book of Facts, 2003).

Internet: A vast computer network of computer networks (World Almanac & Book of Facts, 2003).

Internet Service Provider (ISP): the company that supplies a user with a connection to the Internet (World Almanac & Book of Facts, 2003).

World Wide Web (WWW): a graphical environment that can be navigated through hyperlinks (World Almanac & Book of Facts, 2003).

Chapter 2

Literature Review

Introduction

In order to more easily discuss an instructor's web site, three major classifications have been made: course related elements, instructor related elements and college related elements. Course related elements would include the course syllabus and other course documents, discussion boards and other communication tools, and grade postings. Course documents could include a class schedule, assignments, handouts, homework examples, homework solutions, lecture notes, interactive quizzes, and more. Basically, anything that could be distributed in a traditional, face-to-face classroom could be disseminated using a web site. In addition to discussion boards, communication tools could include a mailing list server, chat rooms and electronic mail (email) functions. Using the Internet as a communication tool creates an additional opportunity to build rapport with and between students (Lindsey-North, 2000). For example, using a discussion board allows a student time to think and reflect before answering a question or posting a comment. Therefore, students who are typically quiet in class may have an opportunity to express opinions. Additionally, those ideas voiced in class have another chance to be explored more thoroughly by those interested.

Instructor related elements would include contact information, background and credentials, and a teaching/learning philosophy. Specifically, contact information could include the instructor's telephone number, office location, email address, schedule and hours of availability. The background and credentials area could include an instructor's work and educational experience and history, personal information and a photo. This area

could be used to help students see their instructors as people (Reeves, 1998). The personal information could include the instructor's hobbies, interests and "silly" pictures.

College related elements include departmental information, links, and policies. The departmental information and links may include information and/or links to admissions, registration, educational divisions, financial aid, employment services, and more.

The review of literature will include: review of books, articles, research and web sites relating to instructors web sites.

Background

The Internet's existence came about based on developments in governmental, academic and informational technology agencies. Major historical markers date back to 1969 and the Department of Defense. The World Wide Web (WWW) was developed in 1989-90 as a way for scientists to share information. The first browser to access the WWW was developed in 1991. By 2002, nearly 95% of Internet users were browsing utilizing Internet Explorer. The second most popular browser, Netscape Navigator, was utilized by slightly more than 3% of Internet users. Prior to 2002's distant second place, Netscape Navigator had held the majority of the users. Netscape began losing ground to Internet Explorer in 1998 (World Almanac, 2003).

The most popular features of the Internet are electronic mail (email), and the WWW (World Almanac, 2003). Currently, the Internet is used for entertainment, business and education. Many students are completing research using the Internet.

"Most of today's students arrive at college already having some experience with the web" (Terry, 1999). These students are utilizing the Internet to find information. And,

more and more faculty are utilizing Internet components in their classes. However, for educators who are already spread too thin with teaching and non-teaching responsibilities, the time needed to develop and maintain a web site may prove too much (Terry, 1999).

There are several advantages and disadvantages to faculty for utilizing Internet components in their classes. A couple of advantages include reduced time and expense distributing material. Instead of printing material and distributing during class time, they can be posted to a web site where students can view, download or print as they choose. Additionally, these materials can be revised by the instructor with minimal cost. Another advantage is that color and animation can be added to pages at no cost to the college. Other advantages include increased opportunity for student contact and socialization (Terry, 1999).

Among the disadvantages is a greater reliability on various sources of technology. These sources include computers, servers, Internet service providers (ISP) and projection equipment. An interruption in any of these sources could delay or alter course content and delivery. Another potential disadvantage relates to user preference. Some students may prefer to read paper material rather than a computer screen (Terry, 1999).

Studies

Several studies have found increased learning potential for both students and faculty utilizing the Internet (Estes, 1999). Will Zhang, (2001) stated, "Using an instructor's home page to assist students has become increasingly important to students." Zhang, (2001) identified several items to incorporate into a web site. Important items include a student friendly front-page layout, a menu, information about the instructor,

handouts, assignments, cool links and campus information. A study in 2000 by Jill Lindsey-North, "Incorporating a Course Website into Teaching" summarized,

Incorporating a course website into teaching is a promising practice, especially for teacher education. Motivating all students to use the course website as a method of learning may be a challenge unless access and use is a required aspect of the course. However, some students respond better to course content, participate more in discussion, and learn material more effectively via the course website. Once established, a course website and discussion area can serve as an excellent teaching method, offering insight into students and the learning process. (p. 7)

By incorporating an instructional web site, not only do students learn course content, but also develop an understanding and ability to use technology (Lindsey-North, 2000).

A 1998 study conducted by Beth Chandler and Cleborne Maddox, "Student Use of Instructors' Web Sites," attempted to summarize college student usage of course web sites. Chandler and Maddox surveyed ten instructors and three hundred students. Seven instructors and 249 students completed the surveys. The result of this study found that,

Students are using the class web sites created by their instructors and they are doing so from either the school's computer lab or home. While many are frustrated by their lack of experience with using web browser, overall they understand its potential usefulness. To make the most of class web site, instructors should require students to use the web site very early in the class and perhaps not provide printed copies of information that they have posted. (p. 5)

Respondents felt that homework assignments, class schedule, lecture notes and links to relevant Web sites were the most used items on an instructor's web site. None of the

respondents made specific comments about the appearance of the web sites. However, this area rated high in both the most liked and most disliked features. And, many students indicated a frustration when a long wait time for graphics to load existed. Additionally, web pages that are overly “high-tech” may increase the likelihood that students become distracted from the objective of the site (Rice, 1998).

In 1998, as part of an ongoing study conducted by Thomas Reeves and Joanne Dehoney, “Cognitive & Social Functions of Course Web Sites,” the authors attempted to categorize components of course web sites. This part of the study found that,

All sites performed course management functions valued by instructors; a small subset also demonstrated easily implemented, successful, and pedagogically interesting uses of the Web; and pages in the sample conveyed implicit and explicit social information to students about the class and instructor. (p. 1)

The study was conducted at the University of Georgia where Reeves and Dehoney selected twenty-five class web sites across various educational disciplines. The elements of the sites were analyzed and placed into categories. Once the web sites were analyzed, interviews with the instructors were conducted. The goal of the interviews was to determine each instructor’s intent with respect to the web site. Reeves and Dehoney (1998) concluded, “While instructors may want their pages to perform housekeeping functions as a baseline, they are interested in understanding the more substantive instructional functions that their pages may potentially perform.”

Applications

Will Zhang, (2001) has used an instructor’s web site to help students in his writing courses at Des Moines Area Community College. Zhang posted examples of

previous students' written papers. He also posted information specific to classroom projects. Students were able to view photographs, read, and download relevant articles. Zhang believes that some of the projects he has assigned would have been difficult or impossible without the use of his web site (Zhang, 2001). Zhang has summarized a few things to do and not to do on a course web site. His "do" list contains: Maintaining and updating the site at least once per week; include a last updated date; use a menu; make the site academic; keep all front page items proportionate. His "not to do" list includes: Do not place instructor's credentials on front page; do not have an unprofessional picture of the instructor; and do not use colors that are too dull or too busy.

Timothy Hiles (1999) has created an instructor's web site for an art history class at the University of Tennessee. Hiles uses his web site to provide students with interactive reading assignments, visual aids and other study tools. Students use his site to prepare for class lecture and activities. Hiles (1999) surveyed the students taking his art history class and found that 100% of the respondents felt the site helped them study for class.

Kwi Park-Kim (1999) of Bronx Community College has created a web site to distribute course material, communicate with students, assignments and tests, and links to other relevant sites. Park-Kim believes that the web site increased student responsibility and involvement in the learning process. Park-Kim (1999) concluded that, "The web proved beneficial to those students who missed class. Lectures and one-to-one faculty-student interaction are still important, but technology lets students take a more active role in learning."

Chapter 3

Methodology

The purpose of this study was to determine the most useful features on an instructor-created web site. The following section will give a detailed account of the participants involved in the study, the instrument used, the data collection techniques and a description of how the data was analyzed.

Research Design

The research design is descriptive in that it uses a survey to determine the values participants place on each element of an instructor-created web site. The research questions require little in the way of statistical analysis. For this paper, means and standard deviations were calculated for each element to see if participants felt the elements identified were important to continue to include in an instructor-created web site. A ranking order was also established using the mean.

Population

The participants in this study were students attending Western Wisconsin Technical College. The population surveyed was enrolled in a face-to-face business education class where the instructor utilized a course web site. The participants taking the training were from a variety of business programs.

Instrumentation

To determine the most useful features of an instructor-created web site, a survey was constructed (Appendix A is a copy of the survey) to gather data from students to see what elements the students considered most important. The participants were surveyed using an instrument developed by the researcher. The survey attempted to measure the

most important elements of an instructor-created web site. Responses were measured using a three-point Likert scale that included the responses: very important, important, and not important. Definitions for each category were as follows:

- very important – you feel this element is necessary to a course web site;
- important – this element is not necessary, but helpful to include in a course web site;
- not important – you do not see value to including this element in a course web site.

The survey also gathered demographics so participants could be categorized by gender, age, and program of study. Two additional questions were asked to determine whether the participant had utilized the instructor's web site and how the participant primarily accessed the site. A final question asked the participants to list any other elements they felt were necessary on a course web site.

Validation of Survey Document

The survey document was piloted to eleven students in a business education course at Western Wisconsin Technical College. The eleven individuals were asked to take the survey and provide feedback on any questions they did not understand, as well as any additional suggestions they wanted to offer to improve the survey. The participants did not recommend any changes to the survey.

Data Collection

Business education instructors who had an instructor-created web site, and were teaching in traditional face-to-face classrooms, were identified and contacted on December 6, 2004. These instructors were directed to request students in face-to-face

classes, supported with a web site, complete the survey by December 9, 2004. Survey participants were instructed to complete the survey only once, even if presented in multiple classes. A total of 219 individuals responded by the deadline.

Chapter 4

Results

The purpose of this study was to determine the most useful features of an instructor-created web site. Students enrolled in traditional business classes, supported with a web site, at Western Wisconsin Technical College were surveyed to determine what elements of an instructor-created web site they valued. Two-hundred fifty (250) surveys were distributed and 219 were completed and returned.

Demographic Information Gathered

Data was gathered to find the following demographics: gender, age, year in college, program, whether the student had accessed the instructor's web site, and how the student primarily accessed the web site. The results for each of these demographics are reported below.

The first question asked each participant to indicate his or her gender. The data showed the following breakdown.

Table 1

Gender of Respondents

Gender of Respondents	# of Respondents	Percentage
Male	103	47.0%
Female	116	53.0%

The next question asked the participant to indicate his or her age by selecting one of five categories. Data showed the following breakdown.

Table 2

Age of Respondents

Age of Respondents	# of Respondents	Percentage
Less than 25 years of age	124	56.6%
25-34 years of age	48	21.9%
35-44 years of age	28	12.8%
45-54 years of age	14	6.4%
55 years of age or older	5	2.3%

Data showed the following for number of years in college.

Table 3

Number of Years in College for Respondents

# of Years in College	# of Respondents	Percentage
1 st year in college	65	29.7%
2 nd year in college	82	37.4%
3 rd or more years in college	72	32.9%

The next question asked the respondent to list her or her program major and the data showed the following breakdown.

Table 4

Program Major of Respondents

Program Major of Respondents	# of Respondents	Percentage
Accounting	47	21.5%
Administrative Assistant	3	1.4%
Computer Science	25	11.4%
Finance	40	18.3%
Human Resources	59	26.9%
Marketing	34	15.5%
Supervisory Management	1	.5%
Non-business Majors	6	2.7%
Undeclared Majors	4	1.8%

In response to the question asking if each participant had utilized the instructor's web site, the data showed the following results.

Table 5

Utilization of the Instructor-Created Web Site

Utilization of the Instructor-Created Web Site	# of Respondents	Percentage
Yes	207	94.5%
No	12	5.5%

The next question asked each participant to indicate how he or she primarily accessed the course-related web site. The data showed the following breakdown.

Table 6

Participant's Primary Access of the Instructor-Created Web Site

Participants Primary Access of Course-Related Web Site	# of Respondents	Percentage
Computer Lab	77	35.2%
Work	8	3.7%
Home	122	55.7%
Other	3	1.4%
Do Not Access	8	3.7%

The remainder of the data collected will be organized and displayed as it relates to each of the research questions asked.

Research Question Number 1. What course-related elements do students prefer?

A list of course-related elements, in order of importance based on mean, as determined by the respondents is included below.

Table 7

Course-Related Elements Listed in Ranking Order from Most to Least Important by Mean as Determined by the Respondents

Scale:

Very important (You feel this element is necessary to a course web site) = 3

Important (This element is not necessary, but helpful to include in a course web site) = 2

Not important (You do not see value to including this element in a course web site) = 1

Ranking	Course-Related Elements Listed in Ranking Order from Most to Least Important by Mean Score	Mean
1	Assignments and due dates	2.91
2	Grades	2.74
3	Syllabus	2.65
4	Timeline (tentative course progression)	2.53
5	Handouts	2.48
6	Lecture notes	2.34
7	Practice quizzes	2.23
8	Links to other relevant sites	2.00
9	Games used to apply concept knowledge	1.74
10	Discussion board & other group communication tools	1.64

Data showed discussion board and other group communication tools and games used to apply concept knowledge received more than 40% “1” ratings, indicating that

these respondents did not see these elements adding value to an instructor-created web site. Below is the breakdown of responses for these elements.

Survey Question 7.h.

Table 8

Rating for Discussion Board and Other Group Communication Tools

Rating	1	2	3
# of responses*	104	86	26
Valid percentage	48.1%	39.8%	12.0%
Mean	1.64		
Standard Deviation (SD)	.69		
Importance of Element	The mode was 1. The ratings were grouped fairly close together with a SD of .69; this would not be an important element.		

*Three respondents chose not to participate in this question.

Survey Question 7.i.

Table 9

Rating for Games Used to Apply Concept Knowledge

Rating	1	2	3
# of responses*	90	94	33
Valid percentage	41.5%	43.3%	15.2%
Mean	1.74		
Standard Deviation (SD)	.71		
Importance of Element	The majority of the ratings fell in columns 1 and 2 (mode was 2). The ratings were grouped fairly close together with a SD of .71; this would be a helpful element.		

*Two respondents chose not to participate in this question.

Other course-related elements listed on the survey received either more than 85% of the ratings as a 3 (very important – you feel this element is necessary) or 2 (important – you feel this element not necessary, but helpful to include). Following is a breakdown of each question with the number of ratings for each.

Survey Question 7.a.

Table 10

Rating for Survey Question Syllabus

Rating	1	2	3
# of responses*	3	69	145
Valid percentage	1.4%	31.8%	33.2%
Mean	2.65		
Standard Deviation (SD)	.505		
Importance of Element	The mode was 3. The ratings were grouped fairly close together with a SD of .51; this would be a very important element.		

*Two respondents chose not to participate in this question.

Survey Question 7.b.

Table 11

Rating for Survey Question Assignments and Due Dates

Rating	1	2	3
# of responses	0	19	200
Valid percentage	0.0%	8.7%	91.3%
Mean	2.91		
Standard Deviation (SD)	.28		
Importance of Element	All of the ratings were in the 3 and 2 columns (the mode was 3). The ratings were close together with a SD of .28; this would be a very important element.		

Survey Question 7.c.

Table 12

Rating for Survey Question Timeline (tentative course progression)

Rating	1	2	3
# of responses	8	85	124
Valid percentage	3.7%	39.2%	57.1%
Mean	2.53		
Standard Deviation (SD)	.57		
Importance of Element	More than 96% of the ratings were either 2 or 3 (mode was 3). The ratings were fairly close together with a SD of .57; this would be a very important element.		

Survey Question 7.d.

Table 13

Rating for Survey Question Grades

Rating	1	2	3
# of responses*	5	47	5
Valid percentage	2.3%	21.6%	76.1%
Mean	2.74		
Standard Deviation (SD)	.49		
Importance of Element	The mode was 3. The ratings were fairly evenly distributed with a SD of .49; this would be a very important element.		

*One respondent chose not to participate in this question

Survey Question 7.e.

Table 14

Rating for Survey Question Handouts

Rating	1	2	3
# of responses	7	100	112
Valid percentage	3.2%	45.7%	51.1%
Mean	2.48		
Standard Deviation (SD)	.56		
Importance of Element	The majority of the ratings were in column 2 or 3. The mode was 3 and the ratings were grouped fairly close together with a SD of .56; this would be a very important element.		

Research Question Number 2. What instructor-related elements do students prefer? A list of instructor-related elements, in order of importance based on mean, as determined by the respondents is included below.

Table 15

Instructor-Related Elements Listed in Ranking Order from Most to Least Important by Mean as Determined by the Respondents

Scale:

Very important (You feel this element is necessary to a course web site) = 3

Important (This element is not necessary, but helpful to include in a course web site) = 2

Not important (You do not see value to including this element in a course web site) = 1

Ranking	Instructor-Related Elements Listed in Ranking Order From Most to Least Important by Mean Score	Mean
1	Instructor's E-mail address	2.78
2	Instructor's contact other contact information	2.76
3	Instructor's teaching/learning philosophy	2.11
4	Instructor's professional credentials	1.83
5	Instructor's personal information (hobbies, interests, family)	1.39

Data showed that an instructor's personal information received one hundred forty "1" ratings, indicating these respondents did not see this element adding value to an instructor-created web site. Below is the breakdown of responses for this element.

Instructor's personal information (hobbies, interests, family): 140 individuals responded with a 1, or not important; 69 responded 2, or important; and 8 individuals responded 3, or very important.

Questions regarding an instructor's contact information and E-mail address received more than 98% ratings of either 3 (very important – you feel this element is necessary to a course web site) or 2 (important – this element is not necessary, but helpful

to include in a course web site). Following is a breakdown of each question with the number of ratings for each.

Survey Question 7.k.

Table 16

Rating for Survey Question, Instructor's Contact Information

Rating	1	2	3
# of responses*	3	47	168
Valid percentage	1.4%	21.5%	76.7%
Mean	2.76		
Standard Deviation (SD)	.46		
Importance of Element	The majority of the ratings were in column 2 or 3 (the mode was 3). The ratings were fairly closely grouped with a SD of .46; this would be a very important element.		

*One respondent chose not to participate in the question.

Survey Question 7.1.

Table 17

Rating for Survey Question, Instructor's E-mail Address

Rating	1	2	3
# of responses	2	45	172
Valid percentage	.9%	20.5%	78.5%
Mean	2.78		
Standard Deviation (SD)	.44		
Importance of Element	The mode was 3. The ratings were fairly closely grouped with a SD of .44; this would be a very important element.		

Research Question Number 3. What college-wide elements do students prefer? A list of college-wide elements, in order of importance based on mean, as determined by the respondents is included below.

Table 18

College-Wide Elements Listed in Ranking Order from Most to Least Important by Mean as Determined by the Respondents

Scale:

Very important (You feel this element is necessary to a course web site) = 3

Important (This element is not necessary, but helpful to include in a course web site) = 2

Not important (You do not see value to including this element in a course web site) = 1

Ranking	College-Wide Elements Listed in Ranking Order from Most to Least Important by Mean Score	Mean
1	Link to the college's home page	2.23
2	College policies	2.03

Data showed that more than 80% of respondents felt the college-wide elements identified on the survey were rated either as a 3 (very important) or 2 (important).

Following is a breakdown of each question with the number of ratings for each.

Survey Question 7.q.

Table 19

Survey Question, Link to the College's Home Page

Rating	1	2	3
# of responses	24	120	75
Valid percentage	11.0%	54.8%	34.2%
Mean	2.23		
Standard Deviation (SD)	.63		
Importance of Element	The majority of the rankings were in column 2 (the mode was 2). The ratings were fairly closely grouped with a SD of .63; this would be a helpful element on an instructor's web site.		

Survey Question 7.p.

Table 20

Survey Question, College Policies

Rating	1	2	3
# of responses	36	140	43
Valid percentage	16.3%	63.9%	19.6%
Mean	2.03		
Standard Deviation (SD)	.60		
Importance of Element	The majority of rankings were in columns 2 and 3 (mode was 2). The rankings were fairly close together with a SD of .60; this would be a helpful element.		

Research Question Number 4. Are there other elements that students would prefer? A list of other elements listed on the survey, in order of importance based on mean, as determined by the respondents is included below.

Table 21

Other Elements Listed in Ranking Order from Most to Least Important by Mean as Determined by the Respondents

Scale:

Very important (You feel this element is necessary to a course web site) = 3

Important (This element is not necessary, but helpful to include in a course web site) = 2

Not important (You do not see value to including this element in a course web site) = 1

Ranking	Other Elements Listed in Ranking Order From Most to Least Important by Mean Score	Mean
1	Impressive colors and/or graphics	1.53
2	Sounds	1.25
3	Animation	1.24

Data showed that sounds and animation received more than one hundred seventy "1" ratings, indicating that these respondents did not see value to adding these elements to a course web site. Below is the breakdown of responses for these elements.

Survey Question 7.r.

Table 22

Survey Question, Impressive Colors and/or Graphics

Rating	1	2	3
# of responses	119	84	16
Valid percentage	54.3%	38.4%	7.3%
Mean	1.53		
Standard Deviation (SD)	.63		
Importance of Element	The majority of the rankings were in column 1 (mode was 1). The ratings were fairly closely grouped with a SD of .63; this would not be an important element on an instructor's web site.		

Survey Question 7.s

Table 23

Survey Question, Sounds

Rating	1	2	3
# of responses	172	39	8
Valid percentage	78.5%	17.8%	3.7%
Mean	1.25		
Standard Deviation (SD)	.51		
Importance of Element	The majority of the rankings were in column 1 (mode was 1). The ratings were fairly closely grouped together with a SD of .51; this would not be an important element on an instructor's web site.		

Survey Question 7.t.

Table 24

Survey Question, Animation

Rating	1	2	3
# of responses	172	41	6
Valid percentage	78.5%	18.7%	2.7%
Mean	1.24		
Standard Deviation (SD)	.49		
Importance of Element	The majority of the rankings were in column 1 (mode was 1). The ratings were closely grouped with a SD of .49; this would not be an important element on an instructor's web site.		

A final question on the survey asked participants to list other helpful or necessary elements. Respondents listed the following two comments:

- Wished it was a requirement for all instructors to have a website or to use Blackboard.
- The web site must be accurate and up to date.

Chapter 5

Summary, Conclusions and Recommendations

This section is divided into two distinct sections. It begins with a summary section, which reviews the entire study. The second section reports the conclusions and recommendations that can be drawn from the analysis of the survey data for each research question.

Restatement of the Problem

The purpose of this study was to determine the most useful features of an instructor-created web site and specifically, to highlight essential features which will aid in time justification and direct instructor efforts to the most beneficial aspects of a web site.

Research Design

The design of the research was to survey students attending Western Wisconsin Technical College enrolled in traditional business education courses, where the instructor utilized a web site to supplement his or her class, to determine which elements were important to continue to include in an instructor-created web site. A survey containing 20 questions related to course content, instructor, college-wide and other elements of a web site was distributed to determine whether or not the respondent found value in each element. A final question asked the participants what other elements they felt were helpful or necessary to include in a course web site.

Conclusions and Recommendations

Research Question 1 – What course-related elements do students prefer to see on a course web site? The data showed that eight of the ten questions asking respondents to

rate the course-related elements of a web site had a mean score of 2.0 or higher, indicating that the respondents felt these eight elements were important or very important to include in a course web site.

Group communication tools, like a discussion board, had a mean score of 1.64 with a standard deviation of .69; and games used to apply concept knowledge had a mean score of 1.74 with a standard deviation of .71. Group communication tools had a total of 104 responses that indicated the respondent did not see value to including this element in a course web site. Although the mean score was below 2.0, 86 respondents felt the element was helpful to include in a course web site and 26 respondents felt the element was necessary to include in a course web site. Games used to apply concept knowledge had a total of 90 responses that indicated the respondent did not see value to including this element in a course web site. The overall mean score, as indicated above, was 1.74, and the question did receive 94 responses indicating the respondents thought the element was important, while 33 respondents indicated that the element was necessary to include in a course web site.

Based on the data, it would be difficult to conclude that these elements should be eliminated from an instructor-created web site or that they are not valid. It is recommended that an instructor consider these elements if development time and web space permit. At this point, no significant conclusions can be drawn and more research needs to be done.

Since all of the other questions received a mean score of 2.0 or higher, it can be recommended, based on the data from the respondents, that most of the course-related

elements listed on the survey are valid and should continue to be included on instructor-created web sites for business classes at Western Wisconsin Technical College.

Research Question 2 – What instructor-related elements do students prefer to see on a course web site? The data showed that three of the five questions asking respondents to rate the instructor-related elements of a web site had a mean score of 2.0 or higher, indicating that the respondents felt these three elements were important or very important to include in a course web site.

The two remaining questions pertaining to instructor-related elements include instructor's professional credentials and instructor's personal information. Instructor's professional credentials had a mean score of 1.83, with a standard deviation of .70; and instructor's personal information had a mean score of 1.39, with a standard deviation of .56.

An instructor's professional credentials had a total of 74 responses that indicated the respondent did not see value to including this element in a course web site. Although the mean score was below 2.0, 106 respondents felt the element was helpful to include in a course web site and 38 respondents felt the element was necessary to include in a course web site. An instructor's personal information had a total of 140 responses that indicated the respondent did not see value to including this element in a course web site. The overall mean score, as indicated above, was 1.39, and the question did receive 69 responses indicating the respondents thought the element was helpful, while 33 respondents indicated that the element was necessary to include in a course web site. Based on the data, it would be difficult to conclude that these elements should be eliminated from an instructor-created web site or that they are not valid. It is

recommended that an instructor consider these elements if development time and web space permit. At this point, no significant conclusions can be drawn and more research needs to be done.

Since the other three questions received a mean score of 2.0 or higher, it can be recommended, based on the data from the respondents, these instructor-related elements are valid and should continue to be included on instructor-created web sites for business classes at Western Wisconsin Technical College.

Research Question 3 – What college wide elements do students prefer to see on a course web site? The data showed that both of the college-wide elements had a mean score of 2.0 or higher, indicating that the respondents felt these two elements were important or very important to include on a course web site. It can be recommended that the college-wide elements are valid and should continue to be included on instructor-created web sites for business classes at Western Wisconsin Technical College.

Research Question 4 – What other elements do students prefer to see on a course web site? Data showed all three of the other elements listed as survey questions had a mean score below 2.0. Impressive color and/or graphics had mean score of 1.53, with a standard deviation of .63; sounds had a mean score of 1.25, with a standard deviation of .51; and animation had a mean score of 1.24, with a standard deviation of .49.

Impressive color and/or graphics had a total of 119 responses that indicated the respondent did not see value to this element in a course web site. This is a response rate in excess of 50%. Eighty-four (84) responses indicated that the respondent felt this element helpful and 16 responses indicated that the element was necessary. In reviewing prior research conducted on color and graphics for web sites, it should be noted that

students sometimes become frustrated when pages load slowly due to large or complex graphics. It is recommended that instructors eliminate or reduce large or complex graphics on course web sites.

The questions related to sounds and animation had response rates, indicating that the respondents did not see value in these elements, in excess of 75%. Sounds had a total of 172 responses that indicated the respondent did not see value to this element in a course web site. Thirty-nine (39) responses indicated that the respondent felt this element was helpful and eight responses indicated that the element was necessary. Animation had a total of 172 responses that indicated the respondent did not see value to this element in a course web site. Forty-one (41) respondents indicated that animation was helpful and six respondents felt animation was necessary. It is concluded and recommended, based on the data, that sounds and animation be eliminated from instructor-created web sites.

The final question asked respondents to list any other elements necessary or helpful on a course web site. The data collected for this question was minimal with no consistency. A respondent indicated that a web site must be accurate and up to date. Based on a review of research and this response, it can be concluded that it is appropriate to expect an instructor's web site, once established, be accurate and up to date. The final comment listed by a respondent suggested a web site be a requirement for all instructors. One of the intentions of this study was to encourage more instructors to develop or adopt a course web site.

Additional Conclusions

The data showed a range in mean scores between 2.91 and 1.24. In looking at all of the elements' mean scores in ranking order from highest to lowest, there are no

significant increases identified showing that a group of elements are a lot more important than others. However, the table does show that the respondents had preference toward certain elements. The table below shows the changes between elements for mean and standard deviation.

Table 25

Preference of Elements on a Course Web Site – Mean and Standard Deviation

Question	Mean	Std Dev
Assignments & due dates	2.91	.28
Instructor's Email address	2.78	.44
Instructor's contact information	2.76	.46
Grades	2.74	.49
Syllabus	2.65	.51
Timeline	2.53	.57
Handouts	2.48	.56
Lecture notes	2.34	.62
Link to the college's web site	2.23	.63
Practice quizzes	2.23	.65
Instructor's teaching/learning philosophy	2.11	.68
College policies	2.03	.60
Links to other relevant sites	2.00	.63
Instructor's professional credentials	1.83	.70
Games used to apply concept knowledge	1.74	.71
Group communication tools	1.64	.69
Impressive color and/or graphics	1.53	.51
Instructor's personal information	1.39	.56
Sounds	1.25	.51
Animation	1.24	.49

Based on the data, it can be recommended that all of the elements identified as having a mean score of 2.0 or higher should be included in an instructor-created web site. Those elements having a mean score between 1.99 and 1.50 should be considered if

development time and space permit. Additionally, those elements identified as having a mean score below 1.5 should be eliminated from an instructor's web site.

Recommendations for Future Study

The study only addressed students enrolled in a Business Education class, where the instructor utilized an instructor-created web site, at Western Wisconsin Technical College. It would be interesting to see if students enrolled in disciplines, other than business, would have similar preferences.

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Appendix A
Survey Instrument

This research has been approved by the UW-Stout IRB as required by the Code of Federal Regulations Title 45 Part 46.

Instructor's Course-related Web Site Survey

Please respond to each question. Return the completed survey by **December 9, 2004**.

1. Gender: Male Female
2. Age: Less than 25 35 - 44 55 or older
 25 - 34 45 - 54
3. Year in college: 1st 2nd 3rd or more
4. Program: _____
5. Have you utilized the instructor's course-related web site? yes no
6. How do you primarily access the course-related web site?
- Computer lab Work Home
- Other Do not access

7. Rate the elements of a course-related web site for each item below, using the following scale.

Very Important – you feel this element is necessary to a course web site.

Important – this element is not necessary, but helpful to include in a course web site.

Not Important – you do not see value to including this element in a course web site.

	Very Important	Important	Not Important
a. Syllabus			
b. Assignments and due dates			
c. Timeline (tentative course progression)			
d. Grades			
e. Handouts			
f. Lecture notes			
g. Practice quizzes			
h. Discussion board other group communication tools (list serve, chat room)			
i. Games used to apply concept knowledge			
j. Links to other relevant sites			
k. Instructor's contact information (office location, phone number, available hours)			
l. Instructor's email address			
m. Instructor's teaching/learning philosophy			
n. Instructor's professional credentials			
o. Instructor's personal information (hobbies, interest, family)			
p. College policies			
q. Link to the College's home page			
r. Impressive colors and/or graphics			
s. Sounds			
t. Animation			

8. Other helpful or necessary elements, please list:

Consent Form:

I understand that by returning this questionnaire, I am giving my informed consent as a participating volunteer in this study. I understand the basic nature of the study and agree that any potential risks are exceedingly small. I also understand the potential benefits that might be realized from the successful completion of this study. I am aware that the information is being sought in a specific manner so that no identifiers are needed and so that confidentiality is guaranteed. Your name will never appear in the compiled results and once the report is summarized, individual responses will be destroyed. I realize that I have the right to refuse to participate and that my right to withdraw from participation at any time during the study will be respected with no coercion or prejudice.

Note: Questions or concerns about participation in the research or subsequent complaints should be addressed first to the researcher, Karen Kettelson, or research advisor (Mike Galloy, galloym@uwstout.edu or 715-232-2108) and second to Dr. Susan Foxwell, Chair, UW-Stout Institutional Review Board for the Protection of Human Subjects in Research, 11 HH, UW-Stout, Menomonie, WI 54751, phone (715-232-1126).