

## **The Current and Potential Value of Faculty Web Sites**

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***Abstract***

The Education faculty web sites of ten institutions similar in size were examined to determine how many faculty have up-to-date web sites, the purpose(s) of the sites, and the content found on faculty web sites. Results indicate less than 20% of Education faculty maintain a web site, and that the primary purpose the web site serves is an electronic Curriculum Vitae.

A recent school-wide web redesign effort led to the researcher examining education faculty websites. Although most of the twelve School of Education faculty have a website of sorts posted, three do not, and three are badly (as much as ten years) outdated. One is basic information that has not been updated in three years, one consists of a great deal of personal and professional information, but also has not been updated in several years, one is elaborate and detailed and has been updated recently, and three are current but contain minimal information.

When the subject of faculty websites is broached, all the faculty agreed an up-to-date website was something they wanted, but point to factors such as the lack of appropriate web editing software, and training to create or update their site. Indeed, support for faculty web pages is sparse. There are only two people in a Web Services department to support the entire campus, and a variety of webpage editing software is in use, including Netscape, FrontPage and Dreamweaver, with few organized classes or training for any of these programs.

In an effort to help Education faculty develop and update their sites, I wrote and received a grant enabling each SOE faculty member to own a copy of Contribute web editing software. Contribute is so easy to use our IT department does not even offer training on how to use it, claiming one can learn the program in a few minutes. Contribute seemed the best alternative to the more expensive Dreamweaver, and the obsolete Netscape and FrontPage.

However, copies of Contribute purchased for faculty have gone largely unused this year. The availability of easy-to-use web editing software has not resulted in change; no new faculty sites have appeared and few updates on existing sites can be found.

After the removal of barriers such as software and training, faculty were again asked why they are not posting and updating professional web sites. The answers included lack of time,

expertise, training, and support, and finding no real reason to create a web site. Faculty expressed a desire for someone to sit next to them in their office and show them step by step what to do, yet when offered the chance for this, did not find time to meet with the support person. In general, faculty at my institution do not perceive a strong enough reason to have a current website to go to the effort to create or maintain one. There is no difference between new and more senior faculty in this regard at my institution. New faculty are slow to post a web site, while senior faculty have let their websites become badly outdated.

I began to wonder; “Is the situation similar in other Education departments? Do other institutions have impressive, up-to-date faculty web sites? Or are they like us, struggling with limited time and resources?” A review of the literature in this area offered some answers, and raised further questions about faculty web pages.

### ***Literature review***

Previous research indicates 10-12% of faculty have professional web sites accessible from the department site (Bee, 2000; Lennex, 2007). One study reports that over half of students say faculty rarely or never have their own web sites, and only 17% of faculty often or very often have a web site (Wang, 2007).

A recent study examining the currency of faculty web sites found many outdated pages, and the researcher speculates that some sites had not been updated since their original creation at a long ago workshop session (Lennex, 2007). Some authors write about the need to maintain a personal web site, keeping it current (Heiberger & Vick, 2002; Stern, 2000). An outdated website may reflect negatively on the faculty and the institution, yet little research examines if faculty web sites are kept up-to-date after their initial posting.

The literature discussed several purposes for faculty web sites. Moor and Zazkis (2000) report the use of web sites as “virtual offices” (p. 92). Faculty post assignments, syllabi, lecture notes, and grades to the web site. “Some virtual offices allow students to hand in assignments through the Internet and receive feedback on these assignments via electronic means” (p. 92). This early use of faculty web sites seems to be met today by Course Management Systems (CMS) such as Blackboard.

Faculty web sites have been described as a socializing mechanism, as they can communicate information to students such as instructor goals, beliefs and attitudes toward teaching and learning (Wang, 2007). A web site can also be a way for students to get to know their professors, however, Kreis (1998) writes that few faculty “Web sites go so far as to discuss the professor as a unique individual” (¶ 2). Students need to understand why faculty teach in order to promote approachability and foster a personal relationship with the instructor; and “...in the interests of student motivation and success, professors ought to be more willing to let their students partake of at least a glimpse of their private world” (Kreis, 1998, p. 5).

Researchers identify elements they believe should be present on all faculty web sites. Lennex (2007) states that the goals of the web site should be to offer “access to course and program information, links to university resources, and contact information for the professor” (p. 33). She administered a survey to students to determine those elements which are linked to “best practice and usability” (p. 33). The elements identified include hyperlinks to and from the department site, faculty email address, syllabi, subject area resources, current office hours, and an anonymous sender form for feedback. Other researchers suggest faculty web sites include name, contact information, links to departmental and institutional web sites, a brief description of

research interests, Curriculum Vitae (CV), publications, a link to scholarly organizations, syllabi and course materials (Heiberger & Vick, 2002). Palmiter & Renjilian (2003) identified the elements both faculty and students believe should be present on a faculty web site as an email address, office hours, telephone number, course syllabi, courses offered, research interests, educational background, links both within and outside the institution, professional experience, publications, academic advising information, professional memberships, and a picture of the faculty member.

Stern (2000) identifies different types or categories of faculty web sites. A web site designed to deliver and support a course can act as a CMS or as a supplement to instruction for online or face-to-face classes. These sites typically contain syllabi, lecture notes, and bibliographies, and may contain gradebooks, chat rooms and grading information. Stern refers to another category as the “business card page”, one which contains only basic information such as faculty’s title, affiliation, contact information and perhaps a photograph. The last type of web page is one Stern calls “idiosyncratic personal sites”. This category includes web sites which promote consulting work, as well those with personal information about the faculty, such as hobbies or family photos. Some benefits of personal sites include “putting a face and personality on an institution, marketing the institution, and providing more information about faculty than business cards sites” (Stern, 2000, p. 6).

The literature review reveals that articles which examine faculty web sites include information about the types, purposes, and benefits of faculty web sites, list desirable elements for inclusion on web sites, and identify how many faculty have professional web sites. Academic

faculty web site research is scarce; indeed, most took place in the late nineties and early 2000's.

Recent research is nearly non-existent.

### ***Theoretical Framework***

The issues of faculty adoption, use and ownership of new technologies are well grounded in technology adoption theories such as Rogers' Diffusion Theory, The Technology Acceptance Model, Perceptual Control Theory, the Concerns Based Adoption Model, and The Learning/Adoption Trajectory model. Adams (2002) writes that "Rogers' (1995) diffusion of innovations and Hall, Wallace and Dossett's (1973) Concerns-Based Adoption Model (CBAM) are two widely accepted models developed to describe the change process" (p. 286). Rogers' theory examines the acceptance of an innovation by a group of users, noting that characteristics of the innovation influence how widely and deeply it is accepted. These include the innovations relative advantage over its predecessor, compatibility with the adopter, ease of use, if the adopter can experiment and use the innovation on a limited basis, and the visibility of the results of adopting the innovation to others (Hansen & Salter, 2001).

The Technology Acceptance Model (TAM) examines the innovation's ease of use, and the perceived usefulness of the technology, to predict adoption levels (Davis, 1989). Ease of use involves the amount of time and effort a user needs to expend to initially learn the technology, and to maintain use. The usefulness of the technology relates to how it will help the innovation or adopter improve their job performance, such as teaching (Heijden, 2000). The model is similar to Perceptual Control Theory (PCT), which examines how the adoption of technology helps teachers achieve their goals (Zhao & Cziko, 2001). PCT looks at three considerations for teacher technology adopters; that technology meets a goal more effectively than what is in use now, that

it does not cause disturbances, and that the user believes she will have the ability and resources to use the technology (Zhao & Cziko, 2001).

The CBAM Stages of Concern describe how users of the innovation perceive the innovation, and concerns they might have in adopting it (Adams, 2002; Brzycki & Dudt, 2005; Sahin & Thompson, 2007). CBAM identifies levels of innovation use, such as non-use, orientation, preparation, mechanical use, routine, refinement, integration and renewal (Adams, 2002; Brzycki & Dudt, 2005; Sahin & Thompson, 2007). CBAM recognizes that there will always be non-users of a technology, in contrast to Rogers' model which classifies the lowest level as laggards, implying that given enough time they will adopt the innovation (Adams, 2002; Durrington, Repman & Valente, 2000; Hansen & Salter, 2001).

The Learning/Adoption Trajectory model of technology adoption utilizes a cyclical rather than linear approach to stages of technology adoption by teachers. Several stages are identified; Teacher as Learner, Adopter, Co-Learner, Reaffirmer/Rejecter, and Leader (Sahin & Thompson, 2007). This model describes learning about the innovation as an ongoing process, and recognizes that some users will reject the technology after adopting or attempting to adopt it, and eventually cease to pursue use of the innovation.

Several of the models recognize that adoption of a technology may be an ongoing process, rather than a one-time effort. In addition, the models and theories of technology adoption indicate faculty may examine a technology innovation, try it out, and then choose not to adopt it. Possible reasons for rejection include barriers to initial and ongoing use, the perceived difficulty involved in learning and applying the technology, and the lack of a clear connection between use of the technology and meeting faculty goals, such as improved teaching.

Technology adoption theory guided the formation of the research questions. The researcher wanted to determine the prevailing adoption level of faculty web pages, and determine how the creation and use of faculty web pages help faculty meet professional goals. The final research questions became: What percent of Education faculty at comparable institutions have web sites, and how up-to-date are these sites? What purposes do faculty web sites serve? What information is included on the sites? Do faculty administrators such as Chairpersons set an example by more often having sites posted than other faculty? Is there a correlation between faculty rank and having a web site? No previous research has examined faculty use of web sites among comparable institutions, within one professional area; a gap this study will address.

### ***Methods***

Answers to the research questions were determined by examining Education faculty web sites at comparable colleges and universities. Institutions of similar size were chosen, as larger institutions probably have more training and support available for faculty, and smaller institutions less, which could influence how many faculty have up-to-date web sites. Hawkins and Rudy (2006) report that “Most types of [IT] support reported for faculty use in teaching and learning differed significantly by Carnegie class” (p. 31).

The Carnegie Classifications Data File online listings was downloaded from <http://www.carnegiefoundation.org> and sorted first by enrollment and then by classification. My university is classified as (20) Master's S: Master's Colleges and Universities (smaller programs). There are a total of 127 institutions in this classification (Carnegie Foundation, 2008). The institutions selected for comparison are those which have total student enrollment within 500 students of my institution (500 students more or less). Of the 11 with similar enrollments, one

was eliminated as it does not have a Teacher Education department, leaving a total of 10 institutions (including mine) in the comparison pool.

At the 10 institutions, each Education faculty web site was closely examined, and data collected and recorded. All tenure or tenure track faculty were included, and administrators were included in the study if they were also identified as faculty. Therefore a Dean without teaching responsibilities was not included, while a department chair teaching at least one class was included in the study. Adjunct, visiting, and other non-tenure track faculty were not included. Faculty web sites were examined to determine the presence of elements such as faculty email address, and for currency. The elements chosen for examination were those identified by previous research as desirable on faculty web pages, such as email address and office phone number. To determine currency, the most recent year found on the site was considered the last update. None of the sites indicate they were last updated on a certain date, but some sites gave listed current publications or conference proceedings, and some had syllabi posted with a semester date. Elements and other information were recorded in an Excel spreadsheet. Excel was also used for data analysis and calculating descriptive statistics.

Inspection revealed the need to clarify the definition of a faculty web site. For the purpose of this research, a faculty web site is defined as one hosted by institution servers, accessible from the College of Education, School of Education or Education department web site, and individualized by faculty. It became necessary to clarify the definition because some institutions have a campus-wide Faculty/Staff directory that often contains basic information about faculty, such as rank, contact information, department, and photograph. These appear to be

generated by a centralized IT or web support department rather than created by faculty, so were not counted as faculty web sites for the purpose of this study.

Some institutions used templates for faculty web sites, with a common design and areas allocated for educational background, research interests, and publications. As these required faculty input and customization, template-based sites were counted as faculty web sites.

The classification types:

- Web Site (WS) – template based or original design. Generally consist of multiple pages.
- Enhanced directory (ED) –These are one page standardized templates to which faculty add information. These were counted as web sites if they originated from the Education department.
- Directory – these consisted of basic contact information, did not originate from the Education department, and were not counted as faculty web sites.
- Course Web Site – designed to support a course with little information about faculty. These were counted as faculty web sites as they were created by faculty and accessible from the Education department web site.

## ***Results***

Table 1 addresses the research question concerning how many faculty members have posted a web site. At the ten institutions examined, one hundred forty-four Education faculty members were identified for this study. The institutions are listed in order of enrollment; Institution 1 is the smallest in terms of student enrollment, and institution 10 is the largest. Eighty-eight faculty have nothing posted on the web, and one third (47 of 144) of faculty have a web site of some sort.

Table 1  
*Number and Percent of Faculty with Web Sites (n=144)*

Institution	Number of Education Faculty	Number of faculty with a web site	Percent with a web site
1	22	1	.04
2	21	5	.24
3	17	3	.24
4	9	0	0
5	13	2	.15
6	11	8	.73
7	14	0	0
8	7	5	.71
9	22	21	.95
10	8	2	.25
Total	144	47	Average .33

The number of Education faculty at the ten institutions range from 7 to 22 with an average number of 14 per institution. A correlation was not found between the number of Education faculty at an institution and the number of faculty web sites. The three institutions with the smallest number of faculty average 32% of faculty with web sites; the middle three in size average 27%; and at the three institutions with the most faculty members, an average of 41% posted a web site. One institution has only directory listings for faculty (#4) while another (#7) lacks both directory listings and faculty web sites. At the other end of the spectrum is institution #9, at which 21/22 or 95% of Education faculty have a web site.

Table 2 looks at different faculty ranks to determine if any particular rank posts web sites more than others. The researcher wanted to determine if faculty leaders, such as department chairs, post web sites to a greater extent than other faculty. For each rank, the number at the rank (# at rank) is listed as well as the number of those at that rank who have a web site (# WS).

Table 2  
*Difference between Ranks in Number of Web Sites (WS)*

	Department Head or Chairperson		Dean or Associate Dean		Assistant Professor		Associate Professor		Full Professor		Rank unknown	
	# at rank	# WS	# at rank	# WS	# at rank	# WS	# at rank	# WS	# at rank	# WS	# at rank	# WS
1	1	0	1	0	3	0	2	0	9	1	6	0
2			1	1	13	3	6	1	1	1		
3					4	0	4	0	9	3		
4	1	0			6	0	2	0	0	0		
5	1	1			3	0	4	1	1	0	4	0
6			1	1	7	4	2	2	1	1		
7					1	0	8	0	5	0		
8					3	1	2	2	2	2		
9	1	1			8	8	5	4	8	8		
10					2	0	2	1	4	1		
Totals	4	2	3	2	50	16	37	11	40	17	10	0
Percent	.50		.66		.32		.30		.44		0	

There was little difference found between the percent of tenured and untenured faculty posting web sites, though a higher percentage of full professors have web sites (44%) as compared to associate (30%) and assistant (32%) professors. Administrative faculty members have the highest percentage of web sites with 58% posting web sites. It appears administrative faculty do set an example for other faculty in terms of posting a web site; however, they do not tend to have the most up-to date sites. Of the 4 administrative faculty web sites, one site was last updated in 2005, one in 2001 and the other two looked very dated, although an exact date could not be determined. Due to the small number of administrators identified (seven), these findings may or may not apply to a larger population.

Table 3 looks at the type of web site posted by faculty. The classification types used for this research include the Web Site (WS), either template based or of original design; an Enhanced Directory (ED) site on which faculty has added personalized information to a standard template; or a Directory site created by someone other than the faculty. These latter consisted of

basic location information and were not counted with faculty web sites. The last category is the Course Web Site, designed to support a course and containing minimal faculty information.

Table 3  
*Types of Faculty Web Sites*

Institution	Number with any type of web site	Directory listings	Course Web Site	Faculty Web Sites (WS)	Enhanced Directory (ED)
1	1		1		
2	5			5	
3	3			2	1
4	0	9			
5	2		2		
6	8		1	7	
7	0				
8	5		1	1	3
9	21			1	20
10	2		1	1	
Total	47	9	6	17	24

Half (24) of the 47 faculty web sites can be categorized as Enhanced Directory sites, or faculty personalized templates. While some web sites use a template, the difference between the WS and the ED sites is that the web sites are usually multi-page sites with links from the home page to other pages. The ED sites are generally only one page and organized like a CV with a space for teaching, research, service, courses taught and professional background. Some are only two paragraphs while others are quite lengthy although all the information is on one page (no links to other pages).

Seventeen web sites are faculty designed, many showing evidence of planning, attention and multi-purposes. Some are strikingly original, combine personal and professional elements, and are up-to-date. Six web sites are Course Web Sites created primarily by faculty to support a course or courses. Some of these involve a tremendous amount of labor, with detailed

assignment, grading, syllabi and other information for as many as six classes, and some are primarily collections of links to resources for students.

These figures do not reveal the quality of the web sites. When the currency of each site is examined, a more accurate picture illustrating Education faculty web sites can be drawn.

Table 4  
*Most Recent Update of Faculty Web Sites*

Institution	# of web sites	2008	2007	2006	2003-2005	2000-2002	Earlier than 2000	No dates listed
1	1							1
2	5	2	1			1		1
3	3		1		1			1
4	0							
5	2	1						1
6	8	2	1	3	1		1	
7	0							
8	5	1			1			3
9	21		8	2	1	1	6	3
10	2	1			1			
Total	47	7	11	5	5	2	7	10
Percentage		.15	.23	.11	.11	.04	.15	.21

Over a third of faculty (38%) have dates on their web sites from 2007 or 2008. On the other end of the spectrum are 7 faculty sites that have not been updated for at least 8 years. One site had 1994 as the latest date, and several appeared to have been last updated in 1997. A sizeable percentage (21%) of faculty sites, most often the ED sites, do not include dates, and the information on the web page is general enough so that users cannot tell when it was last updated.

Another consideration in examining faculty web sites involves content. A one-paragraph web page is not the same as a carefully maintained multi-page site rich in information. The websites were explored to determine what is included on faculty web sites. The elements were

identified by previous research listing those that should be present on faculty web sites.

(Heiberger & Vick, 2002; Lennex, 2007; Palmiter & Renjilian, 2003).

Table 5  
*Elements found on Faculty Web Sites (n=47)*

Institution	1	2	3	4	5	6	7	8	9	10	Total	%
Email	0	5	2	0	2	8	0	5	1	2	25	.53
Courses Taught	0	2	1	0	1	1	0	1	15	2	23	.49
Office hours	0	2	3	0	0	0	0	1	1	0	7	.15
Course Syllabi	1	2	0	0	0	3	0	0	0	2	7	.15
Office Phone	1	3	2	0	2	8	0	1	1	2	19	.40
Office location	0	4	3	0	0	6	0	5	1	2	21	.45
Photograph	0	2	3	0	2	8	0	5	21	1	42	.89
Professional experience	0	2	0	0	0	7	0	3	21	2	35	.75
Educational background	0	4	0	0	1	6	0	4	21	2	38	.80
Publications	0	2	2	0	0	5	0	0	16	2	27	.57
Research interests	0	4	2	0	0	5	0	1	14	2	28	.60
Professional memberships	0	0	0	0	0	5	0	0	3	2	10	.21
Links within institution	0	3	0	0	1	1	0	0	1	1	7	.15
Links outside institution	0	1	0	0	0	2	0	0	1	2	6	.13
Other phone	0	0	0	0	0	0	0	0	0	0	0	0
Advising information	0	0	0	0	0	0	0	0	0	0	0	0
Area Resources	0	0	0	0	0	0	0	0	0	0	0	0
Feedback Form	0	0	0	0	0	0	0	0	0	0	0	0

Lennex (2007) and Palmiter & Renjilian (2003) surveyed students and faculty to identify information that should be included on a faculty web site, and agree an email link, office hours and course syllabi should be present. Additional elements both students and faculty list as essential include an office phone number and a list of courses offered (Palmiter & Renjilian, 2003). Most faculty (53%) include their email address on their web site, and 40% list their office phone number. Almost half of faculty web sites include the courses the faculty member teaches (49%). Office hours and syllabi are included on only 15% of faculty web sites.

A particular strength of most of the faculty web sites is the inclusion of professional information about the faculty member. Items such as professional experience, Educational

background, publications, and research interests are included by the majority of faculty.

Professional memberships are listed by 21% of faculty. Most faculty sites do not include links to sites within or outside the institution, and no faculty web sites include User Feedback forms or other phone numbers (such as home or cell numbers).

Four purposes of faculty web sites were identified through the literature; 1) use as a course site or virtual office, 2) to share beliefs about teaching, 3) to share personal information, and as 4) a resource for students (Kreis, 1998; Lennex, 2007; Moor & Zazkis, 2000; Wang, 2007). The research does not distinguish between varying purposes or types of web sites, but prescribes the same elements for all faculty sites. In an effort to evaluate the content, and clarify the purposes of faculty web sites, the presence or absence of elements are examined based on the type of site each element would be expected to support.

A faculty web site may be used as a course site or a supplement to a course. Elements on the site should be courses taught, links to subject area resources, and syllabi. About 15% of the web sites include course syllabi. 13% of the sites contain links to sites outside the institution, mostly to professional organizations, and field resources. Only one web site lists a large number of subject area links and seems designed for the purpose of providing links to course related materials. Close examination shows six faculty websites were designed to be used as course sites, containing one or more course syllabi, links to resources, and assignments. However, these course web sites are often out of date; two were updated in 2007-2008, two support courses from 2004 or earlier, and two have no dates listed.

A web site may convey beliefs the faculty has about teaching and teaching experience. For faculty in Education, it may be particularly relevant to highlight P-12 experience. Elements

on the web site that meet these purposes are professional background and beliefs about teaching. Only two faculty web sites include a teaching philosophy or statement of teaching beliefs, however, 75% of faculty include their professional background on their web site.

A web site may be designed for students to get to know the faculty member better through the sharing of personal details such as hobbies or family. Elements on the web site supporting this purpose are personal items about the faculty, such as hobbies, families and community activities, and a photograph. Only one faculty site seems designed primarily for the purpose of conveying faculty personality or non-professional interests, and only three additional faculty share personal details or interests on their faculty web site. The element supporting this purpose found the most frequently on web sites (89%), is a photograph of the faculty member.

A web site may be geared toward current students, and elements that should be found on the site would include faculty office hours, contact information, courses offered, course syllabi, links to the department (program information) and links to university resources. Current students may be considering taking a class and want to see the syllabus to get a feel for what the class is about. They may want to find out if a professor teaches a particular class. Students may need to know office hours and office location to pick up or drop off papers or meet with faculty. Links to university and department resources are helpful, as student may wonder if a course is required in their program, or want to register. Very few of the faculty web sites can be classified as student centered. Less than half the sites list office hours or phone number. Only about 15% include faculty's office location or course syllabi, and 15% have links to locations within the institution. No faculty web sites examined include academic advising information or a feedback form.

Current and prospective students may want to know about the faculty member's background. Elements meeting this purpose include professional experience, educational background, research interests, and publications. Educational background was present the most often, with 80% of faculty posting this information. 75% of the sites include professional experience, and about 60% of the sites describe faculty's research interests and publications. The student survey by Lennex (2007) indicates graduate students are more interested in faculty professional information such as publications and research interests than undergraduate students. A faculty member teaching primarily graduate students may include different elements on the web site than one teaching undergraduate students.

Faculty web sites and the elements they contain vary according to the purpose of the site, and faculty may have different goals for their sites based on their needs, and the needs of their students and institutions. However, a very small minority of the faculty web sites examined contain general elements deemed optimal by previous researchers. Less than half the web pages contained four of the five recommended elements (office hours, syllabi, phone number, courses offered) and barely half list the faculty's email address. Regardless of the intended purpose of the site, faculty web sites, on average, did not include recommended elements. It does not appear as if most faculty pages are created for the purposes identified in the literature.

To better understand the purpose of faculty web sites, eight multi-page websites were examined in depth. These are the richest, most personalized sites of all those researched in the study, and should yield the most information about faculty's purpose for creating and maintaining a web site. While it is hard to generalize from such a small number of sites, it appears faculty who create multi-page websites do so to meet several purposes. The best web

sites combine faculty's professional background, publications, research interests, links to subject or field resources, details about courses taught, contact information, and have been recently updated. Half the exemplary web sites share personal information about the faculty, and most are directed at students. Eight sites were considered exemplary and are showcased in Appendix A. Of the eight, three were from the same institution (Elon) and two others are from Keene. The other three were the only exemplary sites found at their respective institutions.

An examination of only the current web sites, those 18 updated in 2007-2008, should reveal faculty's current purposes in creating and maintaining web sites. Half (9) of the 18 are Curriculum Vitae type web sites, ranging from short career summaries to detailed CV's. Two more are designed primarily as support for courses, with brief CV's. The other eight are the multi-purpose exemplary sites described in Appendix A. Faculty who have recently created a web site, or have updated an existing site in 2007 or 2008, are primarily using their web site to showcase professional accomplishments, or for multiple purposes.

### ***Discussion***

The research questions ask "What percent of Education faculty at comparable institutions have web sites, and how up-to-date are these sites? What purposes do faculty web sites serve? What information is included on the sites? Do faculty administrators such as Chairpersons set an example by more often having sites posted than other faculty? Is there a correlation between faculty rank and having a web site?"

#### *How many faculty have a web site?*

A third (33%) of Education faculty at the institutions examined have some type of web site posted, with the percentage varying widely between campuses; from zero to 95%. The 33%

figure is deceiving. Lennex (2007) initially reported a third of faculty had web sites, but when only the active sites which migrated to a new server were counted, the total dropped to around 13% of faculty. For this study, if only current web sites, and those with no dates are considered, then about 19% of Education faculty examined in this study have web sites. If only sites with dates of 2007 or 2008 are included, then 12% of Education faculty have up-to-date web sites. Thus, rather than 47, there are 18 current sites and 10 with no dates listed on the site, representing a minority of Education faculty with web pages. It can be concluded that over 80% of Education faculty at smaller Masters institutions do not create and maintain a faculty web page.

*What is the purpose of faculty web sites?*

Of the 47 websites examined, 17 of the sites are designed as professional sites detailing the accomplishments of the faculty member. These are often organized like a curriculum vitae, with areas for courses taught, research interests and publications, educational background, honors, and professional organization memberships. 11 of the sites are multi-purpose, combining a CV with course links, or personal information as well as subject area resources. 8 of the multi-purpose sites are described in Appendix A; the other three are outdated. 10 of the sites include brief, basic information such as rank, responsibilities, education, professional background, and research interests. These sites are mostly ED sites with templates for faculty to fill in. They are not as formal or detailed as the CV sites, and often consist of no more than a couple of narrative, biographical paragraphs. Six sites were designed to support one or more courses, one site is a business card site with just basic contact information, and one faculty web site contained nothing but the faculty's name and photograph. In summary, 36% of the 47 sites examined are electronic

CV's, 23% serve multiple purposes, 21% include basic information about the faculty in narrative form, 15% were originally designed as course sites, and 4% are nearly empty.

The answers to the research questions are that few (12%- 19%) Education faculty at smaller Masters institutions have up-to-date web sites. The single most common purpose of faculty web sites is to serve as an electronic CV. About a fourth of the sites were designed to meet more than one purpose, such as providing information about courses to students, sharing personal information about the faculty, and sharing faculty research interests. No web pages examined contained a majority of the elements previous researchers have identified as optimal. While a greater percentage of administrative faculty posted web sites than other faculty ranks, the small number of administrative faculty web sites found does not allow for correlation between faculty rank and having a web site.

Rogers' diffusion of innovations theory posits that one characteristic of an innovation which influences adoption is "trialability", the extent to which the user can experiment with the technology and try it out before committing to it (Hansen & Salter, 2001). An innovation is more likely to be adopted if the user can try it out on a limited basis, but one cannot post a web page on a trial basis, as it is up on the web server or not. Web pages are highly visible, and the posting of one is a public act, and faculty may be reluctant to post a web page that is less than perfect. Rogers' theory identifies the innovations relative advantage over its predecessor as another characteristic linked to adoption (Hansen & Salter, 2001). There is not a clear predecessor to the faculty web page, as it does not replace previous ways of communication, or meet needs better than what was used before. A web page may act as a supplemental form of communication, but does not exhibit a clear relative advantage which would encourage faculty adoption. Rogers'

diffusion theory also identifies ease of use of an innovation as a key factor in the level of adoption (Hansen & Salter, 2001). At some institutions, the lack of “ease of use” has been a deterrent to faculty trying to post and maintain web pages, especially for faculty who created their web page years ago, before the advent of user-friendly software.

Application of The CBAM model indicates most faculty (67% or more) are at the non-use level when it comes to web pages. A few faculty are in the utilization stage of adoption, using their web page for a specific purpose; generally as an electronic curriculum vitae. Fewer still have moved into the integration stage and are creating and maintaining a complex website which meets multiple purposes, and is integrated into faculty research, teaching, and other aspects of faculty life.

The Learning/Adoption Trajectory model explains the large number of faculty with a page created many years ago; they tried the technology and decided to reject it for professional use. The adoption models suggest the reason some teachers do not use technology is lack of motivation, not lack of expertise, training, or any of the usual barriers; “Some teachers who have the training and the technology refuse to use it” (Zhao & Cziko, 2001, p. 8). Faculty may see a disconnect or conflict between goals such as excellent teaching, and the time it takes to create and maintain a website, and at the very least fail to see how a faculty webpage will help them better meet their professional goals. Through application of the PCT model, Zhao & Cziko (2001) argue we assume teachers do not use technology because they have not been trained, however, teachers may not want to receive training in technology because they see no reason to use it. For example, faculty may consider their teaching to be excellent without a website, and do not see how a website relates to or improves teaching.

The results of this research raise the question; “Why do some professors use websites more than others?” Discussions with faculty at the researchers’ institution initially show barriers such as training, on-going support and software to be reasons faculty state for why they do not create or maintain websites. However, when these barriers are alleviated, faculty still do not adopt this technology. The reasons then given include time, motivation, and perceived lack of benefit. Faculty say they have too many other things to do, that seem more important. In addition, there is no pressure on faculty to update or create websites; the administrators usually have very outdated websites.

The eight exemplary faculty who created the websites highlighted in the Appendix were contacted, in person or by email. All their websites have been updated within the last year, and only two contain broken links; these faculty are updating and using their websites. The exemplary website faculty were asked about why they have such detailed, rich sites. The answers varied. One faculty said it was her professional home, that she worked on her site several times a week to reflect her career, teaching and interests. She said the website evolved over time, and was added onto gradually, and as she worked on it she would find new uses for the website. Another wrote about workshops for the education faculty once a month before the department meeting. Faculty were shown how to create a website at one of these workshops, and several have continued to maintain and add to their sites. This well scheduled faculty training helps explain why the institution under discussion, Elon, has three of the eight members whose websites were identified as exemplary. One faculty believes the reason many faculty do not keep their website up-to-date is that faculty do not regularly schedule time to keep the website up to date, so that after the initial excitement wears off, the website falls into disuse. Several of the

faculty said they had a purpose in mind for the site when they created it, but it has evolved beyond that singular purpose (see Appendix A). Some of the reasons for creating the site originally include letting students get to know the faculty member, modeling technology use for students, a place for research for students, and a place to post links and resources for students. Two of the faculty mentioned that they were not updating their site as often as they thought they should be.

### *Strategies for faculty web pages*

Just as IT support varies by Carnegie classification (Hawkins and Rudy, 2006), campus, faculty and student needs vary by institution and by entities within each institution. Each department or unit must determine its needs for faculty web sites. If deemed necessary, the faculty, departmental and institutional purposes of faculty web sites should be agreed upon and clarified, and realistic plans formulated for how they will be created and maintained.

Strategies for faculty web sites include the following:

1. Create and implement an easy-to-use directory type template for faculty use.
2. Encourage traditional web sites, reduce barriers (training, software, time), and focus on the benefits to faculty.
3. Allow web sites to die a natural death as CMS, blogs and other technologies move to the forefront.

Strategy 1. One solution is a directory-type template (described in this study as an Enhanced Directory type web page) originating from the department, and giving users basic contact information for each faculty member. This provides all faculty with an electronic presence, and the template can be personalized by each faculty member, including a link to a more detailed

web site if desired. Fayetteville State University has chosen this solution and an impressive 95% of Education faculty have a web presence (<http://www.uncfsu.edu/mgss/staff.htm>).

If faculty web sites are considered a marketing tool for an institution, perhaps by attracting prospective students, then a template offers a more professional solution than some of the design features found on faculty pages, such as unprofessional backgrounds, animated gifs and photographs which take minutes to load. A short template based faculty web page makes it easy for students to locate information, such as prospective graduate students interested in faculty research. The template page can contain only general information about faculty, with no dates listed, and it will not be obvious if faculty do not update their web page.

Keene State College has created what they call a directory profile for faculty, which can be updated by copying and pasting text inside boxes. The college posts the following instructions which make it very easy for faculty to create and edit their directory site:

#### Managing Your KSC Directory Profile

Your KSC directory profile information appears when people search the KSC's online directory ([www.keene.edu/directories](http://www.keene.edu/directories)) or when they click from the discipline faculty sites like the Art Faculty site ([www.keene.edu/catalog/faculty.cfm?DiscId=1](http://www.keene.edu/catalog/faculty.cfm?DiscId=1).)

By default your profile contains your campus address, e-mail address, campus phone number, title, and department. You may add a few paragraphs of biographical information, a link to your professional home site, an alternate e-mail address, and/or your headshot. To see an example, visit Nona Fienberg's directory profile at [www.keene.edu/directories/facstaff\\_detail.cfm?EmployeeId=256](http://www.keene.edu/directories/facstaff_detail.cfm?EmployeeId=256).

#### [How to update your directory profile](#)

- a. Go to [www.keene.edu/forms/MyProfile.cfm](http://www.keene.edu/forms/MyProfile.cfm).
- b. Click “Edit my Employee Profile”
- c. Under Personal/Professional Profile: a. type in the URL to your professional home site and/or b. copy and paste a few paragraphs of biographical information in to the “Bio” textbox.

Click Submit. ([academics.keene.edu/lfarina/documents/KSCDirectoryProfile-Howto.pdf](http://academics.keene.edu/lfarina/documents/KSCDirectoryProfile-Howto.pdf)).

Strategy 2. An institution may choose to continue hosting traditional faculty web sites, but may need to make some changes if only a small percent of faculty have updated web sites, especially if outdated pages reflect negatively on the institution or department. The barriers of lack of time, training, and resources such as software, need to be addressed to increase the percentage of faculty creating and maintaining web sites (Bauer & Kenton, 2005; Brzycki & Dudt, 2005; Henry, 2002; Weaver, 2006). Additional key elements include administrative leadership and focusing on the benefits of web pages for faculty (Wepner, Scott, & Haysbert, 2003; Spotts, 1999; Zhao & Cziko, 2001).

Conflicts between faculty professional goals (such as multiple demands on faculty time) can be lessened by providing on-site support, release time, and easy-to-use tools (Zhao & Cziko, 2001). Bee (2000) compared the faculty who created and used an academic web site to those who did not. Non-users did not believe they had the time to maintain a web page, even if one were provided for them, and felt the time spent maintaining it could be better spent in other activities. Non-users may not see the faculty web page as of direct benefit to students, and users may not receive feedback from those who use it, and thus fail to maintain their faculty web page

(Bee, 2000). Models of technology adoption advocate convincing users that there is a real need to use technology, either to improve teaching or because it is required to keep their job (Zhao & Cziko, 2001).

Much has been written about how to support and encourage faculty use of technology (Bee, 2000; Harley, 2007; Spotts, 1999; Stern, 2000). “One reason web sites fail is that too often they are the initial effort of a new web author. Without support for continued revision and authoring, the site stagnates while technology advances, links go dead and content becomes outdated” (Stern, 2000, p. 11). Since the development of easy-to-use web editing software, such as Contribute, the challenge may lie not in creating the site, but providing ongoing support for faculty to revise the initial site.

The web site must benefit faculty, by helping them meet their professional goals more efficiently or in unique ways. A web site that is a marketing tool for the professor might highlight research so as to attract potential collaborators, or focus on areas of faculty expertise for local school districts needing professional development. Faculty who may be on the job market might be motivated to develop an electronic curriculum vitae. Faculty must perceive the value of a web site to put forth the time and effort to create and maintain one (Spotts, 1999).

Harley (2007) discusses the results of a survey completed by over 800 higher education faculty.

‘the lack of faculty willingness to change’ is often cited as a key barrier to wider adoption of a variety of technologies in undergraduate teaching and other forms of scholarship.

Our experience with faculty needs and attitudes raises the question, do many ‘producers’ of technological tools and systems pay much attention to the unconvinced, indifferent,

tired, frustrated, or thwarted academic “consumers”? Or do they simply dismiss many non-adopters as aberrations, luddites, or dinosaurs, with little reflection about the complex reasons why many scholars have not yet embraced the promise of the ‘new, new’ technological thing? (p. 12).

Harley encourages IT people to have dialogues with the full range of faculty they wish to serve, not just technology enthusiasts, in order to truly identify and address the barriers faculty face in creating and maintaining web sites. Ertmer (1999) described two levels of barriers to teacher’s integration of technology. The first order barriers are extrinsic, including lack of time, software and support, while the second order barriers are intrinsic and include belief systems about teaching and learning (p. 94). Both levels need to be addressed for successful and sustained use of technology, such as faculty web pages.

Strategy 3. Allow web sites to die a natural death as other technologies move to the forefront. Technologies such as blogs, social networking sites and course management systems may be the technology tools replacing web sites. A survey by Thompson Learning indicates 10% of faculty have their own blog (More faculty, 2007). School of the Art Institute of Chicago offers links to faculty blogs much as other institutions offer links to web sites (<http://www.saic.edu/admissions/blogs/index.html>).

Hawkins and Rudy (2006) report that course management systems are used at 97% of Masters level institutions, and 100% of faculty use a CMS if one is deployed by their university; either selectively (72.2%) or for nearly all courses (27.8%). CMS are not just used for online courses; they are used three times more often to create a site for an existing course than to host

an online course (Malikowski, Thompson & Theis, 2007). 90% of the courses taught at the University of Virginia use their version of a CMS (Ayers, 2003). The latest “Current Issues Survey Report” lists CMS among the top ten issues facing higher education CIO’s (Camp, DeBois & Educause Current Issues Committee, 2007). The authors attribute this visibility to “its accelerating use as a critical teaching and learning resource by institutions of all kinds” (p. 29). A CMS replaces a course web site designed by faculty, providing more sophisticated tools and support and allows students to get to know faculty, through the discussion forums and posting of faculty information. A CMS integrates technology with teaching, and research suggests that linking technology to teaching results in a higher level of technology integration (Mazden & Edmunds, 2007; Vanetta, & Beyerbach, 2000; Wepner, Scott, & Haysbert, 2003). It is likely the low adoption rate of faculty web pages is due in part to lack of a clear link to teaching, a characteristic some newer technologies do not share.

This third solution is the easiest to implement, as one simply does nothing. Technology innovations have a cycle of use (Brzycki & Dudt, 2005), and it could well be the faculty web site is on its way to obsolescence, to be replaced by newer, more interactive technologies. The minority of faculty who wish to develop web sites will continue to do so. Other faculty will find blogs, or interactive social networking sites more to their liking or purposes. As CMS become ubiquitous, faculty may use the internal web site tool, the discussion forums, built in wiki and blog tools, or simply post their CV in the electronic classroom as a replacement for a faculty web site. A combination of tools may best meet faculty and student needs, and may already be replacing the use of faculty web pages.

*Limitations and need for further research*

This study examined Education faculty websites in 10 Masters level institutions with enrollments between 4700 and 5700. The results may have been different for community colleges or Research 1 institutions, or for departments or schools other than Education. A month or a year from now, all 10 institutions may have implemented one of the solutions described or an entirely different one, as technology changes so quickly. Results can only be generalized to this group of institutions at this time.

Further research might examine other types of institutions or subject areas. Examination of Computer Science faculty web pages might provide very different results, as would faculty web pages at a larger institution. An additional avenue of research concerns P-12 teachers and their use of web pages. One recent study did not find a link between faculty attitudes toward technology and teachers use of classroom technology (Bai & Ertmer, 2008). However, the lack of modeling and promotion of faculty web pages by Education faculty may influence students' future use of web pages. Research should also examine if web page design is an important or obsolete skill for P-12 teachers.

The CBAM model identifies a category of non-users with any technology adoption. As there are so many non-users (faculty who do not have a website at all and have apparently never created one), more research into the reasons of non-adoption is needed. Website development is a mature technology, making it possible to research issues of adoption over a decade or more.

### ***Conclusion***

Faculty web sites can offer benefits to the institution, the faculty, and prospective and current students (Stern, 2000). Certainly today's students are prolific users of the web, and students find information posted on faculty web sites helpful (Lennex, 2007; Palmiter &

Renjilian, 2003). Benefits to faculty include providing a professional site for contacts such as research or consulting inquiries, and for building rapport with students. These benefits have existed for many years, yet most faculty do not create and maintain a professional web site. 97 of the 144 education faculty (67%) examined do not have any type of professional web site posted on their department website, or linked from the institution. Faculty websites are a technology most faculty have not adopted.

Faculty may feel guilty if they aren't using technology the way they "should" be, yet are often faced with multiple barriers and little incentive to adopt new technologies. Too often technology drives a wedge between those who think faculty should be using more technology or using it differently, and the faculty members themselves.

Faculty and those who support faculty need to continually monitor how technology is helping to meet professional goals. One answer does not fit all, as each department and institution is unique, and the answer for each will vary. Thoughtful discussion between stakeholders needs to take place, and the purposes of faculty technology use clearly defined. Finally, institutions must be willing to abandon or modify technology solutions that are counter-productive, working for only a minority of users, or have reached the obsolescence phase of the technology innovation cycle, as well as commit to exploring new technologies that better meet faculty needs.

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Appendix A

*Exemplary Faculty Multi-purpose Web Sites*

Faculty And Rank	Personal info. included	Course info. included	Research interests, Publications	Links to resources in field	Purposes of web sites
Dr. Bryd ( <a href="http://facstaff.elon.edu/sbyrd2">http://facstaff.elon.edu/sbyrd2</a> ) Assistant Professor	No	Yes	Yes	Yes	“The purpose of this website is to provide you with helpful resources and links related to special education both locally and internationally” Research shared; link to CV.
Dr. Taylor ( <a href="http://facstaff.elon.edu/btaylor/">http://facstaff.elon.edu/btaylor/</a> ) Associate Professor	Yes	Yes	Yes	yes	“Through the text below and the links above, I hope you can learn more about the roles I fill in my professional and personal life”. Current syllabus. Current office hours.
Dr. Tomasek ( <a href="http://facstaff.elon.edu/ttomasek/">http://facstaff.elon.edu/ttomasek/</a> ) Assistant Professor	Yes	Yes	Yes	Yes	“The purpose of this website is to highlight aspects of my professional life”. Personal information shared.
Dr. Lory ( <a href="http://academics.keene.edu/nlory/">http://academics.keene.edu/nlory/</a> ) Full Professor	No	Yes	Yes	Yes	Student centered. Description of research, background. Links to organizations, special education resources.
Dr. Nuffer ( <a href="http://ac">http://ac</a>	No	Yes	Yes	Yes	Professional website; teaching, research, service.

ademics. keene.ed u/enuffer/ index.ht m) Full Professor					Course support, teaching beliefs.
Dr. Longfield ( <a href="http://www.iun.edu/~edujsal/">http://www.iun.edu/~edujsal/</a> ) Assistant Professor	Yes	Yes	Yes	No	CV, Lot of personal information, class site. Includes Teaching philosophy.
Dr. Kassem <a href="http://phobos.ramapo.edu/~ckassem/frame.html">http://phobos.ramapo.edu/~ckassem/frame.html</a> Full Professor	No	Yes	Yes	Yes	CV, course support, links to publications.
Dr. Johnson <a href="http://faculty.uncfsu.edu/jjohnson/index.htm">http://faculty.uncfsu.edu/jjohnson/index.htm</a> Full Professor	Yes	Yes	No	Yes	Course support; Many field resources. CV, research interests

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