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Gender and Tenure Issues Relating to Faculty

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GENDER AND TENURE ISSUES RELATING TO FACULTY PERCEPTIONS OF WEB-BASED LEARNING MATERIALS

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ABSTRACT

This paper addresses whether or not gender and/or tenure status can affect a faculty member's perception of web-based learning materials. Specifically, perceptions about the effectiveness of web-based materials and whether creating these materials affects a faculty member's chances for promotion and tenure. The survey was conducted in 2002 and again in 2008 to measure perceptions and also to see if perceptions have changed over time.

One dimension of creating web-based learning materials is the search for and integration of web resources into the course content. There has been a considerable increase in the array of Internet resources since the 2002 survey and many of them can affect instruction/learning. You Tube was created in 2005 and has already become a virtual guest lecture source with videos including everything from Thomas Friedman presenting lectures on "The World is Flat" to Gordon Moore speaking on his view of the next 40 years of "Moore's Law." Many universities have created Second Life sites for learning communities and individual courses. It could be argued that the increase in the availability of such web-based resources would lead to a view of increased impact on instruction/learning and that faculty utilizing such resources and incorporating them into their course materials would be rewarded with greater chances of promotion and tenure.

Our analysis shows that, as a whole, there was no statistically significant change in faculty perceptions between 2002 and 2008 on either the effectiveness of Web-based learning materials or the impact that the creation and use of those materials on the tenure process. However, when we categorize faculty by tenure status and gender the perceptions of tenured, male faculty on the effectiveness of Web-based materials did fall significantly.

Keywords

Online learning, web-based learning, tenure, gender.

INTRODUCTION

The development of online learning materials is important for several reasons. One reason is the sheer number of students taking online courses. In the Fall of 2007 almost 4 million U.S. college students were taking an online course – that represents over 20% of U.S. higher education students (Allen and Seaman, 2008). A second reason is the tenure/promotion reward system for faculty who develop the online course materials consumed by the ever increasing number of students. Ever since Boyer (1990) questioned the role of non-research efforts in scholarship, there has been more interest in capturing non-research scholarship (such as developing web-based materials) in the tenure and promotion process.

The respondents' perceptions of online course efficacy compared to traditionally taught materials are important. If faculty members believe learning efficacy is increased or decreased by the use of online course materials versus traditionally taught courses it should influence their decision regarding the creation of online materials. Second, the perception of respondents concerning the value of creating online course materials as an effort that leads to promotion and tenure is important. Activities that do not lead to promotion and tenure are marginalized by faculty.

A 2002 survey (Schell, 2004) revealed that although much interest and many resources have been expended on the development of web-based learning materials, the value of those efforts are marginalized in the promotion and tenure decision. In fact, faculty that put effort into developing web-based materials at the expense of traditional efforts in research and teaching reduce their chances of promotion and tenure. In the years since the 2002 survey there has been a great expansion of web-based resources available to faculty members.

Before these new resources can be made into web-based learning materials they need to be found, researched, mastered, and then imbedded into course content. You Tube was created in 2005 (purchased by Google in 2006) as a user-driven site for sharing short videos and has inadvertently become a source of digital guest lecturers ranging from Thomas Friedman

lecturing on "The World is Flat" to Gordon Moore's lecture on his vision of Moore's Law for the next 40 years. Universities have joined the social networking phenomenon with Second Life, MySpace, Facebook, LinkedIn, Twitter, among others. BlackBoard and WebCT merged in 2005 and created a single organization that had over 3,000 university and college clients – and more universities are using it each year. The content and the infrastructure for content delivery has greatly evolved and expanded since the 2002 survey. You Tube and streamed videos are individual creations but finding the pertinent materials and embedding them into a structure for web-based consumption is itself a creative process. Much like a box of nails, a hammer, and a collection of wood are separate creations, but when a carpenter creates a desk from these materials the desk is itself a new creation.

This paper will analyze 2008 survey responses to see if changes occurred between the 2002 and 2008 data. Specifically, is there a change in (1) perceptions of the effectiveness of web-based learning materials and/or (2) perceptions of the impact that the development of web-based learning materials have on the promotion and tenure decision. Since the six year interval represents a span of time when tenure decisions are likely to be made, tenure status is analyzed. Also, since respondents to the survey have a higher proportion of females than in the general faculty population the effects of gender on these perceptions are analyzed.

SURVEY

The 35 questions in the survey cover faculty demographics, school demographics, perceptions about web-based materials use and perceived effectiveness, and finally the respondent's perceptions of the academic value of creating web-based learning materials by those persons and committees that will make decisions during the promotion and tenure process.

An e-mail seeking survey participants was sent to faculty who had publicly associated with web-based learning materials through a discussion forum, journal or conference presentation or publication, membership in a user group focused on web-based learning materials, or some similar connection. This is important because this research seeks to measure perceptions of those faculty actively pursuing web-based materials and their perceptions on its effect of attaining promotion and/or tenure as opposed to the general faculty population. In each instance, the person had furnished his/her e-mail address.

Web-based learning materials have been defined in various ways (Schank, 2001; Tsai and Machado, 2002). The majority of the definitions say web-based learning occurs via a web browser. Web-based learning materials are those that are created specifically for browser interaction or a collection of materials facilitated by the use of web browsers. For example, combining original materials found on the web with a blog, threaded discussion, or some other interactive web technology.

SURVEY RESULTS

The data in this analysis was restricted to U.S.A. faculty with no administrative duties who were either tenured or on tenure track. Administrators and part-time faculty were excluded because we wanted opinions about the impact that developing web-based materials had on the tenure decision to be expressed from a full-time faculty member's perspective. The two volumes of Online Learning as a Strategic Asset (McCarthy and Samons, 2009, Seaman, 2009) are very good sources but the views are from administrators and select faculty that often have held an administrative role in online/web-based university efforts. Since the tenure decision process can be very different outside the U.S.A., and may not even be relevant, only U.S.A. responses were considered.

There were 325 usable responses from 2002 and 490 responses in 2008. Across the years 47% of respondents were female and 72% had tenure. Of the 2008 respondents, 69% had taught a web-based course and 96% had used web-based learning materials in courses they taught. The high percentage of respondents who use and/or develop web-based materials leads to a bias in the survey. However, we feel this group of respondents is best able to respond to the survey questions.

Below are two tables showing mean responses to the effectiveness of web-based materials and the effect of developing web-based materials on the decision for promotion and tenure. The tables show mean responses by survey year, gender, and tenure status. The 2002 and 2008 surveys have a statistically significant difference between males and females (.011) and between tenured versus tenure track respondents (.016) concerning their views on the effectiveness of web-based materials. For the question of the impact of creating web-based materials on the promotion and tenure decision, there were no statistically significant changes from 2002 to 2008.

Table 3 is very important because it shows the combination of gender and tenure responses. Note that the values are very similar except for a single cell – the combination of tenured males in 2008. It is the single issue driving the statistical significance. There is no immediate explanation to this result based on the survey responses.

	2002	2008
Male	3.26	2.93
Female	3.05	3.06
Tenured	3.25	2.97
Not Tenured	3.02	3.10

Table 1. Mean Values of Responses to Effectiveness of Web-based Materials (Scale 1 to 5, less to more effective)

	2002	2008
Male	5.46	5.36
Female	5.40	5.67
Tenured	5.42	5.39
Not Tenured	5.39	5.97

Table 2. Mean Values of Responses to Impact on Tenure Decision (Scale 0 to 10, no impact to critical)

We did not expect that responses from tenured males would be so dominating in the survey results. Literature about correlating gender and technology issues tends to find differences between males and females concerning perception of usefulness, ease of use, and other characteristics of information systems and technology. However, it was the combination of both tenure status and gender that dominated the results. We expected that either gender or tenure status would influence the perception of efficacy. We require further analysis to explain this phenomenon, probably by a second survey.

	2002	2008
Male, Tenured	3.37	2.90
Male, Not Tenured	3.02	3.05
Female, Tenured	3.05	3.03
Female, Not Tenured	3.06	3.14

Table 3. Mean Effectiveness of Web-based Materials Responses by Combined Gender/Tenure Responses

A secondary result of the analysis shows that the dispersion of responses changed from 2002 to 2008. Probably as important a finding as the tenured male anomaly is that the responses in 2008 were much more concentrated about the mean value. A Kolmigorov-Smirnov two-sample test reveals the sample distributions from the two surveys have a significantly different distribution across their frequency distributions. The 2008 responses show a stronger central tendency for both the effectiveness of web-based materials and also the impact that developing web-based materials may have on the promotion and tenure decision. Figures 1 through 4 depict the frequency distributions of web-based learning materials compared to traditional materials. Tenure status between the different years and gender are presented in the figures.

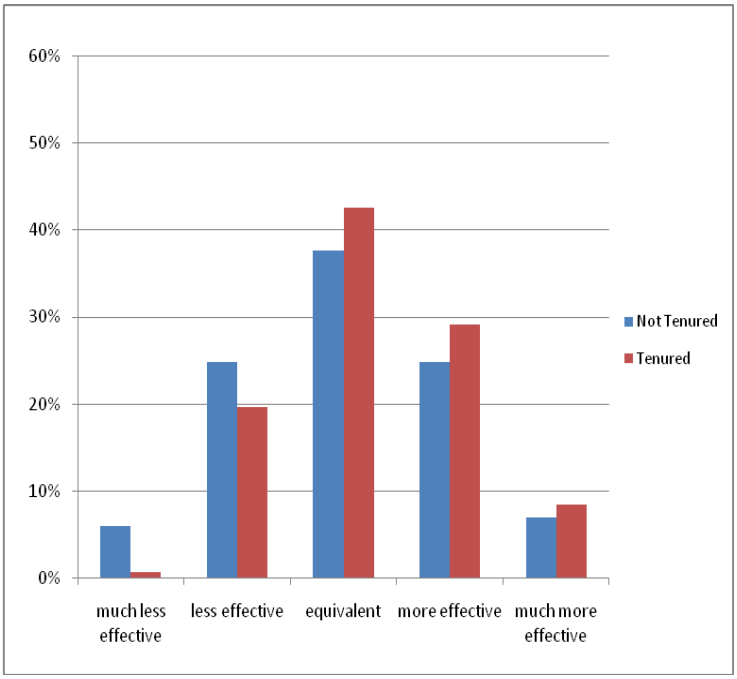

Figure 1: Effectiveness of Web-based Materials Compared to Traditional Materials – 2002

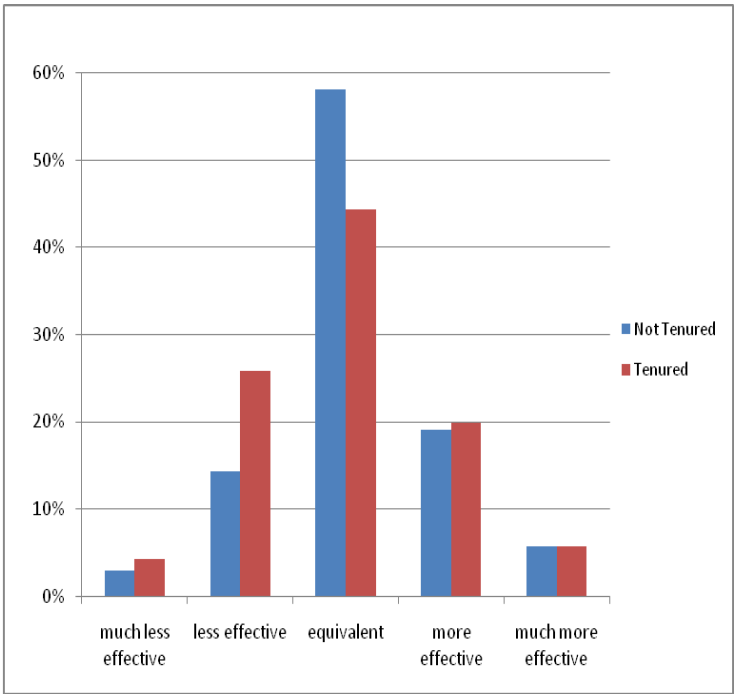

Figure 2: Effectiveness of Web-based Materials Compared to Traditional Materials – 2008

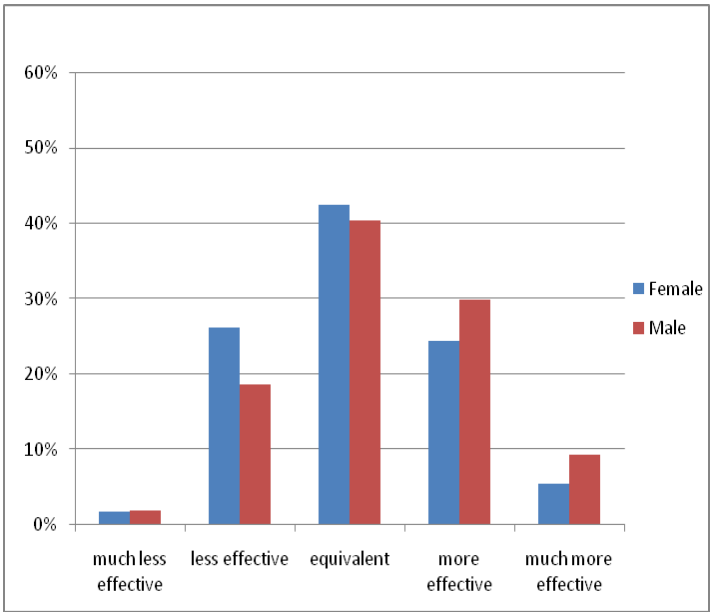

Figure 3: Effectiveness of Web-based Materials Compared to Traditional Materials – 2002

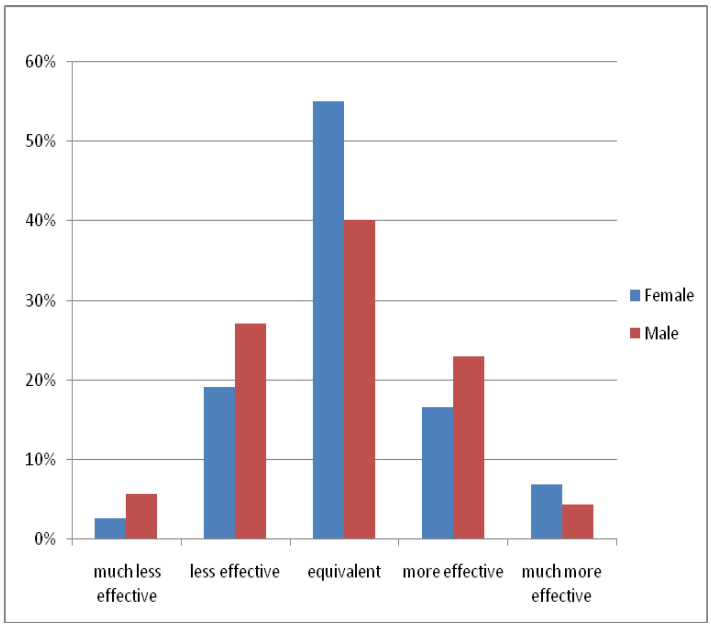

Figure 4: Effectiveness of Web-based Materials Compared to Traditional Materials – 2008

CONCLUSION

The analysis of the data is continuing. The similarity in mean scores between the two surveys is both comforting and disturbing at the same time. Comforting in that there is stability in faculty perception. Disturbing because the rapid increase in available resources to support web-based learning materials seems to imply an intrinsic increase in their use. It can be speculated that between when Tim Berners-Lee developed a system that would later be known as the World Wide Web (proposed in 1989 and first implemented in 1990) and the 2002 survey there had not been enough time for a consensus to develop concerning web-based learning materials. Education 2010 (Briggs, et al, 1989) made some very good predictions about the education technology that was to follow 20 years later yet many of the leaders of this conference spent little time on

web-based learning after the conference. Did their departure from online learning portend the future views of male, tenured faculty?

The 2008 data is much more concentrated near the mean observation values. This represents a convergence of opinion, a consensus of the effectiveness of web-based learning materials and also the impact of a faculty member's creation of web-based learning materials related to tenure and promotion.

The mean values were close to the center value of the response choices. For web-based materials effectiveness, the value 3 was the midpoint between the 1 and 5 extreme points. And 3 was almost the exact mean value. Clearly the respondents did not feel there is a substantial difference. To the respondents, web-based and traditional learning materials are equally effective.

The response to the question concerning the impact that developing web-based learning materials has on the promotion and tenure decision is similarly balanced. That scale went from 0 (no importance) to 10 (critical). The value 5 is the midpoint and mean responses among the subgroups in 2008 were from the mid 5.36 to 5.97. While that difference is a statistically significant increase from 5.00 it does not carry a lot of practical weight. Faculty relying upon their development of web-based materials will find it has no influence. Especially compared to the impact of research and traditional teaching measures.

The surprising result of the analysis is that the variance from 2002 to 2008 could be determined by the single subgroup of tenured males. Their substantially lowered views of web-based materials efficacy is not yet explainable. They had the highest mean rating in 2002 yet the lowest mean rating in 2008. We hope to further analyse this finding and report our conclusions at the conference.

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