

Relationship of Gender to Faculty Use of Online Educational Tools

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Research shows that men and women use the web differently. This difference may dictate what online tools faculty make available to enhance student learning. This paper presents the results of a research study that questions whether this gendered use extends to higher education faculty, and discusses possible implications.

Objective

Online courses have become a vital part of the curriculum for most post-secondary institutions in the United States. Whether used for distance learning or as an enhancement to classroom teaching, the integration of online courses marks a distinct change in our system of higher education. The shift from the traditional classroom to the technological web has created diverse and unique issues for teaching and learning (Twigg, 2001). The web focus on learner-centered activities and interactions has created a need for innovative attitudes towards teaching methods and course design (Learn Online). According to this attitude of innovation, especially in the online environment, the traditional method of lecturing is no longer appropriate. New methods of instruction must be introduced into the online teaching world. How will these methods be defined and implemented? Who will define and implement them? One aspect to be considered here is the role of gender. The role that gender plays in online teaching has not yet been investigated to the extent this topic warrants, and specific pedagogic questions with respect to gender have neither been asked nor answered. The purpose of the study was to pose and report on some gender-related questions. Do male and female faculty make different teaching choices in online instruction methods based on their gender? Do these choices reflect societal gendered tendencies regarding technology? What are some of the implications for teaching and learning in higher education?

Theoretical Framework

Technology is and has been a masculine domain. (Butler, 2000; Henwood, 2000; Schumacher & Morahan-Martin, 2001, Young, 2000). Computer software, (Butler, 2000) language about computers (Campbell, 2000) and computer professionals (Young, 2000) have all been viewed as masculine, regardless of actual facts. The fact is that, throughout history, women have been an integral part of technology development. Because of this, girls have had potential positive role models in technology (Butler, 2000). Nonetheless, research has shown that while males view technology generally positively, females view technology more negatively (Butler, 2000; Schumacher & Morahan-Martin, 2000; Jackson, Ervin, Gardner & Schmitt, 2001; Young, 2000). This negative view and the masculinization of and gendered attitudes toward technology have lead men and women to use technology differently. This difference is evidenced in various technologies, including computer games, which are geared towards boys and their interests (Morahan-Martin, 1998), the internet and the world wide web. Research has shown that males use the internet and the world wide web primarily for the gathering of information (Gefen & Straub, 1997), while women use them primarily for communication (Jackson, Ervin, Gardner & Schmitt, 2001). Women are online primarily for email (Jackson, Ervin, Gardner & Schmitt, 2001; Van Slambrouch, 2000, Wilson, 2000). Using technology for

communication is a female gendered tendency; while using technology to gather information is a male gendered tendency. Research has not extended into academia; there are few studies that examine faculty use of technology and whether there is a gender difference in this use. One study conducted by Spotts, Bowman & Mertz (1997) found that male faculty self-rated their knowledge and expertise higher in some technologies than did women, but did not find a difference in the frequency of use. Aside from this frequency study, there has been little research investigating specific methodological use of various web technologies, particularly those involved in online instruction. Given that males and females in general use technology differently, the assumption is that male and female university faculty would also use online teaching technology differently, and this difference would have a direct impact on student learning.

Methodological Design and Data Source

Data were collected from a total of 174 active WebCT courses at the University of Alabama in the spring of 2002. WebCT (a course management system/ online learning environment) offers faculty a choice of approximately 14 different educational modules. Some modules are primarily for communication or communicative activities, while others are for the dissemination or assessment of knowledge. This study looked at six of the 14 modules. Four of the modules, calendar, external syllabus, content and quiz, were information-based modules. These modules were used to gauge masculine gendered tendencies. Two modules, chat and threaded discussions, were communicative modules and were used to determine feminine gendered tendencies. Each of the six modules in each course was examined for modification, counted and then tallied into a spreadsheet program. The resulting data of the manual count were then analyzed using the SPSS program. In order to assess gender differences, crosstabs and the chi-square statistics were used for the dichotomous (yes/no) variable after the manual count. An alpha level (level of significance) of .05 was used throughout data analyses. Of the 174 courses, 97 or 56% were assigned to female faculty and 77 or 44% were assigned to male faculty. The rank of the faculty who requested these courses ranged from adjunct to full professor, and they represented eleven different colleges and schools at the University.

Results, Implications, and Educational Importance of the Study

The results of the study were not in line with predictions. There was no significant gender difference in the use of either communication module; there was also no significant gender difference in the use of the calendar module. There were, however, two significant differences in the use of two of the information modules, content and quiz. Female faculty used both more than male faculty. The content module showed a Chi-Square value of 4.794 at the .029 level. The quiz module also demonstrated a significant gender difference in use. The Pearson Chi-Square value was 6.441, which is significant at the .011 level.

While motivations and rationale that faculty have and use when choosing an appropriate module to meet their educational goals are currently unknown, the possible explanations open several potential theoretical frameworks for guiding future research.

The first theoretical framework to explore may parallel a challenge that women have traditionally had breaking into male dominated fields, namely loss of status due to the feminization of the field (Borsoo, 1996, Henwood, 2000). In order to combat this loss of status, women in newly-opened fields tend to adopt the accepted gendered behavior of the men already in the field (Chliwniak, 1997). This phenomenon, known as systemic paternalism, may also be occurring in online education. Even though online education is relatively new to both genders, technology is well established, and is masculine (Butler, 2000; Henwood, 2000; Schumacher & Morahan-Martin, 2001, Young, 2000). Online education may have been similarly masculinized. In online education, female faculty may try to compensate for being female in a masculine field by adopting male gendered behavior when teaching (selecting / implementing teaching methods). Female faculty want to be viewed as legitimate and respected scholars, researchers and teachers, and may be hesitant to adopt techniques that are perceived as feminine and therefore devalued (Cockburn, 1983).

Another theoretical framework that remains to be explored and which may explain the unexpected results of the current study is that women may be adapting, instead of challenging, existing educational methods and standards that were created by and primarily for men (Griffin, 1997). The traditional informational style of teaching present in most university classrooms today is a style that is more suited for masculine, or information-based learning styles, not feminine, communicative styles. Understanding that the current trend in online course delivery is that the majority of courses are being adopted directly from their classroom counterparts (Twigg, 2001), with no modifications in presentation and content, it is clear that the traditional, linear information style, the masculine norm, is being perpetuated.

A third theoretical framework is the newness of the field of instructional technology and the implications of this newness on teaching, teaching styles and pedagogies. Unlike email and the Internet, which have been widely available to the general public since around 1995, using technology in teaching, particularly course management systems, is still in its infancy. Therefore, teaching styles have not yet been personalized, nor has a sound pedagogy been explored (Earle, 2002). Faculty members are still beginning to use these systems to enhance their teaching and students' learning. The general tendency is to take a traditional course and "put it up" on the web with little or no change in presentation style or in pedagogy in general (Twigg, 2001). The University of Alabama has only 174 active WebCT courses, while there are thousands of traditional classroom courses. The pedagogy of online learning cannot be expected to be as polished and established as those in the traditional classroom courses by all who are using the medium as an educational vehicle. Faculty need more time (Groves & Zemel, 2000), resources, support, and experience (Dusick, 1998) to evolve their online pedagogy into what may be more comfortable, typical and beneficial to teaching and learning.

Regardless of the causes behind the gender difference in module choice, the results of this study have implications for higher education in general and for online teaching and learning in particular. Gender influences almost all aspects of our lives to some degree,

and teaching and learning is no different, nor is technology. To serve the interests of education, we must be aware, at all times, of the choices we make and why we make them. Understanding the role that gender plays in online teaching and learning is critical; this role has serious potential effects on student learning and needs to be further examined and researched (Butler, 2000; Campbell, 2000; Dusick, 1998; Gefen & Straub, 1997).

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