Teaching students web page development: A skill for practice and empowerment

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Summary: An innovative web-based approach to teaching computer-based technological skills to MSW students is described. Students enrolled in an advanced generalist community practice course were taught how to create useful, informative, and empowering web sites for at-risk communities. Student feedback suggested that web development skills were viewed as relevant and useful to community-based practice, and students felt empowered through the acquisition of technological skills. The basic pedagogical features of the assignment are described and recommendations for mounting a web design course are offered.

Key words: web development, empowerment, advanced generalist social work

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Introduction

In today's practice climate, client needs are often complex, inter-related, and fluid, making it difficult to adequately prepare students for practice through traditional pedagogical methods. Social service agencies are also affected by the changing environments of practice, as illustrated by the ways in which agencies are rapidly formed and transformed under pressures from communities and constituencies (Lewandowski, GlenMaye, & Bolin, 2004). Technology-enhanced communication is one way to address the challenge of providing effective and timely information and services in changing environments (Wright, 2000). Web sites are an efficient and effective way to reach out to community constituencies and to form collaborative and cooperative community relationships (Nartz & Schoech, 2000). Agencies serving at-risk communities can use the internet to provide resources, information, and services effectively efficiently, and in an empowering way. Other professions, such as medicine, recognize the benefits of the World Wide Web as a resource to educate, inform, and keep in touch with clients (Saunders, 1998). Social work curricula increasingly include use of the internet in course assignments and as a resource for practice (Berman, 1996; Holden, Rosenberg, & Meenaghan, 2000; Vernon, 2001). It is clear that social work education can profit from the use of technologies that further skill and knowledge acquisition. As social work educators, we must provide students with the technological skills and knowledge necessary to respond appropriately to current practice demands.

Advanced Generalist Curriculum and web skills

The MSW curriculum with a second-year concentration in Advanced Generalist Practice gave the faculty in our school a chance to develop course work that provides cutting-edge skills for today's social service environment to our students. Advanced generalist practice is an evolving construct in social work education (GlenMaye, Lewandowski, & Bolin, 2004), but typically includes multi-method and multi-level approaches that can be applied to the public and private

sector (Landon, 1995). Our program has developed an advanced generalist paradigm that calls for a broad array of administrative and community skills, including computer proficiency. This advanced generalist curriculum is based on the assumption that internet skills are critically important in a climate of rapid development and transfer of information (Sandell & Hayes, 2002). Social work practitioners need to have computer skills that go beyond word processing and spread sheet abilities to include knowledge and facility in use of the internet (Giffords, 1998; Holden, Rosenberg, & Meenaghan, 2000; Martinez, & Clark, 2001). In this regard, Giffords (1998) states, 'For social workers and other human services professionals anywhere in the world, the internet increases access to empirical and practice knowledge and also facilitates information exchange' (p.244).

As faculty explored the ways in which the Internet could be incorporated into the curriculum, it became clear that the internet is much more than information; it is also a powerful tool for practice. This insight provided the launching point for a course that taught web page design, thus providing students with concrete skills for a technology-driven environment. The assignment described below provides skills for community based agency practice, and is a source of empowerment for a community and also for the students, who acquire transferable technological skills for social work practice. To date, approximately 30 different web sites have been developed, with a wide range of topics represented, including international student resources, women's empowerment, hate crimes, elder services, children with disabilities, renal care, Hispanic services, and cancer survivors.

Course design

The course, *Community Empowerment and Social Administration,* is a required course in the concentration portion (second year) of the MSW Program. This course provides students with advanced generalist theories and skills for organizing and empowering communities and managing community-based organizations. The course was based on the program's advanced generalist model and was predicated on the understanding that effective community

interventions require that social work administrators understand and have skills in nonprofit management, computer technology, agency and public policy analysis, resource mobilization, and community outreach and organizing. Additionally, the advanced generalist model developed by the program suggested that work in and for oppressed communities requires an ability to analyze and understand power and to facilitate political and group empowerment through the use of Internet technologies and resources.

Course details

This three credit-hour class met once per week over a 15 week semester There were no additional costs for the course, except for use of the university computer facilities, which included access to Microsoft *FrontPage*. The course was team taught, allowing for small groups to process computer lab experiences and to integrate course material on empowerment with at-risk communities. The student learning objectives were to:

1. Develop a web site appropriate for publishing to the World Wide Web that empowers an at-risk population or which provides resources for social work professionals on a social issue of concern.
2. Effectively use web development software, including navigation and graphics, to build a web site that is creative, user-friendly, and accessible.
3. Identify, locate, and compile Internet-based social action and community resources appropriate to empowering a population-at-risk.
4. Utilize group interaction to enhance learning of web development skills.
5. Integrate the web development project and skills with a community organizing project, done in conjunction with the web development project.

Web design instruction

Students were assigned to groups of 4 to 6 for the web page development project, with each group consisting of students with varying levels of computer expertise and comfort. Students created the web site through use of Microsoft *FrontPage* and *Windows XP.* The setting for instruction was a computer lab equipped with Microsoft *FrontPage* and Internet access. In order to publish the web sites, the instructors had access to a university-sponsored domain on a publicly-accessible server. Alternatively, the instructors provided instruction on the process of uploading to a free or low-cost web publishing service such as *GeoCities.*

Each group developed a theme that informed and empowered a population at risk. Next, they determined the resources and information to include on the web page, using library resources, agency needs, and web search tools. Next, they organized the information into web page format and assigned individual responsibility for parts of the web page. Then, they were instructed in the use of navigation systems and hyper-links to add relevant and useful resources and information to their pages. Finally, using standard web design tools and techniques, they created a fully functioning and attractive web site with multi-level navigation, using a home page and linked sub-pages, taking into account the accessibility requirements of the population being served (Lowe, 1999; Martinez & Clark, 2001; Saunders, 1998; Yaffe & Gotthoffer, 1999). Throughout the course, student issues such as varying levels of computer comfort and expertise were processed.

The instructor provided an introduction to web page development, described its use as an empowering tool for community practice, and led students through a guided process of developing web design skills through the five computer lab sessions that introduced processes and features of web design and development. Students followed the instructor's lead as they worked through the steps of developing a web page. After the conclusion of the guided learning, the instructor provided technical assistance and problem-solving to the groups.

Skill development proceeded through the use of synchronous and asynchronous learning: As the students developed basic skills and moved toward creative and skilled use of the web design software, they worked independently in lab and outside the classroom. The

web design project was learner-centered, where students progressed from their current level of comfort and knowledge of computer technology, to advanced skills in computer use and web development. The philosophical base throughout was empowerment theory, in which students worked toward empowering an at-risk community and, in the process, were empowered themselves through increased skills, competence, and knowledge of community needs and resources (Byrne, 1998; GlenMaye, 1998; Gutierrez & Lewis, 1999).

Outcomes

In order to obtain student feedback and perspectives on the value of the course, students were asked to evaluate the experience and to write a brief narrative response to three questions that addressed the major purposes of the assignment. These questions asked students to comment on the process and worth of the assignment. The responses of students revealed that, in general, they were enthusiastic about the assignment and the learning that occurred.

The student narratives revealed that one of the major benefits of the assignment was that students were able to contribute to the project individually, and this was one source of student empowerment. For example, one student stated, 'I am willing to assist in any way possible in developing the web page. I have focused primarily on synthesizing the information to be included on the page. My writing skills have been useful in developing a useful website.' This student's strength was writing and their contribution was as important to the web site as the skills that went into page construction and navigation. Another student wrote of the sense of contribution felt for being the 'cheerleader for the group,' by helping and encouraging those students who struggled with the technology. Students also felt that the assignment provided an opportunity for further development of group skills. One student stated, for example, 'It has been fun working with our group. I've learned a lot about web based design.' Another stated that, 'the task emphasized my ability and the project has reinforced my ability to work in a team.' And, as one student stated, 'The web development process has been a complex journey but with each member of the group contributing, it has been a workable endeavor.'

Students suggested that they had a great sense of accomplishment in terms of learning a complex skill, completing a group project, and being able to assist a community in a concrete and effective way. Several students suggested that knowing how to develop web pages would benefit their future practice. One student summarized by stating, 'This has been a useful course and should be mandatory for all graduate students. This project should be part of every social worker's macro practice tool bag.'

Students felt empowered in the process of completing this assignment, particularly as they discovered they could do something that they previously thought they could never accomplish. Working in groups was empowering to students, as shown in the comments of one student who said, 'The task emphasized my ability and the project has reinforced my ability to work in a team.' One student summarized the benefits of the project by stating, 'This has been a new and challenging process for me. I am learning new useful skills that I am sure will come in handy in my professional future. I, like the others in my group, am contributing as much as I can, to the process … we are using our skills together … it works out very nicely.'

A small number of students expressed dissatisfaction with the time devoted to web page development skills, stating that the skills were not relevant to their career goals. Dissatisfaction seemed related to the situation of particular cohorts. In three years of mounting this web development project, only one year's cohort expressed significant doubts about the relevance of this project to social work practice. Although dissatisfaction is not widespread, the instructors have continued to refine the course to provide optimum learning and a rewarding experience for students.

Pedagogical issues

Determining the number of computer lab sessions for optimal learning was an issue in designing the course. In the first year, students met a total of 3 times in the computer lab, for a total of 6 hours of instruction. Student feedback suggested that having additional but shorter sessions would be helpful, given the steep learning curve for many students. The course was redesigned to have 3 one-hour sessions

and two 2-hour sessions, for a total of 7 hours in computer lab. Once students had acquired basic web development skills, they worked independently on the web page assignment. Lecture material on the use of the Internet in social services was brought to the classroom, so that lab could focus on hands-on computer skills. Students were given the entire semester to complete the project, although the last portion of the course had no computer lab sessions.

The use of a standard platform (Microsoft *FrontPage*) was an issue, since most students did not have access to this software outside the university setting. This issue was resolved through demonstration of alternative tools, such as word processing, so that students could work on various pieces of the project on their home computers. Through the use of cut and paste techniques, students were able to utilize tools at hand to create their web sites over the semester.

The instructors learned that as students increased their web skills, they became a rich source of web tips and strategies that enhanced the experience for other students. These tips included:

1. How to submit your website to search engines: Student group leaders found that submitting the web site to several search engine sites increased the likelihood that a search engine would include the site toward the top of the results list. These search engine sites included:
   - www.123-cyber-register.com
   - mhttp://pages.yahoo.com
   - www.msn.com or www.siteadd.com
   - www.2020tech.com/submit.html

2. Advanced HTML. Student group leaders experimented with the advanced options of *FrontPage*, such as adding complex graphics or adding a site to a web ring. For example, to add a site to the Social Work Search Web Ring, students went to www. socialworksearch.com/webrings/submit.cgi and entered site information. They were given an 'html code' string to add to their page. Using *copy* and *paste*, the students were able to add this information to their web sites. As students became enthused about the possibility of joining social work and other progressive web communities, they found that there is a convenient listing of

web rings at http://www.webring.com/ After learning more about web rings, students added their sites to relevant web rings, such as:
- http://www.socialworksearch.com/webring/submit.cgi
- http://netsisters.org/
- http://wwwomen.com/webring/webring.htm
- http://www.phenomenalwomen.com/quilt

Finally, in the process of trying to solve often inexplicable software-related problems, the instructors discovered that Microsoft has a wealth of information available at the Microsoft FrontPage site: http://msdn.microsoft.com/office/understanding/frontpage/.

Conclusion

The assignment of developing empowering web sites holds many benefits for instructors, students, the community, and the profession of social work. For the instructors, the assignment provided an opportunity to increase their own web development skills, and to teach students concrete skills that they can take into their first job interview and professional position. The course also served as a reminder that students need to have a creative outlet. Web page development gives students an opportunity to be creative and artful, with a product that is relevant and useful to the community. Over the semester, students made a transition from 'techno-phobia' to 'techno-pride,' and this transformation has many implications for competence and confidence in social work practice.

The process of developing this course also demonstrated that computer skills come through application and are experiential in the extreme. In other words, students must be given ample opportunity to try, to experiment, to make mistakes, and to receive guided instruction on web design. Much of the learning takes place after the class sessions, as students share tips and experiences and as they gather together on their own time to complete the projects. Over the course of this assignment, the instructors have seen students progress through anxiety, through frustration, and then to a deep sense of

pride and accomplishment as they present their web sites to the class. Teaching students web development skills is feasible and provides students and faculty with the skills to keep up with the developing frontier of computer technology.

Recommendations

Although teaching web design to MSW students has been a positive undertaking, the following recommendations are suggested for schools interested in adding this component to their curriculum.

1. The curriculum must be designed in such a way that that web skills are viewed as congruent with other practice skills. The advanced generalist concentration provides a rationale for these skills, but other curricula can also justify the addition of this technology. Because this skill area is unfamiliar to most students, instructors need to spend time explaining the relationship of web skills to overall program and career goals.
2. Faculty should develop a mechanism for publishing the web sites before mounting the course. Positive relationships with university computing staff go a long way toward avoiding and dealing with glitches and obstacles, which are a given in any computer-assisted learning activity.
3. Future research should look at client utilization of agency web sites to see how web services may be part of an empowering and effective community outreach program or intervention strategy.
4. Students will be more likely to be invested in this project if they understand that these technological skills provide the basis for innovative leadership in social services. Web and Internet skills offer the mechanism for effective community-based services in today's world (Zipper, Broughton, & Behar, 2000).

The web can be another resource for social workers in the mission to reach underserved communities, and a web development project can help begin the process of building bridges across the digital divide. Just as we expect students to make use of the tremendous resources of the World Wide Web, we can also expect that social work

students will be in the forefront of technology development, through hands on experience in creating useful web resources. As social work educators, we have the responsibility to teach the critical skills needed for technologically relevant social work practice in the 21st century.

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