Chapter XLV
Usability and User-Centered Theory for 21st Century OWLs

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ABSTRACT

This chapter describes results of usability research conducted on the Purdue Online Writing Lab (OWL). The Purdue OWL is an information-rich educational Web site that provides free writing resources to users worldwide. Researchers conducted two generations of usability tests. In the first test, participants were asked to navigate the OWL and answer questions. Results of the first test and user-centered scholarship indicated that a more user-centered focus would improve usability. The second test asked participants to answer writing-related questions using both the OWL Web site and a user-centered OWL prototype. Participants took significantly less time to find information using the prototype and reported a more positive response to the user-centered prototype than the original OWL. Researchers conclude that a user-centered Web site is more effective and can be a model for information-rich online resources. Researchers also conclude that usability research can be a productive source of ideas, underscoring the need for participatory invention.

INTRODUCTION

Universities have been leaders in developing virtual workplaces. Campus-based research has led to the development of remote information access, telecommunication, and the infrastructure research that supports the emerging 21st Century virtual workplace. Indeed, in Datacloud, Johnson-Eilola (2005) presents studies of a number of campus-situated offices as places of information-age literacy practice. One conception of campus situates academics in ivory towers separated from the realities of the working world, a romantic representation of a detached life of the mind. Contrary to this idealization/criticism, which represents the university and its knowledge workers as out of touch with the
working world, universities have been leaders in developing cutting-edge flexible and virtual workplaces. Similarly, college campuses have been sites of the first realizations of emerging problems that accompany postindustrial knowledge work—cubicle farms and boundary-blurring between work and home, business and family.

Envisioning the university as a site of change should not be surprising, as campuses began as a center for knowledge-making, for research and development, and then for dissemination of these findings. Knowledge-making is the basis for land grant universities (see the NASULGC history). And recently, corporations have used college campuses as models for a substantial number of corporate worksites. That these emerging 21st Century business architectures are modeled after college campuses should not come as a surprise. Corporate universities, designed as educational institutions, emerge from an earlier model of collection, organization, and dissemination of knowledge. Faber and Johnson-Eilola (2003) write about corporate educational structures built in imitation of universities. Their investigation of corporate knowledge creation demonstrates how reliant these organizations were on their academic precursors, and also how corporations quickly shifted from a model of replacing universities to one of cooperation, collaboration, and strategic augmentation. Knowledge-making requires intensive investment and long-term commitment.

Indeed, the Purdue Online Writing Lab, or OWL, described in this chapter is built on the model of an institution built for 19th Century information dissemination: the land grant university. The OWL started as a group of filing cabinets filled with handouts about classroom-based writing instruction. Literacy educators began by imitating their colleagues in the agricultural extension program, which was designed to bring practical knowledge from campus to farmers working their fields. The OWL was originally designed to bring best teaching practices to the classrooms of Indiana. As this chapter describes the OWL’s development, keep in mind how its technological practices closely follow the development and dissemination of information, from paper- and mail-based dissemination to digital communications technologies, from file cabinets (early databases) from which documents were copied and mailed, to e-mail and early digital formatting, to Web-based browser searches and always-accessible digital warehousing of online information resources. And notice how the scope expands from a local (state) resource to increasing spheres of influence with global reach and dissemination.

This chapter presents the results of two generations of usability research designed to support creation of user-centered taxonomic and navigational structures. The technological development closely follows that described by Rosenfeld and Morville (2006) in Information Architecture for the World Wide Web, in which isolated “archipelagoes” of information are gathered together and formalized under increasingly complex organizational schemes and centers of institutional control. User-centered design, which could also be represented as citizen-centered design, also informs the research.

Each successive generation of OWL information design reflects the commitment to timely dissemination and integration of applications of research, following the collaborative spirit of the land grant University. The University of Wisconsin-Madison has, not surprisingly, named this commitment to citizen participation the Wisconsin Idea, reflecting Wisconsin’s progressive history by bridging participatory design with information architecture. Often referred to as Scandinavian Design because of its northern European roots, the Wisconsin Idea brings Participatory Design together with Information Design. Key to this collaborative relationship between the University and the citizens it serves is mutual respect and two-way communication, or according to Wisconsin’s Center for Integrated Agricultural Systems (2004): experts were “on tap, not on top.”

This chapter describes two steps in an ongoing commitment to user-based research to improve the usability and accessibility of Purdue’s OWL. Em-