



Re-evaluating Teaching with Technology: a Reflective Essay

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Nearly every higher education institution shares the primary mission of teaching. Yet a recent search on promotion and tenure guidelines of major universities rates activities to improve teaching around tenth out of approximately twelve to fifteen data sources for evaluating that teaching. Teaching-evaluation data are usually evaluations by students or by peers and look at matters such as knowledge of the subject, preparedness, willingness to answer questions, and availability to students. Nowhere did I see the creation of new learning environments or the use of technology in teaching as part of the data used to evaluate teaching. Nowhere did I see enhancing student learning or attention toward developing self-learners in teacher-evaluation data.

As a faculty-development specialist focusing on emerging technologies, I find that non-tenured faculty are hesitant to invest the time required to redesign new learning environments or develop computer-based courses or class activities. Why? Many universities are still debating whether publishing on the World Wide Web should be recognized as refereed or juried articles or whether an electronic performance support tool to enhance learning or an instructional CD should count as an article or book. If I mentioned my search on promotion and tenure guidelines of major universities was accomplished through multiple web searches, how many educators would recognize this as a valid search?

While universities strive to prepare students for today's work force, creating new learning environments that support real-life situations and problems can be enhanced through the use of technology, specifically the World Wide Web (WWW). The promotion and tenure process should both recognize and support teaching and learning improvements through the use of technology and the WWW.

What do we mean by learning environments that support real-life situations? Based on the work of Jean Lave and Etienne Wenger, situated-learning theory argues that learning as it normally occurs is a function of the activity, context, and culture in which it occurs, thus the word "situated." This contrasts with common classroom activities

which involve knowledge which is abstract and out of context. Social interaction is a critical component of situated learning; learners become involved in a "community of practice" which manifests certain beliefs and behaviors to be acquired (Lave and Wenger 1991). As the beginner moves from the boundary of the community to its center, the beginner becomes a more active and engaged learner until he or she reaches the status of expert. Learners become immersed when exposed to realistic contexts; the learning is situated in the context in which it takes meaning.

Constructivist theories purport that students should be provided with complex learning environments. Simplifying tasks for learners, according to Duffy and Jonassen (1992) will prevent them from learning how to solve the complex problems they will face in real life. The environment should provide for social negotiation as part of the learning. Learners should be challenged to negotiate, and to understand perspectives other than their own.

Problem-based learning very generally is a curriculum-based design that develops problem-solving strategies concurrently with developing domain knowledge by presenting cases and placing students into an active role of problem solver. Roughly, faculty:

1. present the learner with a problem statement
2. instruct the learner to write down what they already know
3. ask the learner to develop a more specific problem statement
4. ask the learner to list what is needed
5. ask the learner to list possible actions, recommendations, or solutions and then;
6. present and support the solution.

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This is just a glance of some of the theoretical foundations that foster self-directed learning and putting instructional materials into a context that will enhance encoding and retention of the material. As universities become partners with communities and corporations to prepare students for the real

world, new learning environments should reflect problems that encourage learners to go outside of school and pursue them, not problems inherent only to a classroom.

If reward systems are not in place, why should faculty design a Web-based course or class activity? New opportunities to restructure teaching and learning environments are evolving due to technology (specifically hypertext). Web-based instruction offers a better learning environment to accommodate flexibility in learning styles. Using the asynchronous environment of the Internet for instruction allows

students more time to assimilate and reflect on the information. Students are not limited to the restrictions of the conventional classroom. Less assertive students may feel more at ease responding on their own than in front of an entire class. Web-based instruction opens a world of opportunity for more creative classroom activities. These activities become more personalized as students search for related information on the subject matter. Students can build and share information sources; virtual meetings such as classroom chats and class list-serves or even MOOs can enhance collaboration, cooperation, and negotiation of material among students, even students outside of the university. Students can go on virtual trips where they participate in a series of investigative activities about places they might never physically be able to visit. The capability of 3-D animations and digital movies allows learners to see mathematical processes in motion or see the world through the eyes of another. The Web simply offers an environment that can optimize learning.

What does this have to do with society today? Today's workers need to be diverse in order to remain competitive. Corporations are seeking knowledge workers as well as skilled laborers. By creating learning environments that foster critical-thinking skills and self-directed learning, students become self-directed learners or lifelong learners. By becoming self-directed learners, students will be able to adapt to the constant change brought about by new technologies and work situations that depend on the ability to learn effectively and efficiently. The Web is a great tool to create more meaningful, authentic learning environments. The Web is a great tool to foster self-directed learning as students are no longer bound to one text or one author's perspective.

Conclusion

Teacher evaluations need to reflect and reward rethinking and redesigning classrooms. Instructional innovation needs to be encouraged, not discouraged. John Dewey in 1913 infers that thinking that is not connected with learning more about the world we live in is impaired (Horne 1932). Skill that is obtained apart from thinking is not connected with any sense of purpose for which it should be used. Our current educational system supports knowledge that is cultivated in isolation.

As universities strive to re-connect with society's rapidly changing needs today, we should take advantage of learning environments that support active participation and sharing the learning experience. Thoughts as just thoughts are incomplete. Simply presenting information is not enough. Problems presented in schools should be significantly like situations which have already been dealt with so that students will be able to have some control of the meanings and handling problems. We have the tools; we have the functionality to create such environments and reach out to meet the future of our society. Let's make sure our teaching evaluations

encourage optimizing teaching and learning opportunities on the World Wide Web.

References

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About the Author

Karen Peters is an instructional designer at The Pennsylvania State University. Her duties include instructional design or re-design of higher education courses at the university as well as faculty development initiatives in emerging technologies. As part of Penn State's award-winning Education Technology Services team at the Center for Academic Computing, Peters both consults with faculty on re-thinking design and delivery of instructional materials and helps design new learning environments. She organizes up to four major events a year for more than 3,000 faculty addressing pedagogical and technological issues. These events include show-and-tells, workshops, and seminars, and symposia encouraging innovative thinking.