

Teaching and Learning in the 21st Century: A Culture for Active Learning

Supporting References from Presentation made by Ruth M. Loring

On the role of the community college:

In the latter half of the 1990's, unless there is some cataclysmic social change to redirect attention, there will be hundreds of commission reports, local and state plans, and individually authored books on what many will call a new paradigm for learning. The community college, because of its central role in American high education, and because of its long history of commitment to teaching and learning, will be a key playing field for experimenting with and testing out models of new approaches to learning."

Terry O'Banion, *The Learning College for the 21st Century*, American Association of Community Colleges, Phoenix, AZ: Oryx Press, 1997, p. 46.

On the "new basics" required in the 21st century:

1. Technological fluency that is the capacity to use computers and the Internet as naturally as books, pen or paper;
2. communication skills supported by computers;
3. teamwork skills and a willingness to collaborate;
4. leadership abilities;
5. problem solving and analytical skills;
6. creativity;
7. ability to learn new procedures, tools, ideas quickly; and
8. attitudes and behaviors that support lifelong learning, i.e., high tolerance for ambiguity; thinking outside the box, high touch approach to people and learning, valuing and activating a balanced lifestyle, and having a commitment to nourish the human spirit.

David Thornburg, *The New Basics: Education and the future of work in the telematic age*, Alexandria, VA: Association for Supervision and Curriculum Development, 2002.

On core skills needed by present day workers:

Digital-Age Literacy

- basic scientific, mathematical, and technological literacies
- visual and information literacies
- cultural literacy and global awareness

Inventive Thinking

- adaptability/ability to manage complexity
- curiosity, creativity, and risk taking
- higher-order thinking and sound reasoning

Effective Communication

- teaming, collaboration, and interpersonal skills
- personal and social responsibility
- interactive communication skills

High Productivity

- ability to prioritize, plan, and manage for results
- effective use of real-world tools
- ability to create relevant, high-quality products.

enGauge project on 21st century skills sponsored by NCREL and adopted by CEO Forum (<http://www.ceoforum.org>) and reported in the 2001 *School Technology and Readiness Report*

On describing active learning:

“In post-industrial models of institutional functioning, just-in-time learning-while-doing targeted to authentic, novel problems is displacing the classroom-based, discipline-focused, learning-by-listening approaches characteristic of schooling and of workplace training in industrial organizations.

Chris Dede, *Beyond Distributed Multimedia: A virtual forum for learning*, unpublished paper. Fairfax, VA: Center for Interactive Educational Technology, August, 1993.

On assessment:

Assessment is an ongoing process aimed at understanding and improving student learning. It involves making our expectations explicit and public; setting appropriate criteria and high standards for learning quality; systematically gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards; and using the resulting information to document, explain, and improve performance. When it is embedded effectively within larger institutional systems assessment can help us focus our collective attention, examine our assumptions, and create a shared academic culture dedicated to assuring and improving the quality of high education

Thomas A. Angelo, *Reassessing (and Defining) Assessment*, AAHE Bulletin, Nov., 1995, p. 7.

On transfer:

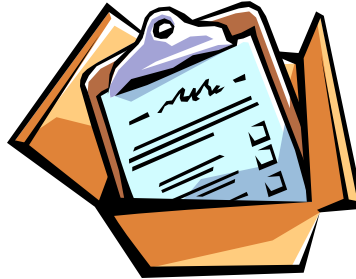
How do we make sense of the ways in which people use knowledge in circumstances different from the circumstances in which that knowledge was developed? Transfer is ubiquitous. We couldn't survive if we weren't able to adapt what we know to circumstances that differ, at least in some degree, from the circumstances in which we learned it. Yet transfer is mysteriously absent from the psychological laboratory; it seems to vanish when experimenters try to pin it down. This apparent paradox vanishes when you realize that in the laboratory, researchers are typically looking for pre-determined transfer; the connections they hope their subjects will make have been determined in advance. That may not happen very often. But, people are making connections all the time. The issue is

- to figure out which ones they make,
- on what basis-and how and
- why those connections are sometimes productive.

I should note that members of my research group at Berkeley expressed some surprise that I listed transfer as a separate arena of study. They asked, "Isn't transfer part of learning?" It is, of course. But, the issue of transfer is so important that it deserves attention on its own.

Schoenfeld, *Transfer*, AERA.NET Publications, Vol. 28, No. 7 (October 1999), pp. 4-14.

A Framework for Developing "A Culture for Active Learning"



Every faculty member can ask themselves the following questions:

At the Activity Level:

1. *What do I want to accomplish in this lesson?*
2. *What will I do to make it happen?*
3. *What will my students be doing if they are accomplishing it?*

At the Content Level:

1. *What concepts or understandings do I want my students to know as a result of this activity?*
2. *What will I do to help them understand?*
3. *How will I know they understand the concepts?*

At the Process Level:

1. *What processes do I want my students to practice and develop?*
2. *What will I do to help them develop those processes?*
3. *How will I know if they are practicing and developing them?*

Corporately, at the Dispositional Level faculty can ask the following questions:

1. Which *habits of mind* do we want students to develop and employ?
2. What will we do to assist their development?
3. How might we work collaboratively to determine if students are developing such dispositions over time?
4. What will we see or hear in student behaviors as evidence of growth in these habits of mind?
5. How might we practice and assess our own growth toward these habits of mind through our work together?

How does creating “a culture for active learning” fit the current emphasis on constructing case studies?

Case studies are about *how you think* through a problem and how you support building an equivalent experience for the learner in and outside the classroom.

Foundational principles of *how people learn* are embedded in a culture of active learning. Major findings of the thirty year review of research include the same principles underlying the characteristics of an active learning environment.

1. People come to the learning opportunity with preconceptions about how the world works. If their initial understanding is not engaged, they may fail to grasp the new concepts and information that are taught, or they may learn them for purposes of a test but revert to their preconceptions outside the classroom.
2. To develop competence in an area of inquiry, people must:
 - a. have a deep foundation of factual knowledge,
 - b. understand facts and ideas in the context of a conceptual framework, and
 - c. organize knowledge in ways that facilitate retrieval and application.
3. A “metacognitive” approach to instruction can help people learn to take control of their own learning by defining goals and monitoring their progress in achieving them.

Bransford, Brown, and Cocking, *How People Learn: Brain, Mind, Experience and School*, Washington, DC: National Academy Press, 1999

An active learning environment is one in which

- the culture of learning is **REAL** – Relevant, Engaging, Authentic, Life-giving.
- the vision for learning maintains the “big picture” perspective;
- instructional methods are learner-centered;
- strategies for skillful thinking are taught at all stages of processing: awareness, strategic, and reflective;
- habits of mind that dispose learners to use the skills of thinking carefully, creatively, and critically are valued, modeled, and taught within the content and in context of real work for real life.

Constructing and implementing case-studies in an active learning environment

- ☆ engages students as stakeholders in a problem situation.
- ☆ organizes curriculum around this holistic problem, enabling student learning in relevant and connected ways.
- ☆ creates a learning environment in which teachers serve as facilitators of deeper learning as they coach students who are thinking through the problem toward its possible solutions and continuing inquiry and reflection as a result of the experience.

How shall we continue in a systematic way toward developing a culture of active learning?

We will begin this academic year with a Survey to establish a Baseline.