

Sharing of Good Practices among Institutions—Teaching GE  
Dr. Linda S. Bowman  
Vice President, Colorado Community College System  
President Emeritus, Community College of Aurora  
Fulbright Senior Specialist

Teaching General Education to nonmajors requires patience, creativity, and dedication. It can be a difficult task to engage students in their learning, when often they do not see the value of the discipline. Teachers of General Education must design the student/learner experience with a focus on relevance, using best interdisciplinary practices and employing multiple modalities.

On December 18, 2009, Chemistry Professor and Nobel prize winner Tom Cech addressed the graduating class of the University of Colorado at Boulder by telling those assembled that they are part of a “new revolution,” one in “undergraduate TEACHING and LEARNING.” This revolution, he clarified, is in enhancing student understanding and retention of the material. Atypical for a Nobel laureate and science full professor, Cech has focused energy on undergraduate science education. He has focused on interdisciplinary research, on bringing rigor to the process of judging the validity of educational methods and their effectiveness in promoting student learning. Cech brought to the university sciences the use of “clickers” or personal voting devices, which facilitate student responses in large lecture classes. He personally taught first-year students, utilizing the technology to promote student/faculty interaction. Cech also addressed the issue of moving from the model of the lone researcher to the interdisciplinary team member, thereby increasing the capacity to solve large problems by bringing together the best minds across the disciplines.

The focus on undergraduate learning by a Nobel laureate is indeed good news. Over the last two decades, American colleges and universities have increasingly focused on a more learner-centered model of higher education. Certainly, many universities continue with the “friendly-to-research” model of grouping first year students in large lecture halls, where they may be taught by professors but are often taught by graduate Teaching Assistants (TA's) who are fulfilling an obligation incurred in exchange for reduced tuition and professorial mentoring. However, in the two-year sector, specifically the community colleges, faculty—both full-time and adjunct—have been focusing on redefining how they teach. It is also good news that in the two-year college sector, classes are smaller and are not taught by graduate teaching assistants but by fully qualified faculty members.

In 1994, Alan E. Guskin, in *CHANGE* magazine September/October, former Chancellor of Antioch University and Distinguished University Professor, began a dialogue in colleges across the U.S. as he called for a substantial change in faculty work, called “Restructuring the Role of Faculty.” Guskin criticized the university

push for research productivity at the cost of teaching effectiveness. He argued that teaching productivity should not be increased through increased faculty teaching loads, but through a restructuring of the work based on student learning gains. He proposed these changes, in an essay prepared in 1996/97, whereby he challenged educators:

To create a learning environment that focuses directly on those activities that enhance student learning and do this

- By restructuring the role of faculty to maximize essential faculty-student interaction,
- By integrating new technologies fully into the student learning process,
- By utilizing peer interaction and collaborative learning strategies, and
- By substantially increasing the amount of time and effort student spend learning.

Guskin further explained this restructuring as turning the thinking about colleges and universities upside down:

- From faculty productivity to student productivity,
- From faculty disciplinary interests to what students need to learn,
- From faculty teaching styles to student learning styles, and
- From classroom teaching to student learning.

Building on Guskin's work, in *CHANGE*, November/December 1995, (13-25), Robert Barr and John Tagg wrote an article that arguably set a new direction for educators in the U.S. two-year college sector. "From Teaching to Learning—A New Paradigm for Undergraduate Education" set forth a new agenda:

A paradigm shift is taking hold in American higher education. In its briefest form, the paradigm that has governed our colleges is this: A college is an institution that exists *to provide instruction*. Subtly but profoundly we are shifting to a new paradigm: A college is an institution that exists *to produce learning*. This shift changes everything.

Barr and Tagg called for a restructuring of the academy, and their call was widely heard and debated, especially across the U.S. two-year college sector. Many college administrators rallied around this call. For faculty, however, whose work was being challenged, the acceptance was not so rapid. Cultures are inherent to organizations and generally slow to change. College administrators sought multiple means to bring about what they saw as needed changes, reorganizing and restructuring their institutions and reward systems. Important changes did occur, but in many institutions, the change was incomplete, weighed down by a lack of commensurate and supportive change in funding models and incentive systems.

Albert Einstein is reputed to have said, “I never teach my pupils. I only attempt to provide the conditions in which they can learn.” Ahead of his time, Einstein captured what it means to be a learner-centered institution.

In *Teaching Nonmajors*, Sven Arvidson, in the preface, recounts his experience visiting a nursing class, and tells how attentive and engaged the students were in their learning. A philosopher, Arvidson pondered the dilemma of engaging students in General Education in the way he observed their engagement in nursing. He focused on practical advice for teaching students whose primary focus is outside of the course being studied. His implications for practice include:

- giving better, more passionate lectures,
- varying formats to capture student interest,
- involving students through discussion, and
- providing more insightful and engaging assignments.

Effective teaching and learning is not only the goal of institutions but, in the two-year sector, their reason for existing. Unfortunately, it is not always easy to engage students in courses that are not “in the major” or for which they do not see relevance. Yet, for transfer institutions, this is their central purpose. There are, however, some substantive lessons to be learned for educators who are teaching General Education for non-Liberal Arts majors.

Faculty must bring relevance to the curriculum. Students will not intuitively understand how studying history will help them develop the ability to problem-solve, think critically, and work collaboratively unless their faculty help them to understand the value of their courses.

An outstanding lecturer is a gifted educator, but most faculty are not truly gifted in this area, nor does the lecture meet the needs of all learners. Courses should be designed according to the information known from breakthroughs in the Learning Sciences, such as Biology and Psychology. Faculty are the designers of the learning experience. Their role is to facilitate the teaching/learning exchange process.

In recent years, the Sciences of Learning have made significant strides in providing information to inform the practice of teaching, indeed in moving education forward to a Teaching/Learning paradigm. Neuroscientist John J. Medina wrote a compelling book, *Brain Rules*, in which he urges educators to work with neuroscientists to further unlock the mysteries of the brain and the processes of learning. He translates his science into a practical approach, describing 12 rules:

1. Exercise boosts brain power.
2. The human brain evolved, too.
3. Each brain is wired differently.
4. We don't pay attention to boring things.

5. Repeat to remember.
6. Remember to repeat.
7. Sleep well, think well.
8. Stressed brains don't learn the same way.
9. Stimulate more of the senses.
10. Vision trumps all other senses.
11. Male and female brains are different.
12. We are powerful and natural explorers.

Medina's book, web site and support materials are an example of the vast resources available, taking advantage of the latest in the sciences of learning.

Technology can be a great aid in the teaching of GE. For example, institutions can utilize the web to make best practices available to all faculty. These might include pre-populated course shells, model course syllabi, learning object repositories, and assessment instruments.

Knowles (1984) developed the theory of andragogy, as an attempt to develop a theory of instruction for adult learners. Widely applied in the two-year sector in the United States, andragogy focuses on students' need for relevance, for experiential learning experiences, for utilitarian application, and for problem-solving. These principles can be aptly applied to the General Education learning experience.

Best practices include the use of simulation in learning, enabling students to not only memorize material but to apply it directly to problems. For example, in GE, anthropology students can simulate excavations, while business students can "run" their own simulated businesses. Technology affords the creation of companies, with real-time problems and opportunities, avatar personnel, simulated high-stakes learning opportunities.

Technology can also be used to engage students in their learning by facilitating virtual interactions, debates, and collaborations. Hybrid courses combine online learning with periodic face-to-face sessions, capturing the advantages each has to offer.

At the Community College of Aurora in Colorado, U.S., faculty are experimenting with iPads for every student, used to create technology-enhanced learning communities. CCA's Colorado Film School script-writing students work on script preparation, editing, and finalizing via virtual teams, applying their learning from their English literature and writing classes. Combining technology with interdisciplinary learning, faculty can design relevant, engaging learning experiences. The role of the faculty member becomes designer, facilitator, mentor, coach, as well as expert.

There are pitfalls to be avoided. Arum and Roksa caution against "replacing rigorous and demanding classroom instruction with entertaining classroom activities, lower

academic standards, and a generous distribution of high course marks.” However, the use of activities, properly designed, executed, and assessed, can shift the classroom to a more learner-centered environment and can enrich the student experience.

The following are good practices for consideration:

- Hold college-wide conversations about the role of General Education in the curriculum.
- Develop models of good teaching practice in the General Education disciplines.
- Use technology to create an online Learning Object Repository of the best examples, lessons, components, which will be accessible to the staff in the discipline.
- Provide staff development in andragogy or the adult learning theory. Explore greater use of student-centered learning activities, including technology-supported and simulation learning.
- Utilize the role of the teaching institution to the advantage of the students. Ensure a learner-centered environment, with close contact with staff.
- Be a research institution, not in the disciplines, but in the assessment and analysis of student outcomes. Use data to determine best practices in the education of students in General Education.
- Utilize the research on the Sciences of Learning in designing student learning experiences.
- Develop model syllabi for every General Education course, ensuring that the defined student outcomes can be met.
- Assess student learning and continually improve student outcomes.
- Integrate General Education across the college. Support the work of interdisciplinary teams, who come together to refine General Education in the institution and who also provide support for staff across the disciplines.
- Devise strategies that reward collaboration.

It is an exciting time in higher education, as new tools, new sciences, and new approaches come into practice. The sub-degree, two-year sector, can serve as the world’s teaching institutions, focusing on a new teaching/learning paradigm and furthering the education of students now and into the future.

Arvidson, P. Sven. *Teaching Nonmajors: Advice For Liberal Arts Professors*. Albany: State University of New York Press, 2008.

Barr, Robert and John Tagg. "From Teaching to Learning: A New Paradigm for Undergraduate Education." *CHANGE*, Nov./Dec.1995, 13-25.

Cech, Thomas, Commencement address, Boulder: University of Colorado, December 18, 2009.

Guskin, Alan E. "Part II: Restructuring the Role of Faculty." *CHANGE*, Sep./Oct. 1994.

Guskin, Alan E. "Restructuring our Universities: Focussing on Student Learning," an essay prepared for the 1997 ACRL National Conference "Choosing our Futures."

Knowles, Malcolm. *The Adult Learner: A Neglected Species*. Houston: Gulf Publishing, 1984.

Medina, John J., *Brain Rules*. Seattle: Pear Press, 2008.