

University of Colorado's
President's Teaching Scholars Program:
President's Teaching and Learning Collaborative

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**University of Colorado's President's Teaching Scholars Program:
President's Teaching and Learning Collaborative (PTLC)**

The University of Colorado President's Teaching and Learning Collaborative (PTLC) is an outgrowth of work begun as an institutional participant in the System Program of the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL), 2006-2009. The Collaborative program is continuing to work to improve student learning by supporting faculty members as they engage in classroom teaching.

Three principles providing the structure for this report have been adopted and adapted from the article "Institutionalizing and Diversifying a Vision of the Scholarship of Teaching and Learning" by Robinson and Nelson and published in the *Journal on Excellence in College Teaching* (2003).

Context

The University of Colorado has four campuses: the Anschutz Medical Campus, the Boulder Campus, the Colorado Springs Campus, and the Downtown Denver Campus. The President's Teaching and Learning Collaborative is a system-wide program fostered by the President's Teaching Scholars Program, which is a system-wide program reporting to the System Vice President for Academic Affairs and Research. The President's Teaching Scholars Program established in 1989 designates exemplary teaching and research in faculty members from each campus. Funding for the PTLC comes in part from the system president's office, in part from campus provosts of the four universities, and the President's Teaching Scholars Program which the sponsor of the Collaborative and the original fundraiser.

Importance of Assessing Learning in Higher Education

As public resources for support of higher education are increasingly strained, it is especially important that institutions work to maximize the value students receive from their educational experiences. A growing share of support to higher education is likely to come from alumni, and support is more likely when students feel that their alma mater has made their education a priority. As progress in Boulder's Physics Education Research group in particular has shown, improvements in teaching driven by ongoing assessment of student learning can have true impact in making more students successful. More work of this kind can increase retention, student satisfaction, and student success, leading to increased support for the University of Colorado.

The PTLC faculty researchers work on research projects that aim primarily at assessing student learning at the undergraduate level (see PTLC 2010 Cohort Projects Slideshow document for an overview of the 2010 faculty researchers' projects). The PTLC involves professional schools as well (i.e., Education, Medicine, Nursing, and Pharmacy). Through faculty members' research on teaching and learning along with course changes in instruction and curriculum, the program is improving the undergraduate and graduate learning experiences at the university. This occurs through changes that PTLC faculty researchers make in their own courses and teaching after conducting their research. In addition, other faculty beyond PTLC participants may work to enhance their classrooms as a result of the dissemination of PTLC

research (see “Index” document for a list of all dissemination accomplishments to date, which have been separated by campus).

Research on classroom teaching fits within the university’s research mission. The PTLC works to encourage faculty scholarship by guiding faculty members through the process of researching student learning within their classrooms. The PTLC is a comprehensive, collaborative program that offers access to expert educational researchers, financial support, and a structured plan for completion of a classroom research project within a one-year timeframe. During their cohort years, researchers have the goal of producing a manuscript for a peer-reviewed journal. Thus faculty researchers are both continuing the University of Colorado’s tradition of rigorous research while also seeking to enhance education at the university by improving student learning.

Principle 1: Classroom research should serve to enhance student learning through the dynamic relationship between scholarly teaching and the scholarship of teaching.

The PTLC seeks to improve student learning by having faculty members work on research projects about the teaching and learning in their own classrooms. This process links faculty development, faculty scholarship, and student learning. Scholarly teaching occurs when faculty members based their teaching strategies on their readings and interpretations of research studies (Richlin, 1993). The scholarship of teaching is research conducted by faculty members to investigate the effectiveness of their own teaching methods and strategies (Richlin).

Faculty development is accomplished by attending regular PTLC progress report meetings where the faculty researchers learn about various aspects of research on teaching and learning. Topics include how to conduct a literature search, how to assess student learning, and how to locate outlets for publication and presentation. Faculty development also occurs when faculty researchers meet with their individual coach/mentors, who are faculty members with experience in educational research. In some cases, the coach/mentors also have knowledge and expertise on educational research within the faculty researcher’s discipline. In all cases, the coach/mentor appreciates the value of building on the educational literature in the researcher’s discipline. The coach/mentors meet at least twice a semester in one-on-one meetings with the researchers. Coach/mentors work to keep researchers on track so they can progress through all phases of their research projects within the one-year timeframe.

Faculty scholarship is achieved through the research process. Researchers complete the Internal Review Board (IRB) process of training and approval so they can proceed with their research projects. Through that process, they learn about conducting research with human participants, and they must have their own proposals approved by the IRB before beginning their data collection. Researchers then collect and analyze their data, often with the help of a student research assistant who is then also engaged in and learning about the research process.

Student learning is improved by faculty research projects that assess how teaching affects learning. A few examples of faculty research projects that seek to assess and improve student learning:

Campus	Faculty Member	Research Project
Anschutz	Mary Jane Rapport, Nursing	Most of the students in a physical therapy community volunteer program reported that the

		program was meeting its intended objectives of helping them to learn about living with a disability.
Boulder	Janet Casagrand, Integrated Physiology	This project evaluated the effect of course reform on the cognitive difficulty of assessment using Bloom's taxonomy. A significant shift in cognitive difficulty of evaluative assessments was found using independent raters.
Colorado Springs	Elaine Cheesman, Special Education	Teacher candidates with relatively poor initial phonemic awareness and phonics skills were able to achieve significant gains with explicit, direct practice.
Downtown Denver	Sean McGowan, Music and Entertainment Industry Studies	Students in an undergraduate Jazz Studies and Performance course reported that improvisational skills are best developed through a combination of self-study & inquiry, dedicated practice, and assisted learning (e.g., applied lessons, textbooks, and classes).

Faculty researchers have told us about the **new perspectives on teaching and learning** they have garnered through their PTLC involvement.

Campus	Faculty Member	Interview Excerpt
Anschutz	Mary Jane Rapport, Pharmacy	"The meetings have helped me have a view of the scholarship of teaching and learning across the university."
Boulder	Shelly Miller, Mechanical Engineering	"I have been thinking more about learning. I have been thinking specifically about how to help my students learn more and learn better. I think the overall program has really elevated my perception of teaching to a whole different level. It really can be thought of in a scholarly way."
Colorado Springs	Curtis Smith, Visual and Performing Arts	"There has been an immediate impact on my teaching. I have talked with my students a lot about creativity, and I think that has inspired my students to really work at a higher level."
Downtown Denver	Chris Daniels, Music and Entertainment Industry Studies	"My work with the PTLC has changed the way I am doing some things. It has forced me to write a book. I just realized all the material out there is so drastically dated."

Principle 2: Classroom research should be supported, evaluated, and rewarded in ways parallel to those provided to other fields of research.

Peer evaluation and review are key ways to enforce rigorous standards on classroom research. Because of this belief, the PTLC has worked to use the community to grow a lengthy body of published scholarship about teaching and learning. The PTLC Index document contains

this information in detail (see Index document). Some excerpts are presented below. Participants in the Collaborative have **published and presented research** related to their PTLC project in a variety of settings. In addition to these peer-reviewed publications and conference presentations, participants have disseminated information about their PTLC projects in conversations with other faculty, their department meetings, and other campus venues.

Campus	Faculty Member	Peer-Reviewed Publication or Presentation
Anschutz	Cathy Thompson, Nursing	Thompson, Cathy. UCD. "The Effectiveness of Audio and Video Lectures on Knowledge Transfer, Student Engagement, and Student Satisfaction," 2009 ISSOTL Conference.
Boulder	Alan Mickelson, Electrical, Computer, and Energy Engineering	Richard Franzl, Deniz Gurkan, Driss Benhaddou, and Alan Mickelson, "E-Learning Laboratories for Optical Circuits: Separation of Imperfections in Technology and Teaching Methodologies," <i>International Journal of Modern Engineering</i> , Spring/Summer 2008 Issue.
Colorado Springs	Radu Cascaval and Gene Abrams, Mathematics	Radu Cascaval, Kethera Fogler, Gene Abrams, and Robert Durham. UCCS. "Evaluating the Benefits of Providing Online Lectures to In-class Math Students." <i>Journal of Asynchronous Learning Networks</i> . Dec 2008.
Downtown Denver	Judith Coe, Music and Entertainment Industry Studies	Coe, Judith. UCD. Creativity and Reflection: Expanded Learning in a Singer/Songwriter Ensemble, Paper presented at the International Society for the Scholarship of Teaching and Learning (ISSOTL) Conference 2008. Edmonton, Alberta, Canada. Saturday, October 18, 2008.

Many participants have stated that they **appreciate the PTLC as a system-wide collaborative**.

Campus	Faculty Member	Interview Excerpt
Anschutz	Wesley Nuffer, Pharmacy	"The diversity of the people within the group makes you have a much better perspective. I am always a believer in broadening our perspectives by interacting with people outside our own immediate environments. People in music and education are so far away from the type of work I usually do. There are themes that carry across the disciplines, and one is that it turns out that we are all interested in improving students' learning."
Boulder	Janet Casagrand, Integrative Physiology	"It is great to be part of something that reaches across so many disciplines."
Colorado Springs	Suzanne MacAulay, Visual and	"Being system-wide means we can collaborate across distance, with the PTLC acting as a nexus. It

	Performing Arts	enlarges our awareness of what each other are doing.”
Downtown Denver	Ellen Stevens, Faculty Development Center	“The more connections we have with people on other campuses and throughout the system, the more likely we are to sustain the work and get others to join in.”

We asked faculty why they submitted a project proposal to the PTLC, and many commented on the **structure of the PTLC**. They noted that they needed the structure of regular meetings and the support of PTLC budgetary resources to engage in research on teaching and learning.

- Many faculty researchers said they would not have pursued research on teaching and learning without the variety of support of the PTLC.
- Most faculty researchers have reported that they view the regular progress report meetings as beneficial and enjoyable.
- Most participants had never undertaken research on teaching and learning, and some had not conducted research with human subjects before at all. The PTLC works to provide professional development opportunities related to education research, and many have noted that the resources of the PTLC fill their need for such information and development through a variety of faculty presenters.
- One particular resource the PTLC provides is a support system of experienced researchers to guide Collaborative faculty in their work. We assign a coach/mentor (an experienced faculty education researcher) to each faculty researcher. Some participants commented generally on the assignment of coaches and mentors as an experienced resource. Other faculty researchers named their particular coach or mentor as someone who has been especially valuable within this research process.

Principle 3: Classroom research should foster a sense of community among its scholars in order to support the creation and dissemination of research in this area.

Attendance at PTLC progress report meetings and one-on-one meetings with coach/mentors have fostered community with the PTLC. Signs of increased community include:

Campus	Faculty Member	Interview Excerpt
Anschutz	Lynne Bemis, Medical Oncology	Professor Bemis is working as a board member of a “Challenge Grant” the Anschutz Medical Campus and Boulder Department of Biology.
Boulder	Meredith Banasiak, Architecture	Faculty researcher Professor Banasiak and her coach/mentor, Professor Clayton Lewis (Boulder), are applying for a grant to complete a research project together.
Colorado Springs	Suzanne MacAulay, Visual and Performing Arts	Professor MacAulay hosted Professor Deborah Haynes (Boulder), both former researchers in the Collaborative, for a presentation about her work at the Colorado Springs campus.
Downtown	Laura Summers,	Professor Summers and her coach/mentor Joni

Denver	Education and Human Development	Dunlap (Downtown Denver) have submitted a proposal to present at the Association for Education Communication and Technology conference together.
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All participants have been **enthusiastic about their work with the PTLC**. Many have expressed their enjoyment of the project and how beneficial they think their experience has been.

Campus	Faculty Member	Interview Excerpt
Anschutz	Kristen Brown, Pharmacy	"I am certainly looking forward to getting to know more of the other folks who are new to this type of research. I think this is a nice first step to getting involved in this classroom research work."
Boulder	Peter Blanken, Georgraphy and Environmental Studies	"I have found the program great in facilitating collaboration, support, and as a catalyst for this work. I probably would have done the research anyway, but the structure provided by the PTLC certainly helped."
Colorado Springs	David Weiss, Chemistry	"I like hearing about their projects and hearing about what is going on at the other campuses and in other departments. Meeting people outside of the chemistry department at Colorado Springs is new."
Downtown Denver	Sean McGowan, Music and Entertainment Industry Studies	"To think deeply about the process with others who are in different places along their journey with music has been beneficial. This project has increased my understanding about what the students understand and how they learn."

Toward New Directions

The PTSP and PTLC jointly sponsored a Spring Conference in Teaching and Learning for all CU faculty in both 2009 and 2010. The conference included plenary session speakers from the University of Colorado as well as from other universities.

Each semester, the Collaborative seeks new ways to raise awareness of the PTLC on all campuses. This awareness relates to three dimensions of recognition of the value of PTLC research projects, encouraging more faculty members to apply to be part of the Collaborative, and as outreach.

The PTLC plans to elevate the profile of classroom research as peer-reviewed publications within the University of Colorado system and to facilitate scholarly teaching for faculty members who are new to educational research.

References

- Robinson, J. M., & Nelson, C. E. (2003). Institutionalizing and diversifying a vision of the scholarship of teaching and learning. *Journal on Excellence in College Teaching*, 14 (2/3), 95-118.
- Richlin, L. (1993). *The ongoing cycle of scholarly teaching and the scholarship of teaching*. Paper presented as the closing plenary of the 13th annual Lilly Conference on College Teaching, Miami University, Oxford, OH.