

Transforming Undergraduate Education

There are currently three significant issues affecting higher education in the state and across the nation: (1) Increasing access and student success; (2) reducing costs while maintaining quality; and (3) a new generation of students that have been raised using multiple technologies simultaneously. Increased access and student success, and control or reduction of rising costs, continue to challenge our institutions of higher education. These issues are interrelated. As tuition costs continue to rise, access for some students is diminished. Contributing to the complexity of higher education is a new generation of students who have a different set of skills, expectations, and technology experiences.

The solutions to these issues are also interrelated. Improving quality education, increasing access and success and educating a new generation of students demand new approaches to higher education. This calls for a significant effort and innovation in undergraduate education.

In recognition of this need for improvement, the Board of Regents approved the investment of \$2.5 million to fund innovative proposals that promise transformational changes in undergraduate education. Grants ranging from \$100,000 to \$250,000 were awarded. Grants from this program were awarded in June 2009, and the program is not expected to be renewed.

FY 2009 Grant Recipients

Institution	Program Name	Primary Investigator
UT Arlington/ UT Dallas	Can Game Play Teach Student Nurses How to Save Lives - - An Undergraduate Training Proposal for Student Nurses in Pediatric Respiratory Diseases with a Living World Gaming Construct	Dr. Judy L. LeFlore
UT Austin	Building Immersive Instructional Experiences and Learning Communities in Second Life	Dr. Leslie H. Jarmon
UT Austin	Inquiry Learning Across the Sciences: A New Model for Teaching Science to Non-Science Majors	Dr. Sacha E. Kopp
UT Austin	Substantive Redesign: The Large American History Survey	Dr. Penne L. Restad
UT Dallas	Development of a Game-Based Experiential Learning Program to Help Students Adapt to University of Texas Culture	Dr. Michael J. Savoie
UT Dallas	Digital Calculus Coach	Dr. Monica Evans

UT Dallas	Peer-Led Team Learning: Creating a Community of Scholars in Math and Science	Dr. John W. Sibert
UT El Paso	The Large Class Dashboard: Incorporating Technology to Promote Student Success in Large Classes	Dr. Charles Ambler
UT San Antonio	Transforming Engineering Programs in Order to Improve Retention and Graduation Rates	Dr. Mehdi Shadaram
UT San Antonio/ UT Pan American	Transforming Undergraduate Education to Create Significant Learning in the History and Biology Survey Course	Dr. John F. Reynolds
UT Southwestern	Use of Gaming Technology to Improve Minority/Disadvantaged College Students' Performance in Organic Chemistry	Dr. Lewis E. Calver

Purpose of the Initiative

The purpose of the “Transforming Undergraduate Education” program (TUE) is to stimulate creative approaches to instruction that increase student access and success while being cost-efficient or reducing instructional costs. Instructional areas of particular interest include:

- *Pedagogy* – strategies that will promote proven pedagogical techniques that result in the most effective student learning (e.g., increase success rates, course completion rates, greater retention rates, increased responsiveness to diverse learning styles).
- *Learning Materials* – strategies to stimulate development of high quality learning tools that address new learning styles (e.g., virtual laboratories for science courses, serious gaming activities that engage undergraduates within and outside the classroom).
- *Technologies* – strategies that will stimulate new technological applications, reduce instructional costs, and increase student learning and successes. For example, the studio teaching model has been adopted by several prominent institutions.
- *Learning Spaces* – strategies that will explore redesign of campus facilities and alternatives to reduce costs in building new facilities. The use of web-based classrooms, chat rooms, and virtual laboratories are examples of new learning spaces.

Any other transformational activities leading to substantial changes in instructional practices that are replicable and scalable were also considered.

Goals and Objectives

Grants were awarded on a competitive basis to proposals responsive to the following goals and objectives:

- To inspire, by promulgating a vision for transforming undergraduate education that leads to greater student success

- To enable, by creating constructive ways for collaboration among those with common interests in improving student success while reducing instructional costs
- To leverage a significant return on this investment in instructional innovations
- To inform, by showcasing innovative projects that transform undergraduate education
- To influence, by advocating constructive ways to address student achievement and affordability strategically
- To evaluate, by measuring some meaningful evidence for student success and performance of the instructional model

Criteria

Grant proposals were evaluated on the basis of the following criteria:

- Be an innovative and transformative new program, not simply a continuation of an existing program;
- Not duplicative of programs existing at the applicant campus or other UT campuses;
- Have the potential for wide adaptability throughout the UT System;
- Be based on sound educational and evaluation principles;
- The principal investigator should be a full time or part time faculty member at a UT System academic institution; and
- Inter-campus and intra-campus collaboration, including with health-related institutions.

This grant program is headed by [Pedro Reyes, Ph.D.](#)