Transforming Teaching and Learning

Through New Approaches

Change is in the air as universities are rethinking the educational experience, watching technological innovations and building learning spaces that are challenging the traditional teaching methods on college campuses. Changes in pedagogy, student expectations, campus culture, and corporate competition are resulting in fundamental shifts of mission, culture and process at many institutions. Colleges and universities recognize that to meet the needs of today’s students, higher education must examine teaching and learning though a new lens. As learning is moving more and more outside the walls of traditional classrooms, different approaches must be considered on campus. Content and context of material is being delivered in homes, cars, coffee shops, and on personal mobile devices. Learning needs to become situated, personal, collaborative and lifelong to meet the needs of these new students. Delivery and facilitation of learning requires new educational approaches that have a core strategy of re-thinking and re-structuring. The forces that are converging to bring this transformation to life are: economic trends, learning spaces, course redesign and faculty adoption.

Economic outlook is a real concern on college campuses today. As tuition cost continues to rise and financial support shrinks, institutions both public and private recognize that they cannot continue to do business as usual. They must become creative in applying technology to deliver a higher quality learning experience for less money. With demand continuing to increase and pressure to improve value they must look at how they can deliver more services without putting strains on current real estate.1

Aligned with economic assumptions comes the need to look at learning spaces with a new view. Digitally motivated students will not settle for lecture halls where “stand and deliver” is the preferred pedagogical choice. As a result of this movement different kinds of learning spaces are popping up at universities around the country that change the face of teaching and learning. Over 100 universities have developed their own studio-based active classrooms.2 A few examples are TEAL at MIT3, TILE Classrooms at the University of Iowa4, Active Learning Classrooms at the University of Minnesota5, and SCALE-UP at NCSU6.

“A variety of assessment techniques used by TEAL have shown the effectiveness of interactive engagement across a range of student backgrounds. The teaching methods used in the TEAL classroom produced about twice the average normalized learning gains for low-, intermediate-, and high-scoring students when compared to traditional instruction. These findings replicate the results of studies performed at other universities.”

When you walk into these rooms you see and feel a difference. They have been specifically created to facilitate active, collaborative learning. They promote interactions between groups of students. There is no front of the room. Conversation and collaboration are happening everywhere. A decade of research indicates these new approaches to educating students are improving student outcomes and reducing delivery cost for institutions. Research in the science of learning indicates that active learning is one of the most important and essential components in the learning process. In How People Learn, John Bransford and his colleagues explain that when students are actively engaged in their learning process and when they can apply what they have learned they retain knowledge7. Active learning classrooms focus on social interactions between students and faculty. “What Matters in College” author Alexander Astin explains that the relationships students build with each other and with faculty is the most important outcome of their four year experience8. Active learning classrooms are filled with hands-on activities, simulations, or essential questions and problems where students work as a team to solve real life issues. Most importantly the traditional notion of classroom is flipped: "what used to be homework happens in the classroom and what used to happen in the classroom becomes homework."9

Trends in availability of online technologies and research on how we learn all seem to support the growth of blended learning concepts and are driving the crusade of course redesign. The National Center for Academic Transformation (NCAT)10 is a forward thinking not-for-profit organization that is assisting campuses with course redesign. NCAT’s
approach brings together face-to-face activity with web-based content in a planned, pedagogically valuable manner and is referred to as blended learning. It provides today’s students with anytime, anywhere convenient access to materials and blends synchronous and asynchronous instruction to offer new approaches to educational delivery and facilitation. BL is considered an effective and low-risk strategy which helps position universities for the onslaught of technological developments that will arrive in the future. It increases the options for greater quality and quantity of human interaction in the learning environment. Student can learn the way that suits them best: on their own time, at their own pace, in their own place, using the tools with which they are most comfortable. In providing new and more flexible educational strategy students have opportunities to review course material and communicate with peers and instructors with tools they are familiar with. As we look to improving the learning environment in higher education we must convert teaching from a solo endeavor to a community-based research activity. Because of the different modes of delivery BL meets the educational needs of a much large audience. Key baselines to consider with blended learning are: learning outcomes, student satisfaction, retention and achievement.

NCAT case studies show examples of the success of this model. A recurring theme from the research is that by redesigning courses universities can reduce cost and teach more effectively. SUNY Buffalo’s course Economics 101 saw significant increase in student learning outcomes and improved student success rates from 67% to 76% and reduced costs by 46% by doubling section size. A team of faculty, administrators and technology experts at Frostburg State University redesigned their General Psych course and again significantly increased student performance while reducing instructional costs by 71%. Mississippi State showed a cost savings of 25% per student. These are remarkable outcomes that are forcing colleges to look seriously at real transformation. Further studies can provide a more comprehensive understanding of blended learning in course redesign and its potential in education but many universities recognized the need for change and that this solution can be very effective. Susan Patrick, president and CEO of International Association for Online Learning agrees with this analysis. She said the advantage of blended learning over just face-to-face instruction “is the combination of rich student-teacher-peer communication and interactions that are both asynchronous and synchronous, better utilizing precious resources of time during, and outside, the school day to maximize learning and personalize it in a way never before possible.” She states that the factors needed to make blended models better than face-to-face models are the factors that research says also define good teaching: “increased interactions between students and teachers, increased depth of rigor and exploration into content, customized learning to meet the students exactly where they are in the learning the material, better use of data to inform instruction, and providing additional student support to help personalize instruction by the instructor.”

As we look at tomorrow’s opportunities for delivering the highest quality student educational experience at our Universities, blended learning initiatives usher in a new paradigm of education and provides a model for enhanced student-faculty interaction. A close look at the learning and teaching relationship that facilitates a community of inquiry and builds upon cognitive, social and teaching presence is at the heart of this pedagogical approach. A theme of engaging, enabling and empowering learning must replace traditional approaches to meet the needs of our wired students who expect to be able to work, learn, and study whenever and wherever they want. The abundance of resources and relationships made easily accessible over the internet is driving us to revisit our roles as educators. All of this creates a challenge to all and a shift in thinking that policy and leadership must endorse for transformation to take place. Are you ready?

Bibliography

4x Transform, Interact, Learn, and Engage, http://its.uiowa.edu/instruction/tile/
6x Student-Centered Active Learning Environment for Undergraduate Programs, http://scaleup.ncsu.edu/
8x What Matters in College?: Four Critical Years Revisited, Astin, Jossey-Bass, 1997
Salman Khan, Khan Academy, Presentation at TED 2011, http://www.youtube.com/watch?v=gM9SHHi4gLk

The National Center for Academic Transformation, www.thencat.org


