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Changing Higher Education,
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Leadership Briefs

Recommendations to Promote Technology Usage on Campus

For the university, one of the greatest opportunities and greatest challenges is to determine how to promote technology usage on campus.

Faculty members from Georgia State University (GSU), The University of Akron (UA), University of Missouri Kansas City (UMKC), Indiana University-Purdue University of Indianapolis (IUPUI), University of Illinois at Chicago (UIC), and Virginia Commonwealth University (VCU), selected for their innovative use of technology in the classroom, came together to identify strategies that advance the use of technology on campus.

Pooling their experiences, they identified three strategic areas to target: 1) Incenting faculty usage of technology in the classroom; 2) Engaging faculty in the technology decision-making process; and 3) Ensuring appropriate policies and practices are in place.

Incenting Faculty Usage of Technology on Campus

All campuses noted that their institutions provided a range of incentives, such as free access to events, awards and stipends to encourage faculty to explore and use technology-enhanced resources in on-site or virtual classrooms. It was clear that available incentives and technical support provide the foundations needed to engage highly motivated faculty. However, transformative change at these institutions will require more thorough resource allocation and planning to broaden faculty involvement.

Key Recommendations

- Expand methods to incentivize faculty members to adopt transformative technology. Focus limited resources where the culture of change already exists to build models for expansion.

- Streamline the technology-based approaches used to make them easier to adapt.

Engaging faculty in the technology decision-making process

As is common in academia, each institution had its own technology governance structure. Technology-related issues generally fell under the purview of a CIO or equivalent and there were generally mechanisms in place to elicit faculty input to technology-related decisions. In

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COLLABORATING FOR CHANGE

Collaborating for Change is a six-year initiative implemented by USU and APLU, supported by the Bill & Melinda Gates Foundation, to work with urban serving universities to plan and implement transformational—often disruptive—approaches to advance student success efforts. These efforts are particularly focused on helping high need and traditionally at-risk students while keeping costs down, reexamining business models, and reaching deeper into the community.

THE COALITION OF URBAN SERVING UNIVERSITIES

The Coalition of Urban Serving Universities (USU) is a president-led organization committed to enhancing urban university engagement to increase prosperity and opportunity in the nation's cities and to tackling key urban challenges. The Coalition includes 43 public urban research universities representing all U.S. geographic regions. The USU agenda focuses on creating a competitive workforce, building strong communities, and improving the health of a diverse population. The Coalition of Urban Universities (USU) has partnered with the Association of Public and Land-grant Universities (APLU) to establish an Office of Urban Initiatives, housed at APLU, to jointly lead an urban agenda for the nation's public universities.

THE ASSOCIATION OF PUBLIC AND LAND-GRANT UNIVERSITIES

The Association of Public and Land-grant Universities (APLU) is a research, policy and advocacy organization representing 234 public research universities, land-grant institutions, state university systems, and affiliated organizations. Founded in 1887, APLU is North America's oldest higher education association with member institutions in all 50 U.S. states, the District of Columbia, four U.S. territories, Canada, and Mexico. Annually, member campuses enroll 4.7 million undergraduates and 1.3 million graduate students, award 1.1 million degrees, employ 1.3 million faculty and staff, and conduct $41 billion in university-based research.

some cases, faculty input was provided using more informal ad hoc committees or faculties were only marginally involved. Our conclusion: formalize faculty input to technology-related decision making through standing committees.

Key Recommendations

- Institutions should develop clearly defined shared-governance roles and responsibilities for technology that are consistent with campus cultures.

Ensuring appropriate policies and practices are in place

Institutional policies play a significant role in fostering adoption of technology-enhanced pedagogies. Institutions with clear resources commitments and clear policies for allocating those resources were most successful. Questions to consider in evaluating one's institution include: 1) Is there a centralized institutional policy for technology usage (e.g. guidelines for clicker systems and learning management systems)? 2) Is there available staff support to help faculty with online course development? 3) Is there an institutional technology mission statement in place that emphasizes a university's commitment to the importance of technology in teaching and knowledge creation?

Key Recommendations:

- Refine technology mission statements; include clear pathways that support technology-driven transformative change.

- Develop resource allocation strategies consistent with institutional mission statements.

Recommendations

- Streamline the technology-based approaches used to improve student success.
- Expand methods to incentivize faculty members to adopt transformative technology.
- Develop clearly defined shared-governance roles and responsibilities for technology; make sure they are consistent with your campus culture.

- Refine technology mission statements; include clear pathways that support technology-driven transformative change.
- Develop resource allocation strategies consistent with the refined, institutional mission statement.

Technology Use in Practice: FIU's Technology-Assisted Gateway Course in Math

FIU's College of Arts and Sciences and Department of Mathematics Mastery Math Gateways project addresses the curricular and pedagogical redesign of College Algebra assisted by a high tech, math computer lab available on campus and offsite via high speed internet. Students are required to spend a set number of hours in the lab. They use computer programs to work through math problems, complete homework and take exams. Dramatic gains have been documented since the lab's opening:

- The College Algebra pass rate increased to 63.7 percent in 2013-14 up from a 33 percent pass rate in face-to-face courses in 2010–11.
- A revamped online Algebra course aligned with what has become the Mastery Math Model of Instruction; increased student pass rates from 10 percent to 64.9 percent!
- Adoption of the model to a Finite Math class in the Fall 2014 semester by a Mastery Math Lab instructor resulted in a pass rate of 88%! Finite Math is the leading critical math course for non-STEM majors.
- Between Fall 2012 through Spring 2014, ~7000 students were taught using Mastery Math Instruction.
- Examination of downstream classes indicates that students taking College Algebra at FIU perform better on faculty design pretests in both PreCalculus Algebra and Trigonometry than incoming transfer students.
- Some 7,631 students have visited the lab over 207,888 times for ~320,000 hrs of time on math tasks.

Visit the FIU Profile Page on the USU/APLU website to learn more about this and other FIU transformations.

Acknowledgments