



# SCUP Academy Report 2014

**SCUP Academy Council**

## **SCUP's Planning Academies**

*Institutional Direction Planning Academy*  
*Academic Planning Academy*  
*Facilities Planning Academy*  
*Resource and Budget Planning Academy*

## **Regional Conference Reviewers**

*Mid-Atlantic*  
*North Atlantic*  
*North Central*  
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*Southern*



**Society for College  
and University Planning**

# **SCUP 50**

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Only proposals using SCUP's online submission form will be reviewed.

# **SCUP Academy Report 2014**

SCUP Academy Council

Society for College and University Planning

[www.scup.org](http://www.scup.org)

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## **ABOUT THE SOCIETY FOR COLLEGE AND UNIVERSITY PLANNING (SCUP)**

The Society for College and University Planning is a community of higher education planning professionals that provides its members with the knowledge and resources to establish and achieve institutional planning goals within the context of best practices and emerging trends. For more information, visit [www.scup.org](http://www.scup.org).

### **WHAT IS INTEGRATED PLANNING?**

Integrated planning links vision, priorities, people, and resources across the campus in support of the institutional mission and academic plan. It shapes and guides the entire organization as it evolves over time because all areas on campus are linked to each other. What happens in one area almost always impacts another.

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Opportunities for Conversation

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## Introduction

This report synthesizes the trends observed by 106 members of SCUP's planning academies during their 2014 annual conference proposal review process, and 51 proposal reviewers for five regional conferences.

This is a flash report of the continuing and emerging issues of interest to SCUP. It's a reflection of issues resonating in the minds of academy members and regional conference reviewers, and of those who contribute to SCUP's body of knowledge through their program submission.

### INFORMS SCUP'S ANNUAL PLANNING PROCESS

In 2010, the SCUP Board of Directors asked the association's four planning academies: institutional direction, academic, facilities, and resource and budget, to expand their focus beyond proposal review and develop a way to harvest information about overarching themes, sector trends, and emerging issues so they can be shared and used strategically by the board and SCUP's numerous working groups. In 2013, this initiative was expanded to include the contributions from reviewers who participated in SCUP's five regional conferences.

This report now significantly informs the association's annual planning process, and helps identify strategic directions for future programs, services, and topical development.

### METHOD

A total of 320 concurrent session proposals were submitted for SCUP's 49 annual conference consideration, and 272 session proposals for SCUP's 2013 fall and 2014 spring regional conferences. After their respective proposal review processes, 106 of the planning academy members and 45 regional conference reviewers participated in a broader scanning initiative through a follow-up interview or survey that probed their observations in these areas:

- » Continuing trends
- » Emerging trends (innovations and advancements that they had not seen before)
- » What they observed as an emerging trend in their own professional environment
- » Fading trends—what they saw less of?
- » What they struggle with—what presented their biggest concern/fear?

Their remarks, observations, and thoughts were synthesized into the themes or trends—essentially the academy's “top eight” list. This information forms the basis of this year's academy council report to the board.

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***Mission:*** *The Society for College and University Planning develops individual and organizational planning capacities to strengthen and transform institutions*

## Key Theme Areas

The eight theme areas represent the key topical groupings synthesized from topics and issues discovered or mentioned during the SCUP-49 and regional conference proposal review processes, and during interviews and surveys with academy members and regional reviewers. Each theme area includes a final section, titled *Opportunities for Conversation*, which invites continuing discussion, or developing concepts and ideas that will demand our attention in the future.

### 1. LEADERSHIP AND PLANNING

- » Organizational Structure
- » Driving and Sustaining Institutional Change
- » Institutional Effectiveness
- » Diversity, Access and Equity
- » Responsibility in a Hyperconnected World
- » Cost of Higher Education / Adapting to a Transforming Academic Economy
- » Changing Role of the Planner
- » *Opportunities for Conversation*

### 2. PARTNERSHIPS / COLLABORATIONS

- » New Interdisciplinary Educational Models
- » Higher Education and Their Communities (Beyond Town-Gown)
- » International Collaborations
- » Teaming on the Academic Side
- » Traditional Delivery Teaming Expands to Broader Collaboration
- » Shared Services
- » *Opportunities for Conversation*

### 3. INTEGRATED PLANNING

- » Planning Takes the “Long View”
- » Communication and Engagement with Stakeholders
- » *Opportunities for Conversation*

### 4. TEACHING AND LEARNING STRATEGIES AND ACTIVITIES

#### A. NEW MODELS FOR LEARNING

- » Workforce Development and Other less Traditional Education Pathways
- » Faculty Interaction with Students
- » Student Achievement vs. Student Learning
- » Learning and Teaching Models
- » *Opportunities for Conversation*

#### B. LEARNING ENVIRONMENTS

- » Technology’s Impact on Learning Spaces
- » Creative use of Technologies within the Classroom
- » Learning is Everywhere
- » Physical Resources and Planning
- » Evolution of the Libraries
- » *Opportunities for Conversation*

## 5. EMPHASIS ON ACCOUNTABILITY / MEASUREMENT ACROSS THE ACADEMY

- » Informed Institutional Decision Making:  
Data-driven/Outcomes Based
- » Accreditation and Government Policy
- » Assessing Investment in Educational Facility Environments
- » *Opportunities for Conversation*

## 6. TIGHTER BUDGETING / MORE COMPLEX FINANCIAL PLANNING

- » Planning that Incorporates Rigorous Financial Modeling
- » Financial Management of Competing Priorities & Search for Alternative Budget Models
- » Funding Deferred Maintenance Challenges
- » Increased Need to Prioritize
- » *Opportunities for Conversation*

## 7. OPTIMIZING EXISTING PHYSICAL RESOURCES

- » Managing Aging Infrastructures
- » Adaptive Reuse
- » Reuse . . . Reprogramming. . . . Repurposing of Existing Buildings
- » Project Delivery
- » Changing Approach to Physical Master Planning
- » Miscellaneous Building Comments
- » Multi-use Facilities/Shared Space/Flexible Space
- » Space Utilization
- » *Opportunities for Conversation*

## 8. ENVIRONMENTAL SUSTAINABILITY

- » Full Institution Sustainability
- » Regenerative
- » Energy reduction
- » *Opportunities for Conversation*

## Disruptive Change

Higher education, like virtually all other enterprises, is increasingly challenged by change. Today's "disruptive change" is not incremental or incidental—it is revolutionary and is seemingly moving at a faster pace than in the past. It challenges the very role and value of higher education now and in the future.

Where are the big ideas for these disruptive times? Can higher education respond with "disruptive innovation?" Or is sustaining and continually improving today's educational value and product enough?

In this severely resource-constrained environment, simply fulfilling responsibilities is a daily challenge for SCUP members, but their involvement in management and leadership can help institutions find new directions for either disruptive or sustaining innovation.

As SCUP approaches its 50th anniversary, its members have been in a unique position to observe these trends. SCUP members are struggling to find right approaches to meet their own responsibilities to adapt the institutions they serve to this rapidly changing environment. This year's trends reflect this challenge. Disruptive change is here—SCUP members are asking questions and exploring options to help their institutions survive and flourish.

## Key Theme Area I: Leadership and Planning

Higher education is at an inflection point. Not only do leaders in higher education need to be nimble in their thinking, they must lead from this perspective. Parents, the community, businesses, and the federal government need to have graduates who can think critically, write, speak, work in teams, and have an understanding of the global nature of today's society and workforce. Simultaneously, the business model for higher education has changed dramatically. Tuition-driven models are no longer feasible and public funding has declined for the last decade. To be relevant and innovative, institutions and their leaders must focus more deeply on the organizational structure and the processes that maximize effectiveness. Planning is inherent in the success of these efforts by all the key players—presidents, provosts, vice presidents, and planners.

### DRIVING AND SUSTAINING INSTITUTIONAL CHANGE

1. Planning for significant organizational change, institutions are examining their core mission, organizational structure, and financial resources; prompted by challenges including shrinking public support (for public institutions), greater demand for accountability, and tuition pricing pressures in the market
2. There is insufficient focus on organizational change and adaption in higher education during uncertain times
3. Adapting a culture of creativity and innovation, a topic widely discussed in corporate culture over the last couple years, is now more recently being applied to education
4. Big-picture planning is still seen as an added expense and unnecessary at a time when it can bring the greatest value; planning in down times allows an opportunity for reflection, integration, innovation and the chance to do things differently
5. With the accelerated pace of changes in higher education, the need is for transformative, not evolutionary changes; incremental change will leave us behind—we won't keep up with only small changes
6. Practical approaches to strategic planning are perceived as inclusive, built to drive future outcomes across the institution
7. Many campuses concerned that their mix of academic programs, facilities, market costs, scope, all those things—are not well-aligned for this future of uncertainties
8. Higher education leadership struggles with how to say “no” in a consensus-based culture
9. Strategic plans continue to be developed with regards to resourcing the plan; then they're handed off to finance to figure out how to pay for it. During the strategic planning process, the team wants to address creating a financially viable plan, however, they don't have answers so just skip that part in their final plan
10. Concern that smaller institutions use their values and culture to calibrate their planning trajectories; there is concern that they may not be sufficiently engaged in the debate about the changing higher education environment
11. Some scaremongering exists about the certain demise of the traditional campus

## ORGANIZATIONAL STRUCTURE (CONSOLIDATION)

1. Libraries and IT departments are merging into new information services areas, co-locating in library

## INSTITUTIONAL EFFECTIVENESS (INCLUDES ACCREDITATION)

1. Articulation of credits is increasingly complex as the number of providers and systems of provision grow: transfer of online credits, awarding credits for online classes, etc.
2. Strong emphasis on institutional effectiveness of both strategic planning and assessment in the accreditation process; public accountability continues to be a driver

## DIVERSITY, ACCESS, AND EQUITY

1. Ethnic diversity still lacking in higher education planning; institutions must foster a greater understanding of cultures and perspectives that are different than our own; development of a “Diversity” plan can provide guidance to the institution as it continues to enhance and embrace diversity across the campus community to include the administrators, faculty, staff and students
2. Noticeable lack of professional and gender diversity in the physical and facilities planning area that does not seem to go away; women are positioned to participate in more visible roles in projects along with an increase in multicultural and multigenerational teams
3. Questions on how to engage marginalized groups in academic and institutional decision making—lesbian, gay, bisexual, and transgender (LGBT), aboriginal, immigrants, etc.

## RESPONSIBILITY IN A HYPERCONNECTED WORLD (STRAINS ON EMPLOYEES FROM NEW TECHNOLOGIES)

1. Extension of communications and hand-held technologies have fostered potentially unrealistic expectations about employee access anytime; managers are concerned for themselves and staff about burnout and stress, and the future implications for staff development and retention—is this foretelling of a ubiquitous 24/7 type of workload of the future?
2. The student body increases, more professors are hired, but staff levels are stagnant—doing more with less *all the time*
3. On-call coverage needs from disaster response and rebuilding has expanded from staff to leadership as well; all hands on deck, with the note that a crisis can build incredibly good teams and create community
4. Employee down time is evaporating; more resources spent on psychological counseling, and other services to help staff manage stress and work/life balance

## COST OF HIGHER EDUCATION— ADAPTING TO A TRANSFORMING ACADEMIC ECONOMY

1. Cost of tuition and other higher education fees continues to be a pervasive concern
2. How do we maintain higher education relevancy to a new generation who question costs, time to complete, etc.?

## CHANGING ROLE OF THE PLANNER

1. Planners are expanding stakeholder engagement to facilitate interdepartmental and interdisciplinary synergies; essential to investment in the final outcome
2. Briefings help planners (corporate and institutional) keep pace with the accelerated changes affecting workplace strategies, how people need to interact and learn, and changes in digital frameworks—especially for libraries
3. Planners thinking about the campus in a more complex and integrated way than in the past—as opposed to building by building, department by department, or college by college—so that you can really distribute the resources across the lines

6. Innovative ways to undertake a strategic planning process at an institution: skill building in strategic planning plain and simple—institutional strategic plans!
7. How can better planning contribute to a better educational experience? Get educators, college presidents, deans, etc. talking and writing about how they can better position their institution to face the future
8. Understanding campus governance and organizational structures and the role that both can play in assisting or blocking a culture of planning
9. More about academic planning and environmental scans related to academic programming
10. Things that keep a college/university president awake at night

## OPPORTUNITIES FOR CONVERSATION

1. What are the concrete, replicable mechanisms/techniques for driving and sustaining institutional change?
2. How the US's new Higher Education Act will impact and change the landscape of institutions
3. More insight into strategic enrollment management
4. Understanding the planner's role as the institution moves from traditional learning environments, to blended and online learning (cuts across technology, academic planning, institutional planning, and accreditation)
5. Acknowledging and addressing the impact of higher education disruptors on the academic content of both public and private higher institutions, and planning processes and content: decline in state funding, commodification of higher education, online offerings

## Key Theme Area II: Partnerships / Collaborations

Traditional partnerships between the academy and the community and the academy and business are being extended to include a range of issues such as economic development and living learning communities. These partnerships transcend previous boundaries to encompass state and international entities (as well as K–12 and community colleges) to establish comprehensive learning models.

### NEW INTERDISCIPLINARY EDUCATIONAL MODELS (INCREASED INTERDISCIPLINARY RESEARCH AND OTHER COLLABORATIONS)

1. Increasing recognition that the future of learning is multidisciplinary or cross disciplinary; campus cultures are trying to break down silos, cross-pollinate as many efforts as possible (not only academic, but also physical planning), and encourage students to collaborate and work together across disciplines.
2. Cross-disciplinary initiatives are changing space needs (example: influx of “makerspace,” a community center with tools where students work beyond the abstract to actually make things: idea>brainstorm>design>prototype>build)
3. With more collaborative and flexible working spaces, there’s far less attention paid to library collections, and more about access to information of any kind; research organizations are regrouping fundamentally to create a common infrastructure to tap into shared, large databases; large data sets have to be accessible by all disciplines
4. Interdisciplinary educational models are becoming a requirement for accreditation in some schools; among the health sciences, there is a trend toward interprofessional education—students from different health care professions learning together; also growing is translational science research space (university research to market)

5. Scientific disciplines are co-locating; every researcher wants to collaborate with every other researcher in collaborative space, yet there is still a tendency for researchers to want to stay with their old departments and near the teaching spaces
6. Communities create new initiatives to attract higher education with public and federal funding and tax breaks to seed research institutes; they are optimistic that a state or private university or established innovation companies will locate there
7. “Entrepreneurship” is gaining foothold on campus as its own specific discipline with undergraduate and graduate programs, providing another avenue for cross-discipline student groupings to create a product, or something for the social good
8. Campus-wide sustainability initiatives continue to provide an important opportunity for cross-departmental and cross-discipline learning
9. Multidisciplinary spaces also prompting new conversations about how space is allocated, and the neutrality of it—everybody owns it

### HIGHER EDUCATION AND ITS COMMUNITIES (BEYOND TOWN-GOWN)

1. The term “town-gown” needs to be replaced with something that reflects the complexity and depth of campus community interactions, collaborations, and partnerships on a range of issues, including economic development; the trend is redefining the sensibilities around what community means at a

- campus, local, regional, state and even international level
2. The number of partnerships between communities and campuses is exploding and taking all forms; prompts include city land donations, financial contributions, hospitals and health care, new campuses, etc.; models may involve multiple campuses, business partners, city and government
  3. Innovative partnerships between corporations and institutions are creating permanent research centers on campus, technology parks, and opportunities for collaborative research for faculty and students; universities offer space and access to world-class researchers and interns, along with resources to aid smaller companies, entrepreneurs, and researchers; this stimulates the economy, creates new university/community research models, seeds the new employee pool with graduate students, and potentially turns into exciting new ventures for their department or campus (e.g., Massachusetts Medical Device Development Center (M2D2) at University of Massachusetts Lowell)
  4. New collaborations partner higher education with secondary schools to stimulate STEM education in younger students; the same could be done with entrepreneurial studies to help them complete and achieve at the higher education level
  5. Fitness, wellness, and recreation centers opening to community for membership, classes, etc.
  6. New campuses are being established in a way that benefits and redevelops surrounding community; sustainability initiatives are a major area for collaboration
  7. Campuses without a strong urban context are creating it with lively retail, walkable mall space, food source, and 24/7 activities; this keeps students close to campus, and engages the community
  8. Institutions explore ways beyond internships to take advantage of industry and professionals to mentor students who are close to campus, engaging students and giving them a real voice in their community
  9. Community colleges conducting interesting planning work in all areas; they're connected to their communities and are finding innovative space solutions that often work for their mutual benefit—models have applicability for four-year institutions

## INTERNATIONAL COLLABORATIONS

1. Significant and sudden rise in number of students who want to study abroad; institutions seek international learning opportunities for their students by creating reciprocal agreements with overseas colleges for tuition
2. Institutions target international students for growth, and celebrate the diversity of their campuses
3. Employers see value in students who have global experience, and who have awareness and skills to deal with other cultures
4. Employment opportunities for international students may be limited to on-campus jobs only, due to the conditions of their visa; has an impact on other students who compete for the same positions
5. Universities continue to set up campuses in developing nations where there are limited opportunities in higher education; but perhaps in a more controlled way to ensure quality, brand, and university mission
6. Significant financial impact from foreign students tuition, particularly in states with declining student population

7. With the rise and complexity of internationalization and international higher education, there is no one ‘international’ educational concept

### **TEAMING ON THE ACADEMIC SIDE**

1. Increased sharing of data across academic disciplines will impact how campuses are designed in the future

### **TRADITIONAL DELIVERY TEAMING EXPANDS TO BROADER COLLABORATION**

1. Integrated planning and design is reaching into pedagogy; hypothetical workshops model ways to bring IT, researchers, and facility staff together to address ways they can merge their agendas to create flexible learning environments
2. Capital construction engaging all constituent groups in the process, from the beginning of creating the master plan, to actually making the decision to put up a building

### **SHARED SERVICES (WITHIN THE INSTITUTION AND WITH OTHER INSTITUTIONS, GOVERNMENT, ETC.)**

1. Collaborations between institutions (especially public-funded entities) in a competitive environment to gain economies of scale; they are sharing programs, common services, spaces, equipment, transportation, human services, offices etc.; why not share presidents? And when is it better to cooperate than it is to compete?
2. Institutions exploring and implementing shared services centers, shared systems across locations, less diversity of process, more standards, and fewer one-offs, particularly in the areas of human resources, technology services, grant management,

and financial services; process improvements are generating significant long-term savings

3. Shared service centers discovering need for careful and transparent planning on the human side to address dispersion of staff from established departmental relationships, potential reductions in force, and staff demoralization
4. Collaborations continue to expand between the community colleges and four-year or research-based institutions

### **OPPORTUNITIES FOR CONVERSATION**

1. How corporations are driving institutional partnerships—their academics, the facilities, and programming aspects on campus
2. How can the new element of campus-community partnerships become an essential part of the integrated planning curriculum?
3. How communities are driving quasi-public partnerships with higher education
4. Questions about entrepreneurship studies; does it want its own building because of donor potential? How does it get its own identity? How does it expand its reach beyond campus to commercial partners?
5. How can the physical design of space facilitate and encourage collaboration of cross-departments and colleges?
6. Pros and cons of international ventures by US-based institutions

## Key Theme Area III: Integrated Planning

More institutions are turning to comprehensive, inclusive planning strategies that assess and refine over time. While this provides for stability and growth, the constant turnover of administrators often relegates institutional memory to staff and record keepers who may lack the long view if not properly included in decisions and planning. Decision makers must keep this process transparent to build trust and engage stakeholders.

### PLANNING TAKES THE "LONG VIEW"

1. Integrated planning is more deliberate within higher education institutions; integrating multiple processes in the context of an institution's strategic, academic, and facilities plan becoming a necessity on many fronts, particularly with budget shortfalls
2. Integrated planning requires a sense of trust and transparency with internal and external agencies; investigating how institutions are mending or building bridges contributes to the development of successful campus ecology.
3. Wakeup calls from Hurricane Sandy, major floods in Alberta, and other man-made or environmental disasters are prompting careful assessments of risk, resiliency, recovery and adaptation, which are key to health and safety, economic viability, and the research/teaching missions of the university
4. Skills needed for crisis leadership are increasingly seen as necessary to lead institutions through response, management, and recovery from on-campus violence to natural disasters and public relations controversies
5. Operations personnel not involved enough in key planning decisions; need for more "ground-up" participation by people who manage and run our energy and other systems in planning and design
6. Institutions employ scenario planning exercises to look 30-years out toward possible futures, and try to help inform decisions in the short term
7. Managing the risks of mixed use (public/university) and third-party buildings, particularly in regards to student housing—issues of who manages the facility, is it safe for students when the general public also inhabits the building, etc.
8. Participatory, inclusive, and integrated planning, especially for multi-campus institutions
9. Integrated planning initiatives are including areas that have not consistently been part of the conversation, such as utilities, transportation, and IT
10. Continued need to better understand and implement integrated planning
11. Linking projects with expected results, strategic priorities
12. With anticipated shortage of doctors as the new US Affordable Care Act enrolls more people eligible for medical care, schools will need to respond and update their existing facilities in order to compete for the best students
13. MOOCs and Millennials: technological and teaching advances are constantly changing the campus; campus plans will need to be adjusted accordingly

14. Competition for the best students remains strong, so colleges and universities have to update old facilities if they can't build new ones to attract students as well as faculty
15. Realization that what might seem to be an unrelated issue really affects other areas in a comprehensive planning effort

#### **COMMUNICATION AND ENGAGEMENT WITH STAKEHOLDERS**

1. Planning culture is changing; there's real interest in engaging all constituent groups on campus in the planning process: the students, the community, and the faculty; also an accountability issue—people want to know how money is spent
2. Multi-campus planning, especially in community colleges, brings its own series of challenges in the planning process, particularly the participatory involvement
3. Community members are increasingly invited to comment on campus plans and share their vision for the institution
4. Students are sought by, and articulate on planning committees, and their suggestions are making it to final project documents and planning initiatives; they're offering a different perspective on the whole campus
5. Campuses are sharing the value of integrated planning (with both academic and student affairs) in residential projects

#### **OPPORTUNITIES FOR CONVERSATION**

1. The mechanics, organizational structures, and staff skill sets necessary to be really successful at truly integrating fiscal, physical and programmatic/academic planning
2. Basic, straight up, "how-to" sessions for beginning planners addressing academic planning, student services planning, institutional planning, etc.
3. The role of mission, vision, and values in the development of a strategic plan
4. The inclusion of academic planning and issues into integrated planning
5. How scenario-planning techniques can aid in the planning process
6. What are ways that planners can effectively bring infrastructure and transportation conversations into an integrated planning process?
7. How do you avoid placing the plan on the shelf and really engage the university community in the implementation process?
8. Developing trends on crisis planning, safety/security on campus, and disaster mitigation

## Key Theme Area IV: Teaching and Learning Strategies and Activities

As the latest technology gains greater access to the classroom, it is emerging as a tool rather than a discipline. Technology is shaping our approach to education—increasing accessibility, informing our delivery, and enhancing our assessment. IT is also redefining the structure and function of learning environments, from virtual classrooms to flipped instruction, and creating new positions for educators in designing and assessing what learning has taken place.

### A. NEW MODELS FOR LEARNING

(WORKFORCE DEVELOPMENT AND OTHER, LESS TRADITIONAL EDUCATION PATHWAYS)

1. New public and private partnerships are linking curriculum to employment needs
2. There is wide expectation that “everyone” needs a four-year education, yet more are settling for two-year (or even less) post-secondary education/training
3. Public-private partnerships help students earn college credit in high school to equip them for the demands of a high-tech economy; still, questions that some technical training programs are not aligned to real jobs and needed skills and are too narrowly focused on technical skills
4. Emerging emphasis on science and engineering, sometimes multidisciplinary in nature; growing focus on STEM education
5. Seamless transfers for core curriculum within a university system are enhancing degree completion for transfer students (e.g., associate programs to baccalaureate programs or between baccalaureate programs)

### FACULTY INTERACTION WITH STUDENTS

1. Collaborative learning extends beyond the classroom or lab and into informal student-faculty interactions
2. Students now teach each other, and the instructor guides learning instead of providing all of it, creating the opportunity to expand the number of total students in a class lab to 30–50 while keeping the group size small (2–6 students); previously, class size shrank to allow the instructor access to all students
3. Younger faculty members exploring and driving new pedagogical trends: active learning and flipped classrooms, new modes of interaction with their students
4. Quality of facilities (particularly labs) continues to be a major driver for faculty recruitment and retention
5. Curriculum organization shifts to clusters of knowledge and problem solving instead of traditional courses
6. Active learning environments: lots of things in flux, MOOCs were overhyped while in-class active learning is facing some resistance from a generation of faculty about to retire
7. Growing concern that collaborative learning may cause us to bypass our geniuses (who work alone a lot) in order to train good collaborators; the right

kind of space prompts ongoing discussions with a matrix of solutions

#### STUDENT ACHIEVEMENT VS. STUDENT LEARNING

1. An acknowledged connection between student engagement and academic achievement
2. Expectation for outcomes-based assessment of learning and programs
3. Student achievement measures are well established, but student learning is more authentic, competency based learning (more difficult to measure)
4. Nagging concerns that US colleges and universities will no longer be best in the world; the continuing decline of the quality of American education at all levels, and the public perception (and that of more students) that a college degree does not lead to a job

#### LEARNING AND TEACHING MODELS

(HYBRID, MOOCS, ETC.)

1. Distance education has not slowed down face-to-face learning; staff reaffirm that students get their value from an institution by being able to problem solve and collaborate with peers in active learning-type classes with lectures online
2. Social media and technology are being integrated into the teaching and learning enterprise; faculty report that blended learning enables them to be much more effective than only face-to-face
3. Latest technology is being leveraged with changing pedagogy and curriculum to develop/evolve responsive educational facilities
4. Universities are developing cross-system collaborations that include infrastructure, policy backbone, and shared initiatives to create initiatives and services that support campuses and faculty in

enhancing online-enabled education (e.g., OPEN SUNY)

5. MOOCs still a new concept for many institutions; firms and institutions are trying to understand the impact of the MOOC movement and whether or not it's going to be as disruptive as initially thought, or whether it's going to be a positive influence; institutions try to figure out a way to make it financially successful

#### OPPORTUNITIES FOR CONVERSATION

1. Good models for interdisciplinary teaching and collaboration; who is doing this well, what is the curriculum, who claims the student, and how do we live in a post disciplinary world?
2. A look 10 to 20-years into the future of education; what will be needed in the funding and education of students, and how will those needs be fulfilled?
3. The US slips in the world rankings of education; how are US institutions evaluating and changing policies?
4. Creative strategies or unique approaches that tap into globally available intellectual resources and provide a fresh platform for the new generation of students, combining top academic/pedagogy theorists with creative design talent

#### B. LEARNING ENVIRONMENTS

##### TECHNOLOGY'S IMPACT ON LEARNING SPACES

1. Institutions must support infrastructures that have the capacity to transmit real time data and video feeds to remote parts of, not only within the campus environment, but across the globe

2. Power requirements for classrooms diminishing because of the better battery life of students' devices, and wireless connectivity
3. Beta testing of how big data might be applied in the design of learning environments—increased importance placed on technology, and the reduction of built footprint that will (or might) result as a by-product; need to formulate new design criteria for evolutionary learning environments
4. Fresh design approaches parallel current and future pedagogies; new generation of students forcing universities to think about new and creative platforms to enhance the social and learning experience
5. Large focus on active learning stations, active learning classrooms, and laboratories; many challenges to create effective learning spaces on very limited resources—but one way or another, are going to have to accommodate more and more of it

#### **CREATIVE USE OF TECHNOLOGIES WITHIN THE CLASSROOM**

1. Classrooms are becoming larger and more flexible to accommodate group learning with multiple instructors, activity-based learning, and multimedia sourcing
2. Technology influences evolution of learning environments; students and teachers are changing to reflect a new culture of interaction and globalization
3. Rapid technological change (e.g., bring your own device (BYOD) impacting technology infrastructure planning; universities are struggling to keep up with demands from faculty and students for ubiquitous connectivity in learning and informal spaces. Investments in one direction (e.g., tablet brands) are problematic because no one has a perfect crystal

ball; very expensive choices requiring careful and thoughtful planning

#### **LEARNING IS EVERYWHERE**

(MOVEMENT AWAY FROM CLASSROOM AND ON TO DEMONSTRATED COMPETENCIES IN CONCRETE AND AUTHENTIC WAYS)

1. Design strategies address new ideas of pedagogy and enhance social interaction among students in a multitude of locations across campus; student-centric environment is also important in casual learning spaces
2. Community service learning centers increasing experiential education for students
3. Discussion of learning spaces for active, self-directed learning; more creative models emerging, such as simulation space

#### **PHYSICAL RESOURCES AND PLANNING**

1. Escalating discussion about the relevance and importance of the physical facilities and campus on student life and student development; as we grapple with new learning technologies, what is the importance of place in student life and in student development?
2. A sense that iconic university campuses will remain and some of the smaller regional campuses without the same caliber of physical space will fall by the wayside
3. Place-based universities continue to have a role to play with a significant number of students; it is not either virtual or place-based, but rather a range between virtual classroom only to place-based classroom only—and every combination in between
4. Planners grapple with expanding learning space in an age of downsizing

5. Prompted by inadequate facilities, schools are examining their teaching models and tools to drive decisions about future major renovation or new building

6. Libraries continue to show flexible design trends towards renovations that repurpose traditional stacks into various programs elements (additional reader seats, collaborative and instructional spaces, etc.)

## EVOLUTION OF THE LIBRARIES

1. Libraries, typically one of the largest structures on campus, are looked at differently now from an asset management standpoint: its space has multiple uses; libraries become fully integrated into the academic endeavor, recognized as the center building owned by everyone
2. Library master plans are being achieved without facility expansion through the repurposing of space, change of furniture types, and decompression of volumes through reduction or off-site storage; materials can be retrieved as students place printed publications requests at their campus library
3. Growth of digital content has overtaken the growth in hard copy content, with campus libraries at the center of this transition; library now manages this digital content and makes it accessible to the entire campus community
4. Librarians have become media specialists and assist faculty and students with the creation and dissemination of digital content, reinforcing the library's central role within higher education
5. Libraries take on more aspects of a student community center or student union, and media center (with 3D printers and visualization devices) in addition to knowledge center, quiet place, collaborative learning area, and resource center, all under a single roof; support services and extended hours are aimed to create a more user-friendly and accommodating environment for students

## OPPORTUNITIES FOR CONVERSATION

1. Rightsizing: with the increase in online learning, will institutions really require more space?
2. Can big lecture halls be repurposed to relieve some of the space demand?
3. The vitality of a bricks and mortar campus experience; what will or will not remain in the near term and the long term?
4. Learning spaces: how much do we really need to be investing in and what is the role of having buildings and having facilities?
5. MOOCs creates a measure of competition and yet, again, being agile, how do we make those adjustments and get faculty to participate in those kind of changing dynamics?
6. Interdisciplinary education—how does this impact facilities? (*Center for Free Enterprise* good example again of a cross-pollination building)
7. Growing need to analyze, catalog, and understand new learning environments and active learning spaces
8. More emphasis on places for student interaction with others and less on electronic communication and use
9. Ideas for making the college experience more personal and individualized; how might our planning and design efforts enable this emerging expectation for personalization?

10. How campuses are responding to the impact of MOOCs and other online learning in terms of the implications for the physical campus space; what will the college of the not too distant future look like and what facilities will be needed?
11. Examination of the impact of factors such as health, wellness, and engagement has on student achievement and retention

## **Key Theme Area V: Emphasis on Accountability / Measurement Across the Academy**

Higher education is facing ever-increasing scrutiny to be accountable for results. From accrediting bodies, to legislative bodies to the media, there are questions as to the value of higher education versus increasing student debt loads, and increased scrutiny of graduation rates and time to graduation.

### **INFORMED INSTITUTIONAL DECISION MAKING: DATA-DRIVEN/OUTCOMES-BASED**

1. Recognition of the importance of data and analytics for benchmarking, academic accountability, assessment, and tracking campus performance, and to make data driven decisions in a timely manner to adjust to the needs of society and businesses
2. Institutions who know their value to society can show it through measurable outcomes
3. Through the use of various analysis tools, colleges and universities are using technology to more effectively utilize resources, especially technology, to project student loads and facility usage to plan and control utility requirements
4. Using sophisticated data analysis and tools for decision making steps up the level of sophistication that university partners are able to add to the process, whether it be programming, construction, allocation of space, etc.; it is used to assess current environmental impact, set institutional goals, and measure performance
5. Institutions (especially academic research universities) are grappling with the sheer amounts of big data and a growing need for IT infrastructure and flexibility; the need for, and sharing of, big data is changing the culture of how people work together
6. We lack understanding as to what information we have and what we can do; for example, we are asked to evaluate departmental performance given their resources when we are not experts in that department's function; we are also asked for information on tuition pricing, scholarship program effectiveness, etc. without being provided the resources/expertise to do the necessary study
7. Data-driven planning and evidence-based planning is an emerging trend in healthcare
8. Board education is being accelerated and intensified to help them grasp data (on students, facilities, publications, research, and outreach), who their students and faculty are, and the operational complexity at their institution; now they have a stronger basis on which to make decisions when they talk about planning and direction
9. The migration of outcomes assessment expands to the administrative side; tracking the effectiveness of an institution also impacts administrative outcomes
10. Visualization is used to represent data and tell narratives about students; there's less reliance on traditional tables and graphs
11. Utilizing space databases to inform facility planning and development is an emerging trend. The software and dashboards used to create and link databases are developing into user-friendly and affordable platforms for evidence-based planning

## ACCREDITATION AND GOVERNMENT POLICY

1. There is increased reliance on quantitative metrics to measure college quality
2. Competency-based learning used more frequently instead of traditional assessment methods; expedient tests as the way to measure learning are losing out to more authentic measures
3. US federal government has a larger role in accreditation and academic quality; it is imposing measures on institutions as a way to evaluate performance; the call for accountability is needed, but the use of numbers is but one way to assess quality

## ASSESSING INVESTMENT IN EDUCATIONAL FACILITY ENVIRONMENTS

1. Assessment of investment in educational facility environments as they relate to advancing educational/learning outcomes has become a bigger priority, considering the new economic norm
2. Notion of Evidence-Based Design: institutions are beginning to truly study post-occupancy evaluations and understand the impacts beyond the building/district
3. High performance buildings need to include the occupants; with the changes in LEED v4 and the increased code requirement for energy models, the look at building performance is not just during design, but how well they perform when fully occupied; this is stimulated by the changing energy codes; while all US states have not adopted this, the controversy of performance and energy savings and the increased pressure in higher education to cut operating costs will keep this topic at the forefront
4. Renovation and Reuse: every campus has a significant capital investment in its existing

buildings and facilities; buildings must be viewed as an investment and endowment to be managed, with a view to the long-term sustainability and growth of the institution

5. Assessment of faculty office space, but why not other constituency groups?
6. All institutions are grappling with the ever-changing technology component

## OPPORTUNITIES FOR CONVERSATION

1. Essential need to educate people around big data, data analytics, and ‘the cloud’; how we gear up to handle “big data”, digital assets, etc.
2. Deeper conversations about new learning spaces: what has been put in place, how is it being evaluated, how is the space changing as the space matures?
3. Multifactorial post occupancy evaluation: after years of fabulous buildings coming online, are they actually working, even from the most obvious necessary forward lens of energy use? How are they measuring out? What would you do differently next time?

## Key Theme Area VI: Tighter Budgeting / More Complex Financial Planning

Most institutions face increased financial pressure resulting from all or a combination of factors: decreased or capped government funding, frozen or legislated tuition fee levels, escalating cost increases, increased competition for fundraising dollars, the need to keep pace with rapidly changing technology, growing deferred maintenance backlogs, capital construction shortfalls, etc. As a result, more attention must be paid to the financial planning and budgeting process, which is integral to successful integrated planning. How do we begin to change the traditional approach to funding and delivering higher education to a more innovative solution?

### PLANNING THAT INCORPORATES RIGOROUS FINANCIAL MODELING

1. Institutions focus on balancing initiatives that generate resources with initiatives that advance the strategic plan; no longer can institutions focus on simply on what to do because the resources aren't there; how do we evaluate the tradeoffs and ensure we are balanced in mission and financial sustainability?

### FINANCIAL MANAGEMENT OF COMPETING PRIORITIES & SEARCH FOR ALTERNATIVE BUDGET MODELS

1. To respond to shrinking enrollments, higher education is launching new initiatives to attract/retain more students
2. Public institutions simply cannot compete with private sector salaries offered to faculty
3. With declining US state funding, more and larger diverse groups of people are brought into the discussion as institutions grapple with questions like, "Is this what we need? How do we get there? What's our alternative financing mechanism? Can we make this into a revenue generator? Can the student body pay for something?"
4. Public-private partnerships and donor projects funding building programs—not a new trend, but it's picking up steam

5. Responsibility Center Management (RCM) has garnered a lot of discussion among higher-education financial managers; the financial crisis reinforced the need to focus on improving efficiency and transparency while still maintaining quality education delivery, and providing a way to rally the academic leaders to improve efficiency; but there still may be some academic resistance to looking at programs in purely financial terms
6. How do we engage corporate America into working with higher education to underwrite important initiatives?
7. Many of us looking for better ways to manage resources, and a standard incremental budget model may be a way of the past
8. More institutions use sophisticated, non-traditional funding sources; this requires deeper understanding of the limitations and benefits of these sources, and better matching of source to the need; complex funding and accounting will become the norm, and tools and processes must be created or adapted to support this
9. Real estate development and monetization strategies become more sophisticated; real opportunities to leverage real estate to the institution's funding and goals

10. Some capital construction funds are released with support from voters, and legislatures approve work with private partners; campuses relishing the ability to get projects done without putting it on the backs of students
11. In responding to funding changes, higher education is scrambling to measure factors contributing to student success in an attempt to secure more money
12. Creative funding techniques: multi-institutional and public/private partnerships; funding continues to be a challenge for many institutions, and requires non-traditional and multi-stakeholder approaches
13. Small colleges are particularly seen as vulnerable; does a lack of suitable business models for small colleges going online put them in danger?
14. Personalized dashboards popping up everywhere as a means of planning and budgeting—access to the data you need when you need it, automated and delivered in a timely manner
15. Looking for revenue opportunities, institutions are expanding beyond traditional markets for classrooms and residential facilities, moving into high-end condos and other revenue-generating models (this also attracts and retains faculty, married students, international students, and visiting faculty)
16. Bottom line is that more considerations of physical planning impacts the bottom line of finance and education

## FUNDING DEFERRED MAINTENANCE CHALLENGES

1. Institutions are struggling with a load of deferred maintenance and inadequate facilities, and ways to prioritize and fund them; more of these physical deficiencies are mentioned on accreditation reports
2. Deferred maintenance is playing a major role in the decision to build new facilities or renovate older ones; costs associated with deferred maintenance will continue to grow and are impacting the ability to plan and provide state-of-art facilities; this has both teaching space as well as broader, campus-wide implications

## INCREASED NEED TO PRIORITIZE

1. Tightened budgets require institutional renewal in academic decision making; academics examine what indicators should be used to facilitate decision making, who should be involved, and how to approach it
2. While the economy continues to improve, college and university budgets are still taxed; administrators are under increased scrutiny and have to prove they spend their construction dollars wisely
3. Institutions try to create more effective academic and administrative program reviews and prioritization processes; Dickinson's methodology is time consuming and cumbersome, and our leadership would like to achieve the same successful results without the work

**OPPORTUNITIES FOR CONVERSATION**

1. What are the opportunities to create new funding sources?
2. Can potential donors and funders take an integrated approach beyond funding a single major or a college within a building to underwriting multiple majors and multiple colleges that are integrating their teaching and learning initiatives?
3. More information on alternative trends in budgeting, with case studies
4. More discussion on the fiscal aspects of campus and project planning; important for consultants to understand that the projects they are getting involved with typically have had a long life already
5. Examples of mergers, downsizing, survival of college brands/campuses in a global education market
6. Ways to bring private equity to institutional projects
7. Alternative financing and project delivery of campus development, including public/private partnerships
8. Increased focus on return on investment (ROI) and finding ways to measure impact on strategic priorities/dashboards (e.g. impact of a new recreation center on student retention and enrollment); current measurements are not specific enough.
9. More focus on financial planning, given the vulnerable and uncertain economy.
10. Public capital funding and capital investments of US states, in particular, are uncertain as we emerge from the Great Recession. SCUP might consider how its programming can best help members navigate this kind of uncertainty in their planning processes.
11. Effective methods for integrating planning with resource allocation/budgeting that demonstrates sound integrated planning, and stands up to scrutiny by accreditors

## Key Theme Area VII: Optimizing Existing Physical Resources

Institutions are giving their physical resources closer scrutiny for effectiveness and efficiency, with a growing emphasis on learning environments. There is a noticeable swing to focus on existing facilities and infrastructure in contrast to contemplation of physical growth and new construction. Reuse, reprogramming, repurposing, and renewed maintenance are becoming greater facets of master planning. Space utilization, especially for purposes of energy and dollars, is a growing concern across campus leadership.

### MANAGING AGING INFRASTRUCTURES (UTILITIES, ROADS, POWER, SEWER, COMMUNICATIONS)

1. Many campuses are landlocked, decreasing the ability to expand; thoughtful reuse of existing infrastructure will become more commonplace, especially with urban campuses
2. Fiber optics, power, and other essential support utilities being modified to support existing technology and energy savings requirements
3. Infrastructure planning extends beyond buildings; transportation, utilities, and IT play a vital role in campus operations and supporting the mission, especially in integrative systems
4. In addition to optimizing mechanical systems in new construction, campuses are now retroactively looking at systems in existing building systems, improving building systems (like HVAC) to prolong the life of their existing central plant
5. Big data is pervasive, requires big planning, and fundamentally changes the way a campus gets organized; new construction or remodels are allocating funds to upgrade the telecommunications infrastructure
6. New buildings that house big data require a much more integrative approach than traditional capital planning processes, along with investments in capital infrastructure; without careful planning,
7. Schools could end up designing old buildings for a new paradigm
8. Colleges and universities put in provisions to expand scope for new building projects to cover growing needs for campus data infrastructure; by incorporating the infrastructure upgrades into the campus master plan, campuses strategically phase the work; as a result, schools are able to provide a comprehensive upgrade without expending significant financial resources and causing major disruptions
9. Institutions optimizing existing space for better use through scheduling, flexibility, and sharing
10. Some campuses are finding that the emergency maintenance on their more modern buildings exceeds that of older structures
11. Old requirements that require parking and transportation to be self-sufficient worked many years ago when parking spaces were just pavement; now with the need for garages, significant transportation systems, sophisticated software, and new technology, making the drivers or bus riders pay for all the improvements is a more difficult prospect and even unrealistic on many campuses
12. More institutions are using electronic systems such as geographic information systems (GIS) mapping and building information modeling (BIM)

technologies to store land and building records, particularly during design

12. Projects are leaner with the advent of BIM, Revit (provides smoother design and construction process), and other new software tools, forcing us to be very deliberate in earlier design decisions

#### **ADAPTIVE REUSE (INCLUDES HISTORIC BUILDINGS)**

1. Increased focus on adaptive reuse of aged and historic buildings, along with the creative repurposing of white elephants—often involving architectural intervention to meld old and new to better serve shifted needs

#### **REUSE . . . REPROGRAMMING . . . REPURPOSING OF EXISTING BUILDINGS (NON-HISTORIC)**

1. Rather than building new, higher education campuses are reusing existing facilities and bringing them up to speed for modern applicability and space optimization; the design-side struggles to overhaul key infrastructures and address sustainability standards; everyone's trying to make the best with what they have
2. Increased focus on real estate asset management from an academic planning and curriculum standpoint, optimizing existing resources instead of building; there's deliberate alignment between the array of programmatic needs across campus and the best fit for repurposing of existing structures over time
3. Institutions renovating more often than tearing down or constructing new, with focus on reuse and adaptation of the existing space; the accompanying host of issues includes acoustics to vibration to air conditioning

4. Conversations have switched to what to do with modern buildings and readapting them (dilapidated, aging structures from the late '50s, early '60s are prime) as opposed to traditional heritage buildings; buildings of the '80s are nearing the end of their infrastructure's lifespan, too
5. New ways of teaching and learning and more active student engagement have thrown off some of the space standards; the desire for flexible space and new ways of learning require more and different kinds of space; it's a sea change from not having enough space to not having the right kind of space; planners are challenged with space that always needs updating
6. More transparency between academic endeavors has also translated to building design; more floor to ceiling windows and other types of transparencies are aimed to keep people engaged
7. Everyone's trying to find more space for the sciences; repurposing non-science buildings to science is one avenue many are exploring
8. Colleges struggling with how to house faculty in academic areas; are there other ways to reward them than a single office?
9. Student housing is buffing up from old to contemporary (pods, village communities, etc.) and reducing space per student to save money; also, interesting collaborations link student housing to senior housing in an ongoing learning initiative

#### **PROJECT DELIVERY (DESIGN/BUILD, DEVELOPER-BASED)**

1. More developer-driven projects now, with a general contractor as well as design team; more public-private partnership projects are going into the academic side versus the student life side (e.g. student housing)

2. A few land-rich campuses are working with developers for revenue-producing uses, whether it be in student life spaces or even classroom and office spaces
3. Construction managers used for a negotiated guaranteed maximum price vs. the design/bid/build model
4. Using third party resources—including expanded mixed-use facilities (public and university)
5. Technology is more easily designed into everything, from smartphones to desktop computers, but buildings continue to need bandwidth and electrical outlets

#### CHANGING APPROACH TO PHYSICAL MASTER PLANNING

1. Institutions are recognizing the need for the integration of campus and community in their master plans
2. The revitalization or transformation of buildings is an important part of today's master plans in order to retool to meet the needs of 21st century learners
3. Campus planners are more cognizant of the need to include the wide range of stakeholders, including faculty and students, in a dialogue about the future of the campus
4. Comprehensive master planning plays a large role in achieving results in capture and retention
5. Master planning is including more incremental steps and shorter time frames

#### MISCELLANEOUS BUILDING COMMENTS (ATHLETICS, HOUSING, LABS, ETC.)

1. For a new generation of students, there are new, open, technology-rich lab layouts, smaller wet lab components, larger shared lab components, and more shared spaces and collaboration spaces within and near the lab
2. Campuses are highlighting their unique qualities and strengths, reinforcing these with facilities that are unique to them; for example, student housing projects now focus on the culture of the campus, not on duplicating other institution's or private developer's standard solutions
3. Surge in the updating and expansion of athletic facilities on campuses; also a recruitment tool in a time when enrollments are going down
4. Campuses discovering new and visible ways of better integrating traditionally isolated and internal functional spaces (like computer labs)

#### MULTI-USE FACILITIES/SHARED SPACE/FLEXIBLE SPACE

1. To ensure multi-functional buildings, some institutions are going beyond tapping their own groups and researchers for input in design—they are using surrogates (from outside the campus) for input into space design—because the goal is to be so far reaching that they really don't know who's going to go into this new building, and they don't want to be limited by the input of their internal design perspectives
2. Planners are realizing that multiple-use buildings not only help a campus meet unmet needs, they also provide a richer social environment (examples: residence halls with rec centers, food services, and faculty living quarters; libraries with classrooms, and cyber cafes)

3. With many buildings being underutilized, right-sizing spaces (e.g., classrooms) is a growing trend
4. Flexibility as a critical aspect of designing and planning—there is an intent to future-proof a project, which sometimes leads to indecisiveness and/or an intentional sense of incompleteness

### SPACE UTILIZATION

1. Space utilization standards are becoming more important; old space standards from state and federal guidelines have not kept pace with the way we teach and the way students learn; staff are limited and bogged down by old regulations and space standards
2. As institutions start to think more about active learning spaces, the state standards (numbers are almost all based upon the '50s and '60s) need to be updated
3. ADA compliance a significant burden on public institutions at a time when budgets are being cut and enrollment is increasing, but students with disabilities comprise a significant portion of the student demographic, and designing spaces that accommodate their learning needs is critical to creating an inclusive environment

### OPPORTUNITIES FOR CONVERSATION

1. How do we manage our aging infrastructure? Shifting from how will we fund our backlog to what will we do given we don't have the resources, particularly in public institutions. Should we take buildings offline? Do we focus in particular areas?
2. How do we do business to support the different types of research building requirements; how do

- we plan for this and how do we invest in our old infrastructure? What is the opportunity cost?
3. Is there stasis and stagnation in the physical and facilities planning world? How do we move beyond being project oriented and reactive, and highly resistant to new ways of thinking or implementation?
  4. Renovating older teaching spaces—how can they be repurposed successfully?
  5. Need new ways and space standards to think about that old classroom; with smaller tables and flexible design for student working clusters, facilities require more space per student than in the past
  6. How do you reinvent obsolete science buildings; if the buildings were built in the '80's, the infrastructure's basically at the end of its life; would you invest or cut your losses?
  7. How to be good stewards to historic campuses and not only maintain, but make sure each capital effort enhances the campus
  8. There is a continuing need to educate multiple constituencies regarding project delivery methods; what are the options, and how do you analyze the best way to things done—P3, public-private partnership, bring in a developer?
  9. Professionals are still seeking tools and processes to assist in the management of schedule and costs of projects
  10. Insights into the merging of programming, instruction, student learning patterns, and design
  11. The way of delivering projects is changing, sources of funding are changing; what does it mean when a project is donor funded?
  12. Ways to keep a master plan current in an actively changing environment

13. Reuse of existing structures—creative ways to preserve important historical artifacts while simultaneously adapting them for contemporary uses
14. Infrastructure and the planning for systems beyond buildings; transportation and utilities and IT play a vital role in campus operations and supporting the mission, they need to included much more actively in physical and resource planning, along with planning for sustainability
15. More sophisticated modeling around space planning; more about complex space-allocation scenario models that are being developed and tested
16. More methodologies of planning without the previous presumption on many campuses of perpetual physical growth
17. More about space planning, metrics, and process for better utilizing facilities, including mobile technology use
18. Assessment of the relation of space design and learning is needed and there is little research disseminated about it
19. New ways to increase building flexibility
20. The blurred lines between life sciences/physical sciences; how does this factor into the repurposing obsolete science buildings?
21. What are ways to guide/manage user expectations?
22. The future of education 5 to 10 years out, and how it will impact physical construction

## Key Theme Area VIII: Environmental Sustainability

Sustainability is moving well beyond the LEED building to systems and institution-wide strategies. This is being driven by both environmental and financial stewardship. The breadth of AASHE's STARS (academics & research, operations, administration, and campus/public engagement) is both informing and reflecting this more comprehensive approach. One noticeable result of this is greater collaboration with the communities and regions surrounding the campuses.

### FULL INSTITUTION SUSTAINABILITY (BEYOND LEED TO AASHE'S STARS)

1. Sustainability/green building is assumed, and no longer a special focus
2. Campuses approach sustainability planning holistically (not just specific individual projects or buildings), staff seeking and using tools to take it to the next level and advance a culture of sustainability; makes economic sense—if not in the immediate future, in the long-term payback
3. Interesting new tone to sustainability conversations: it's no longer sustainability to do the right thing or to be a leader, it's sustainability as institutional survival; resource (water) consumption on campus, reduction of energy costs—without major changes for institutions in desert regions of the globe, the viability of the school is at stake.
4. Greater focus on sustainability as part of financial sustainability
5. More tracking and educating user behavior to reduce energy use and things like plug loads, which don't get as much attention; moving broadly beyond just energy efficient buildings
6. Institutions and partners are targeting operations for improved environmental sustainability, from curriculum and engaging building occupants to

reducing resource use and finding net-zero models to food service operations

### REGENERATIVE (NET ZERO AND BEYOND)

1. LEED is a baseline expectation in most institutions and the next logical step, regenerative design, is playing a more important role; can buildings realistically produce more energy/resources than they use?
2. On the campus level, there's a gathering storm to move off the grid and aim toward zero impact; regenerative design stretches beyond net zero to producing a self-sustaining environment, contributing to a sustainable community
3. Sustainability's still a relevant driver given limited economic resources and the reality that higher performance buildings are the key to healthier learning and working environments, and they need to be top priority for realizing savings in energy, water, and operations costs

### ENERGY REDUCTION

1. New thinking: build small and think big—how can you build the smallest new space for the most amount of uses, the longest time, and the least amount of energy?

2. Building efficiency and energy management are emerging as the key sustainability initiatives
  3. Sustainable building design seen as important, but pursuing LEED is not necessarily codependent; stringent baseline code requirements in some states bring buildings close to LEED silver certification already; owners may question the need to register and certify their buildings
  4. Ongoing challenges between implementing sophisticated building systems and equipment, with the physical plant staff capabilities to manage and maintain highly technical building systems; building performance is impacted
  5. Sustainable landscape and environmental treatment being more regionally and locally applied to address issues of stormwater retention, etc.; perhaps in reaction to more extreme weather patterns, and also in response to higher standards of green building
  6. Need to truly combine planning, architecture, landscape architecture, and engineering into a singular integrated solution for campus water management, education, and land use
- 
4. What institutional case studies would examine full institution sustainability; what are the challenges they face years after they have committed themselves to campus-wide sustainability initiatives?
  5. More on prioritizing risk in regard to potential climate change impacts; not only about flooding but the future effects of heat and disease vectors on students and faculty
  6. The next generation of how campuses are measuring and tailoring principles and investments to influence learning and operations
  7. Planners struggle with the balance between conservation/energy reduction and anticipating the future needs for air and energy in buildings; what future equipment might go into a space—do you add outlets or make a more conservative projection of energy load needs?
  8. Challenge in raising funds for renewal, not a natural donor desire
  9. Discussion about coordination, integration, and sometimes conflicting needs of architecture/engineering/sustainability and safety within the lab settings
  10. Building skill sets of design professionals to help clients navigate through an environment of dwindling funding, changing expectations among their students, changes in the nature of learning, accelerated use of technology, and demand for new ways to engage information
  11. Examples of deliberation/decision making on maintenance/construction of buildings compared to mobile learning

#### **OPPORTUNITIES FOR CONVERSATION**

1. Ways to provide resources and education to colleges and university campuses about sustainability strategies that can eliminate the need to rebuild
2. What are the benchmarks, the guidelines for reducing energy in science buildings; they're the biggest energy hogs
3. Building resilience or adapting to climate change with sustainability; how do we raise our institutions to either recover from a disaster, or even just the changes that we'll see over time in our various areas with climate change?

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