Next generation learning environments that inspire learning and discovery

2006 WISCAPE Conference

Higher Education Today and Tomorrow
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Introduction

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Higher Education: Today and Tomorrow

1. Higher Education *Today*
2. Signs of the Times
   - Demographics
   - Globalization
   - Information Technology
   - Key Trends
   - Changes to Curriculum
3. Today and Tomorrow
   - Future in Higher Education
   - Changes to the Institution
   - Future of Physical Environment
4. Campus and Community
5. Project Example
Higher Education: Today

Students of 2006:
Live 24/7 Lifestyle
- Retail Savvy
- Techno Natives
- Expect User-friendly Everything
- On the Run / One-stop or No-stop Service
- Multi-tasking / Multi-media
- No Traditional Meal Periods

Instant & Constant Communication
- Across the World vs. Across the Hall
- Want Information Now
- Seeking Balance thru Activities
- Seeking Community, Involvement & Leadership Opportunities
Higher Education: Today

Today’s students…

- The Soviet Union has never existed.
- They have grown up getting lost in "big boxes."
- "Google" has always been a verb.
- “Madden” has always been a game, not a Superbowl-winning coach.
- They have rarely mailed anything using a stamp.
- They have always preferred going out in groups as opposed to dating.
- There has always been a pyramid in front of the Louvre in Paris.
Higher Education: Today

Today’s students…

- Acura, Lexus, and Infiniti have always been luxury cars of choice.
- Professional athletes have always competed in the Olympics.
- They don't remember when "cut and paste" involved scissors.
- Starbucks has always been around the corner.
- Michael Jackson has always been bad, and greed has always been good.
Higher Education: Today

Will this work?!?
Higher Education : Today

...For this guy?!?
Higher Education: Today

What does the next generation college student look like today?

Let’s look at the class of 2025.....
2. Signs of the Times
Signs of the Times

US Population

1985: 240m

Global Population

1985: 4.8b

US Median Age

1985: 29.2
Signs of the Times

**US Population**
- 1985: 240m
- 2005: 280m

**Global Population**
- 1985: 4.8b
- 2005: 6.5b

**US Median Age**
- 1985: 28.2
- 2005: 35.3
Signs of the Times

US Population
- 1985: 240m
- 2005: 280m
- 2025: 340m

Global Population
- 1985: 4.8b
- 2005: 6.5b
- 2025: 8.0b

US Median Age
- 1985: 29.2
- 2005: 35.3
- 2025: 38.0

[Graph showing population growth and age distribution]
Demographics

Demand for Access to HE

- High School Graduates:
  - 1980  56%,
  - 2005  67%

- High School Class Growth:
  - 20%  1996 - 2005
  - 16%  2006 - 2015

- Higher Education Faculty Growth
  - 16% by 2015

- Average 4-year degree
  - 5+ years

- More students with families


Demographics

Age:
- US by 2010:
  - 43% of Adults > age 50
  - 50% HE students > age 21
- Adult Education Programs:
  - 1995: 76 million
  - 2005: 103 million

HE Faculty:
- 20% will retire by 2010
- New Talent
- Increased IT demands

American Demographics, 2001 / National Center for Education Statistics
Signs of the Times

Globalization

Economic Impact:

World’s largest 100 economies:

- 49 are countries
- 51 are multi-national corporations


Organizational Downsizing

- Outsourcing / Off-shoring
- Virtual Companies
- Constant Need for Retraining
- 75% of workforce will need retraining just to stay qualified
- Job-hopping / Career-hopping

American Society for Training and Development; Marklein, “Colleges Not Prepared to Serve Older Learners”, USA Today, 11.17.97

Signs of the Times

Information Technology
The Techno-native Generation
Combined forces redefine HE
- Universal accessibility
- Social Computing
  - Virtual collaboration vs. face-to-face meetings
  - Working at distance, online conferences, etc.

Separation of knowledge from the institution
Information Technology

The Techno-native Generation

- Internet Allows Educators
  - Center learning around student
  - Use authentic data (real experience)
  - Focus on strengths of individuals
  - Make lifelong learning a reality

- The Bookless Campus
  - E-libraries
  - 24 / 7 Reference Desks

- Flexible Calendars
  - University of Phoenix
    - Begins classes every two weeks

Signs of the Times

Key Trends:

Knowledge Creation & Social Computing Tools
- Collaboration at a distance
- Attending online conference
- Contribute to a project wiki

Mobile & Personal Technology
- Delivery platforms
  - Cell phones, mp3, PDA's
- Personal Broadcasting
  - Podcasting, vlogging, blogging

Expectation of Individualized Services & Experiences
- Personalized content & services

Collaboration Seen as Critical
- Intra & Inter-institutional activities

Signs of the Times

- Rio Salado College (AZ) 2001:
  - Continuous Enrollment
  - Classes begin every two weeks

- University of Illinois on Line:
  - Established to compete with online Universities
  - Cisco's in-house training
  - $1800 v. $120 / worker on-line
  - "Virtual Classroom is the Future" Sunday Times, April 29, 2001

- Brigham Young University 2005:
  - Online courses for on-campus freshman
  - "Corporate training and distance learning will wipe out many of the 700 MBA programs that issue 100,000 MBA’s each year”
  - D. Jones, Dean of University of Chicago School of Business (USA Today, May 23, 2000)

Projected Timeline

USF Issues

Changes in Curriculum
Changes to Curriculum

Deconstruction of Traditional Patterns
- Epistemological
  - Taking apart subject matter
- Chronological
  - Taking apart 4-year programs
- Topographical
  - Taking apart of single university model

Modularization of curriculum
- "A Credit Culture"
- Education as a "Kit of Parts"
- More student-oriented
  - Assemble custom degree programs
  - Ease of transferability
  - Respond to needs of business

Changes to Curriculum

Key Skills Movement: AKA.
- Transferable Skills
- Cross-curricular Skills
- Core Skills

All studies focus on:
- Problem Solving
- Critical Thinking
- Communications
- Information Technology
- Collaboration / Team work

Societal needs v. Individual needs
- Economic development / Liberal arts
- Best delivery methods?
- Knowing “that” v. Knowing “how”

3. Today and Tomorrow
Today and Tomorrow

Past Paradigm:
- Higher Education
  - Teacher directed
  - Class / common age
- Measurement: *(input based)*
  - Credit hours / Seat time
  - Grades / testing
  - Time as constant / learning as variable
  - Degrees / class rank
  - Academic calendar
- Term: Tightly Defined
  - Semester / Quarters
- Knowledge
  - Owned by institution

Future Paradigm:
- Higher Education
  - Learner directed
  - Ability / Multi-age group
- Measurement: *(outcome based)*
  - Competency / performance
  - Outcomes / demonstration
  - Learning as constant / time as variable
  - Competencies / skills
  - Lifelong learning
- Term: Wide Open
  - 24 / 7 / 365
- Knowledge
  - Accessible to everyone

Today and Tomorrow

Past Paradigm:
- Instructor:
  - Lecture *(stand and deliver)*
  - Content Provider
  - Lecture based / large groups
- Faculty Role: Actor
  - Professors
  - Tenure at institution
  - Lecturer
- Student Role:
  - Empty Vessel / Sponge
  - Subordinates / Individuals
  - Labs
- Brand Identity
  - Prestige of institution

Future Paradigm:
- Instructors:
  - Projects *(hybrid)*
  - Designer of learning experience
  - Self directed / individualized
- Faculty Role: Director
  - Targeted Specialists
  - Independent professional
  - Facilitator
- Student Role:
  - Knowledge Creator
  - Junior Colleagues / Teams
  - Apprenticeships
- Brand Identity
  - Fame of instructors

## Today and Tomorrow

### Past Paradigm:
- **Facilities:**
  - “Brick” universities
  - Formal lecture halls
- **Technology:** Tool
- **Libraries:**
  - Stacks / Books
  - State Funded
  - Defined campuses
- **Education Providers:**
  - Traditional colleges & universities
  - Non-profits

### Future Paradigm:
- **Facilities:**
  - “Click” universities
  - Flexible learning environments
- **Technology:** Enabler
- **Libraries:**
  - Starbucks / Laptops
  - Enterprises
- **Education Providers:**
  - Companies, libraries, museums, etc.
  - For-profits
  - New brand names & hierarchy
  - Mobility / transfers

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## Today and Tomorrow

<table>
<thead>
<tr>
<th>Past Paradigm:</th>
<th>Future Paradigm:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standards</td>
<td>Standards</td>
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<tr>
<td>Recognized degrees</td>
<td>Educational passport</td>
</tr>
<tr>
<td>Accreditation agencies</td>
<td>Government bureaus</td>
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<tr>
<td>Money</td>
<td>Money</td>
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<tr>
<td>Government to institution</td>
<td>Government to students</td>
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<tr>
<td>Academic freedom</td>
<td>Market driven</td>
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<tr>
<td>Curriculum</td>
<td>Curriculum</td>
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<tr>
<td>Transmission of knowledge</td>
<td>Support distillation, analysis, ordering and manipulation</td>
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<td>Linear pattern</td>
<td>Layering of content</td>
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<tr>
<td>Book-based delivery</td>
<td>Multi-media formats</td>
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<td></td>
<td>Customized by individual learners</td>
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Future in Higher Education
Future in Higher Education

Campus & Academic Life
Blending of programs
- Academic
- Recreation / Wellness
- Student Services
- Housing

Variety of activities:
- Study
- Work
- Play

On-line communities
- Myspace.com / facebook.com
- Open access wiki

Personal relationships through co-curricular activities

Future in Higher Education

Campus & Academic Life

More flexibility
- Drawing range of people to one space
One size will NOT fit all
- “Shotgun” v. “Rifle”
- Targeted subgroups
Imitate post-college life-style
Support students with life skills
- Time management
- Leadership / Service opportunities
Engagement through Activities
- Face-to-face Interaction
Changes to the Institution
Changes to the Institution

Campus Environment:
- Mix of “Brick” and “Click”
- Identity of the place
  - Multiple campuses
  - Distance learning / Franchising
  - Extending HE into life / work
  - Work-based learning / retraining
  - Work place as laboratory
- Universal access
  - Face-to-face contact “optional”
  - Trips to library “rare”
  - Universal access
  - Irrelevance of distance

Changes to the Institution

Campus Environment:
- Identity of time
  - Undefined academic year
  - 9:00am – 5:00pm?
  - Weekend seminars / Year-round sections
- Identity of scholar community
  - Multiple sites
  - Part-time / short-term / specialized staff
  - Public / private partnerships
  - Global connections
  - Independent faculty
- Identity of student community
  - Larger, non-resident, and more diffuse

Changes to the Institution

Being Sustainable
Net-positive Environmental Impact
- Energy generators
- Water purifiers
- Environmentally neutral
- Cradle to cradle
- Construction Methods

Quality of Life
- Higher quality spaces & healthier environments
- Individual controls
- Daylight
- Organic foods
- Fitness lifestyle
Changes to the Institution

Operational Issues:

Sustainable Design Impact:
- Central Plant vs. Dispersed systems
- Disposal vs. Recycling
- Capital Cost vs. Operational Costs
- Facility Focus vs. Quality of Life
- Individual Buildings vs. Ecosystems

Finance Impact:
- State funding vs. University as Enterprise
- Student Fees vs. Self-generation of Revenue
- Tuition Funding vs. Research
Future of the Physical Environment
Future of the Physical Environment

Campus Facilities:

Living Learning
- Student life & academic life united
- Dispersing social support spaces
  - Food services
  - Student services
  - Recreation / Fitness
- Smaller “Communities”

Campus & Community
- Separate vs. Connection
- University as Steward of Regional Economies
Future of the Physical Environment

Campus Facilities:
- Idea incubators
  - Multi-function
  - “Branded” image
    - Recruiting & retention
    - Contribute to a sense of place
  - Promote Enterprise
    - Creative income sources
    - Self-generation of revenues
Future of the Physical Environment

Campus Facilities:
Merging of Programs and Needs
- Libraries and Classroom
- Unions / Recreation / Wellness Centers
- Integrated Living / Learning Centers
- Senior / Retirement Housing
- Condominiums Housing
- Non / Multi-disciplinary Facilities
- Unions and Libraries
- Retail and Academic Complexes
Future of the Physical Environment

Campus Facilities:
- Campus Focus vs. Community Focus
- Bigger vs. Better
- Individual Facilities vs. Hybrids
- Ballrooms vs. Smaller Meeting
- Lecture Halls vs. Flexible Learning Environments
- Computer Labs vs. Wi-fi
- Study Carrels vs. Group Study Rooms
Future of the Physical Environment

Link Facilities & Strategic Plans

- Reinforce Brand Message and Identity
- Enhance Recruitment and Retention
- Support New Initiatives
- Enable Administrative Restructuring
- Encourage Community Interaction and Support
- Support Outreach Activities
Future of the Physical Environment

Plan for change

- Planning parameters change
- Space needs change 20-25% as mission/vision evolves
- Space utilization changes
- Information technology investments require timing evaluation

Our research indicates a 20% change in space use within a 5 year period
Future of the Physical Environment

What won’t change…

- Welcoming & comfortable feel
- Traditional campus “place”
- Individualized services
- Places to “chill”
- Casual interaction
- Home away from home
- Residential colleges as a half-way house between childhood and adulthood

Rich Steele, Director of Campus Center, Georgia Tech

- Bricks and mortar expression of how we treat our students

Carolyn Farley, Director of University Center, UNC Wilmington
Campus and the Community

Traditional Pattern:
- Campus with Edges
- Facilities by Discipline
- One Size Fit All
- Structured Hierarchical
- Town v. Gown
Campus and the Community

Traditional Expansion:
Campus Pushing to the Edge
Facilities for Collaboration
Acknowledge the Community
Less Structured
Non-hierarchical
Town meets Gown
Campus and the Community

Future Expansion:

Community Joining Campus
Campus Outreaching to Community

Town = Gown

The edges are blurring…..
Campus and the Community

Common Motivations

Economic Viability
- A: Support Academic Mission
- B: Enhanced Revenues

Leadership Development
- A: Quality Teaching / Research
- B: Stability and Profit

Brand Identity
- A: Recruitment and Endowment
- B: Market Share and Image

Client Management
- A: Students and patrons
- B: Customers and investors

Success: *Intellectual development, prestige, economic stability, societal contribution*
Campus and the Community

Characteristics

A - Core Buildings (Intellect)
- Learning Environments
- Interdisciplinary and Modular
- Adaptable (not just flexible)
- Non-Assigned
- Non-Specialized Programs
- Academic and Social

B - Edge Buildings (Enterprise)
- Revenue Generators
- Linking Academics & Economics
- Adaptable, Modular, Interdisciplinary
- Academic, Social, Research
- Access to Intellectual Capital
5. Project Example
Stanford University – Clark Center

Programmatic Contents

- 245,000 GSF Learning and Research Facility
- Link between Campuses
Stanford University – Clark Center

Programmatic Contents

- Multiple ‘Tenants’
  - School of Humanities
  - School of Sciences
  - School of Engineering
  - School of Medicine
- ‘Ad hoc’ space assignments
Stanford University – Clark Center

Programmatic Contents

- Cross Disciplinary Teaching and Research
- Strategically placed shared resource areas
Stanford University – Clark Center

Programmatic Contents
- Wet and Dry Spaces
- Classrooms
- Coffee Bars / Social Spaces
Stanford University – Clark Center

Programmatic Contents

- Strategically placed interaction areas
- Restaurants
- Outdoor Instructional Spaces
University of Kentucky – Student Center

Programmatic Contents
- Campus & Community Access
- Restaurants
- Retail
- Fitness
- Entertainment
- Wellness Center
- Drive-thru Student Services
- University Hotel
University of Kentucky – Student Center

Programmatic Contents
- Campus & Community Access
  - Restaurants
  - Retail
  - Fitness
  - Entertainment
- Wellness Center
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- University Hotel
University of Kentucky – Student Center

Programmatic Contents
- Linkage between
- Lexington College Town Plan
- UK Campus Plan
- Programs serve campus & community
- Campus Entry
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Panel Discussion
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