CAMPUS DESIGNS FOR THE FUTURE

Maree Conway
ITPNZ Conference, Wellington, New Zealand
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UP FRONT…A DISCLAIMER

- I am not an architect.
- I do not work, and never have worked, in a facilities or buildings department.
- I know very little about the principles that underpin the design of university campuses.

SO, WHAT AM I DOING HERE?

- 25+ years in colleges of advanced education, TAFE institutes and universities in Australia.
- Range of administration and management jobs, and loved them all.
- 1999: the Vice-Chancellor said to me: "we want you to do foresight", a phrase which triggered a major – and exciting - shift in career focus for me.
- 2005: focus on integrating futures approaches into strategy development.

FOCUS

- Focus for this presentation is students, not the institution as part of a community, nor the staff who inhabit campuses, nor the buildings or surrounds.

- Our institutions serve a number of purposes, and our campuses can often be significant elements in the communities where we are located.

- But, my focus is on the interrelationship between campuses and student learning.

NOW

- Exploring some of the major drivers of change into the future and how they will impact on campus design.
- In the workshop this afternoon, developing your ideas about what needs to be considered when thinking about the campus designs for the future.
- Lots of questions, no answers, and maybe some challenges.

THE ITPNZ CONFERENCE 2005

…debate…the ways in which we can design our own response to the future in a global education environment.

Linda Sissons
President
ITP New Zealand
Conference Brochure 2005

BRAVE WORDS!

- Designing your own response to the future infers:
  - challenging unstated assumptions about the future – yours, and your institution’s,
  - challenging the status quo, and
  - thinking differently.
- I applaud you….if you are serious!

BRAVE WORDS!

- It is easy to pay lip service to the future.
- We all think about the future every day.
- The challenge, in an institutional sense, is to develop processes that shift that **individual**, and often **unconscious**, thinking to **collective** and **conscious thinking**.

BRAVE WORDS!

- But … there are no future facts.

- We cannot 'know' about the future in the same way that we 'know' what happened in the past, and we 'know' what is happening in the present.

BRAVE WORDS!

- However…

- Our experience of the past and the present is conditioned by a range of factors that combine to condition how we:

  - see and interpret the world, in order to
  - make sense and meaning of the world, so that
  - we can continue to operate effectively in that world.

- We therefore need to understand our 'worldviews' before we start thinking about, and interpreting, the future.

BRAVE WORDS!

- There is always more than one future.
- The future is not **pre-determined** – we have alternatives.
- The future is not **predictable** – we have choices.
- The future **can be influenced** – there are consequences of our choices and action today and, hence, we have a responsibility to act wisely.

BRAVE WORDS!

- If you want to seriously design your own future, you will need to:
  - be willing and open to having your worldviews challenged,
  - develop overt processes in your institutions to let you think systematically about the future:
    - in the same way that we all now think systematically about the past and the present…and data!
  - and, perhaps most importantly, you must be willing to take the perspective of future generations.

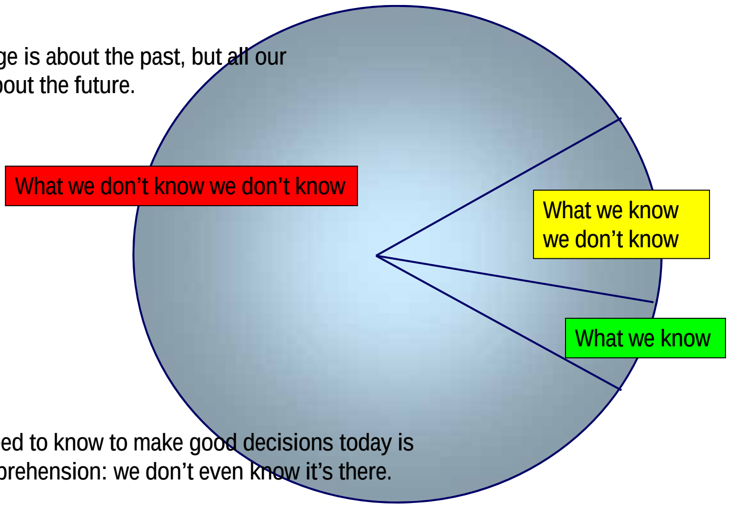
A MESSAGE FROM FUTURE GENERATIONS…

- You are alive at a **pivotal moment** in humanity's development. You are making some of the **most important choices** in human history. Your era is marked by positive and negative potentials of such newness and magnitude that **you can hardly understand** them. Through your public policies and daily lives, the people of your era have **tremendous power** to influence the future course of **humanity's story**. We strongly care about your choices, of course, since we benefit or suffer from them quite directly. We live downstream from you in time; **whatever you put into the stream flows on to our era**.

Allen Tough, A Message from Future Generations,
http://www.wfs.org/fgtough2.htm

WHY THINK ABOUT THE FUTURE?

All our knowledge is about the past, but all our decisions are about the future.



Most of what we need to know to make good decisions today is outside our comprehension: we don't even know it's there.

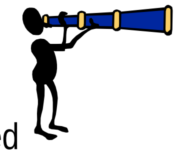
WHY THINK ABOUT THE FUTURE?

- "Inventions have long since reached their limit, and I see no hope for future development": Roman engineer Sextus Julius Frontinus, 1st Century AD
- "Heavier than air flying machines are not possible": Lord Kelvin, President of the Royal Society, 1895
- "Space flight is hokum": Astronomer Royal, 1956
- "Stocks have reached what looks like a permanently high plateau": Irving Fisher, Professor of Economics, Yale University, 1929
- "We don't like their sound, and guitar music is on the way out": Decca Recording Co. rejecting *The Beatles*, 1962.

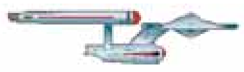
WHY THINK ABOUT THE FUTURE?

- "640K [of RAM] ought to be enough for anybody": Bill Gates, 1981
- "There is no reason anyone would want a computer in their home": Ken Olson, founder of Digital Equipment, 1977
- "I think there is a world market for maybe 5 computers": Thomas Watson, Chairman of IBM, 1943
- "The fact that conflicts with other countries [producing civilian casualties] have been conducted away from the U.S. homeland can be considered one of the more fortunate aspects of the American experience": Quadrennial Defense Review (QDR) for the US Dept of Defence, 2001

TYPES OF FUTURES



Potential – all futures, imagined or not yet imagined



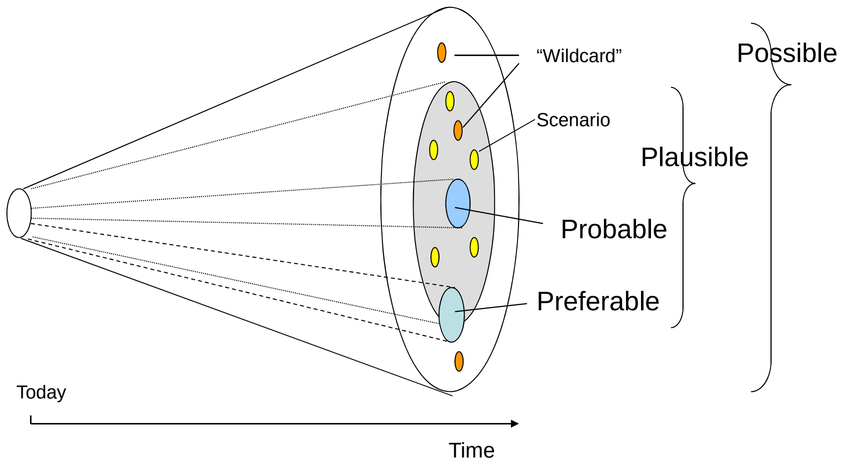
- Possible - “might” happen (future knowledge)

- Plausible – “could” happen (current knowledge)

- Probable - “likely to” happen (current trends)

- Preferable - “want to” happen (value judgements)

TYPES OF FUTURES

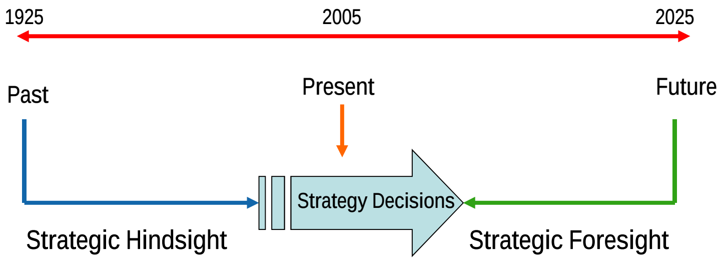


FUTURES TIME

- *Near Term Future* - Up to one year from now
- *Short Term Future* – 1-5 years from now
- *Mid-Term Future* - 5 - 20 years from now
- *Long Range Future* - 20 - 50 years from now
- *Far Future* - 50 plus years from now

BUT…

FUTURES TIME AND PLANNING



Strategy development needs to be designed to take advantage of the benefits of both hindsight and foresight.

CAMPUSES TODAY

CAMPUSES IN THE FUTURE?

- …higher education administration will become less the management of campuses … and will become more the management of the electronic distribution of knowledge to individual destinations, however remote.

Levin, cited in
Clark Kerr, Uses of the University (5th edition, 2001).

CAMPUSES IN THE FUTURE?

- And Kerr suggests that:
- “the further integration of higher education into … markets and into industry [will result in] the disintegration of the once self-contained campus”.

Clark Kerr, Uses of the University (5th edition, 2001, p 227)

CONSIDER THEN, THAT…

- A campus is wherever a student is…

BUT, KERR ALSO SAYS:

- The student is driven into the wilderness..

SO...

- There are two prevailing views about campuses in the future:
  - you need physical campuses for learning to occur,
  - or you don't?

TWO UNDERPINNING ASSUMPTIONS?

- Campuses are, primarily, physical in nature.
- Technology that supports learning delivery is a key element of campus design.

AN ITPNZ ASSUMPTION?

- “The system should be driven by student demand; student choice should be maximised.”

http://www.itpnz.ac.nz/position_statements/position1/frame.htm

AN ITPNZ ASSUMPTION?

•Are we, on 4 November 2005, in a position to know, **with any certainty**, what student demand and student choice will be like in 2025?

•If we are, then we are extraordinary human beings…

•If we are not, then we need to learn as much about what the future **MIGHT** bring as we can – **BEFORE** we make any decisions about campus design to take account of student demand and choice.

THE CAMPUS OF THE FUTURE

•An Historic Event
in Higher Education
is Happening in
Hawai‘i in 2006!!

THE CAMPUS OF THE FUTURE

- Provide an opportunity to explore a vision of the trends, challenges, and advancements anticipated for the Campus of the Future.
- A Futures Panel will kick off the program with an interactive overview of key trends and issues driving society and higher education. Join these exceptional panelists in charting the future course of your institution and clients.

THE CAMPUS OF THE FUTURE

- Some session tracks:
  - Stanford 2010
  - Blurring the Boundaries: Hybrid Academic and Commercial Spaces
  - Innovations in Teaching and Learning for the 21st Century
  - Net Gen Students and Learning Spaces
  - Using Building Design to Change Learning Paradigms
  - Designing a 2015 Sustainability Plan – is it possible?
  - Envisioning the Sustainable Campus
  - Forecasting Trends in Student Life and Student Technology
  - The Future of Learning: Foresight in 2015
  - Multimedia Technology and the Campus of the Future

DESIGNING THE CAMPUS OF TOMORROW

- "The program will look at design contributions of the past and looming physical challenges of the future for institutions of higher learning."

UC Berkeley, 2000

DESIGNING THE CAMPUS OF TOMORROW

- An ideal campus accommodates and embodies its university's academic mission and values, and provides a stimulating place to study, work and interact, and to enjoy a remarkable time in one's life.

Harvard University, June 2005

DESIGNING THE CAMPUS OF TOMORROW

- The architecture and spatial organization of an institution must facilitate the teaching and research enterprise, portray the institution's academic mission, and enhance the quality of life on campus.

Harvard University, June 2005

CAMPUS MASTER PLANNING

- Future development should capitalize on our spectacular lakefront setting and wonderful natural areas while preserving and enhancing those environments for future generations.

University of Wisconsin-Madison, 2005

BUT, WHAT IF?

- The campus of tomorrow is virtual?

AH...YOU SAY...BAH HUMBUG!

- That won't happen!!
- We will always need physical campuses.
- But … have you asked the learners of tomorrow what they prefer?

BECAUSE…

- Are not campuses primarily designed to facilitate learning?
- "It's about the learning (stupid), not the physical space or the technology" (quote from participant at SCUP workshop, 2004).

THINKING OUTRAGEOUSLY…

- We need to engage in outrageous thinking about learning environments. Now, I realize that outrageous means exceeding all bounds of reasonableness; it means something shocking. However, I think that we need to deal with concepts of space and education that are indeed shocking. We need to realize that reasonableness is defined by present context. We further need to realize that what is unreasonableness today may be very reasonable in the 21st century and it is for the 21st century that we are contemplating education space.

Hunkins, Reinventing Learning Spaces, 1994
http://www.newhorizons.org/strategies/learning_environments/hunkins.html

SOME RESEARCH…

- Declining support for compulsory campus-based experience for most students (Sperling, 2000).

SOME RESEARCH…

- Rise of the virtual university – the theme for the last decade has been globalise or die, the theme for the future of universities will be: virtualise or disappear (Inayataullah, 1999).

SOME RESEARCH…

- Learning commons – the future will be modelled by user demands and driven by technology (McWhinnie, 2003).

SOME RESEARCH…

- Educational Delivery via Gaming
  - Combining content with video games and computer games to more successfully engage the new generations in learning
    - Marc Prensky: www.marcprensky.com
- Twitch speed
  - Multi-tasking
  - Short attention spans – brains have been trained to work in this way.

BUT…

- Technical developments over the past few years have opened up new possibilities and changes in social and learning behaviours. This does not necessarily indicate dramatic change. Technical possibilities for the revolution of tertiary education have been available for decades but most accredited programs operate more or less traditionally.

Ling, 2004

WHAT IS NOW MAINSTREAM…

- Widespread use of data projection in presentations.
- Support of face-to-face teaching with online learning materials, online commercial learning materials, and the of online communications for group and student-teacher interaction.
- Audio-visual and online optional alternatives to face-to-face attendance.
- Electronic library services.
- Rise of problem-based and syndicate-based learning in some discipline areas.

ACTIVECAMPUS PROJECT, UNIVERSITY OF SAN DIEGO

- ActiveClass uses PDAs in the classroom to enable collaboration between students and professors by serving as a moderator for interaction in the classroom. Students can ask questions anonymously and vote on the relative importance of other's questions using their PDAs. This enables the instructor to focus on the greatest interest and instructional needs of the class as a whole. ActiveCampus Explorer helps students engage in campus life by using their location on campus to provide information to their PDA.

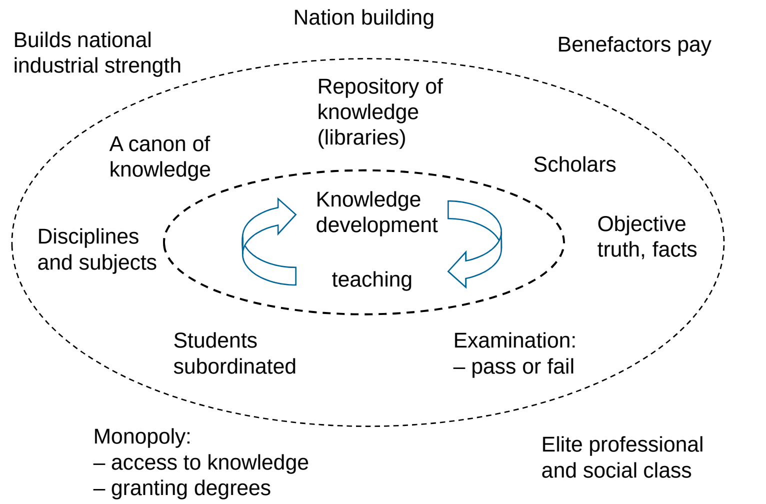
http://activecampus.ucsd.edu/

ACTIVECAMPUS PROJECT, UNIVERSITY OF SAN DIEGO

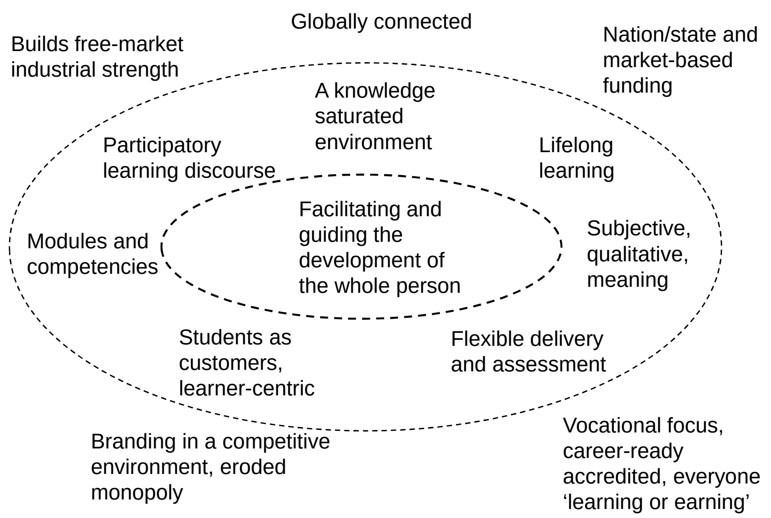
- The ActiveCampus project is in high gear this quarter, and has quite a few new things to present! ActiveCampus now does ICQ, AIM, MSN, Yahoo, and Jabber instant messenging, so you can stay in touch with your friends from ActiveCampus on your PDA all over campus. You can also now use native instant messenging clients like Exodus to connect to ActiveCampus! There's even a SOAP layer so you can write your own location-aware applications against ActiveCampus.

http://activecampus.ucsd.edu/

THE INDUSTRIAL-ERA UNIVERSITY



THE EMERGING LEARNING MODEL



CHANGING LEARNING DELIVERY

- eLearning
  - where we are now
  - teachers have control of use of technology, and therefore its effectiveness for learning (Finn and Vanderham, 2004).

- mLearning
  - technology converging on the mobile phone and PDAs
  - students will have control of the use of technology and its effectiveness for learning

  - www.m-learning.org
    - **m-learning** is mobile learning: using mobile technologies (such as mobile phones and hand-held computers) to enhance the learning process…the feedback received from learners and tutors involved has shown that m-learning is a success.

CHANGING LEARNING DELIVERY

- Stanford on iTunes – podcasting – http://itunes.standford.edu.

- Downloads of faculty lectures, campus events, performances, book readings, music recorded by Stanford students and even podcasts of Stanford football games, eventually available to public.
- Controlled-access website for students to download course materials - course lectures and other audio content and, eventually, video content (when video iPod becomes available).
- Impact of video lectures on actual lecture attendance will be monitored closely.

GENERATIONAL CHANGES

- These developments and thinking reflect our response to changes in our world in the early 21^{st} century.
- Those who will enter our institutions in 2025 are probably around 4 or 5 years old now, and are members of what some people call the "FERAL" generation.
- How will they want to learn in 2025? How will their learning preferences influence campus designs?
- What developments do we need to put in place in 2005 to be able to meet their learning needs in 2025?

GENERATIONAL CHANGES

- We are designing campuses for future generations of learners.
- We need to imagine their needs, their technology, their preferences.

GENERATIONAL CHANGES

Baby Boomers	1946 – 1964	Digital Immigrants
Generation X	1965 – 1981	
Generation Y Millennials, Dot Coms Net Gen	1982 – 2000	Digital Natives Father: Google Mother: IM
Generation Z Ferals	2001 –	

Conventional Speed → TWITCH SPEED

Step-by-Step → RANDOM ACCESS

Linear Processing → PARALLEL PROCESSING

Text First → GRAPHICS First

Work-Oriented → PLAY-ORIENTED

Stand-Alone → CONNECTED

Our Digital Natives e-Life

Communicating
email, IM, chat

Sharing
Blogs, webcams

Buying & Selling
ebay, papers

Exchanging
music, movies, humor

Creating
sites, avatars, mods

Meeting
3D chat rooms, dating

Collecting
mp3, video, sensor data

Coordinating
Projects, workgroups, MMORPGs

Evaluating
Reputation systems– Epinions, Amazon, Slashdot

Gaming
Solo, 1-on-1, small & large groups

Learning
About stuff that interests them

Evolving
Peripheral, emergent behaviors

Searching
Info, connections, people

Analyzing
SETI, drug molecules

Reporting
Moblogs, photos

Programming
Open systems, mods search

Socializing
Learning social behavior, influence

Growing Up
Exploring, transgressing

DIGITAL NATIVES 2nd

I arrived home from the university last December to meet a sullen, unresponsive teenage boy: my brother. As I watched him plant himself in front of the computer each night and rush, in between chores, to "check his buddy list," I couldn't help but pull rank. "You know, in my day, we used to call our friends over winter break. And we had to actually have our friends over to play games; we couldn't just do it on the Internet," I said. He rolled his eyes. "Right, right, I know. And your cell phones only made phone calls." Suddenly, I felt quite old.

The truth is, I haven't called a friend just to chat since my freshman year. But the technology that revolutionized my university experience has transformed my younger brother's middle and high school experience. The technology that captivated my imagination as a teenager is a "fossil" in his eyes.

The next generation of learners will raise only more questions on college and university campuses. Their lives will be that much more reliant on technology, their attention spans that much shorter. They will have little concept of checkbooks and scant recollection of landline telephones. Their needs and their values will require a reevaluation of the concepts noted here.

By the time this next generation arrives on campus, the Net Generation will be relics: members of the first generation of Internet youth, students who attended college when the Web was still new, page loading was still slow, and landline telephones were still in use.

Father Google and Mother IM: Confessions of a Net Gen Learner, EDUCAUSE r e v i e w September/October 2005

XAVIER UNIVERSITY

- The university is forming a 10-year plan that will change the way it educates its students and reshape those old baby boomer buildings.
- It calls for more space where students, faculty and the community can work together, and it also provides for updated technology. It's all to help better serve the millennials, who have begun to dominate college campuses in the last year or two.

http://news.enquirer.com/apps/pbcs.dll/article?AID=/20050222/NEWS0102/502220343/1058/NEWS01

SO …

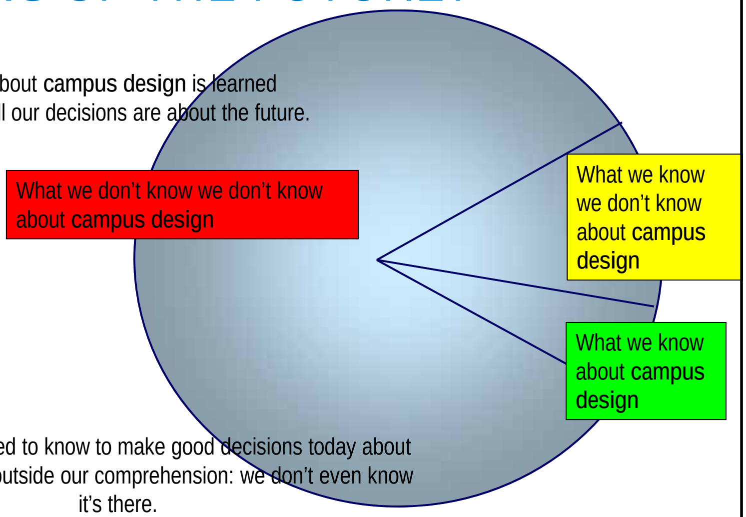
- What will the ferals expect of their campuses? Will they expect a campus at all?
- And, how can campuses be designed now that will suit their needs, rather than waiting until they are on the doorstep?

CAMPUS DESIGNS OF THE FUTURE

- There is a step before the design of campuses happens…to take the perspective of future generations of students.
- Involve students in campus design, maybe students who are still in high school?
- None of this is probably new, but we need to pay more than lip service to the future.
- How can we integrate thinking about the future into our campus design processes?

WHY THINK ABOUT CAMPUS DESIGNS OF THE FUTURE?

All our knowledge about **campus design** is learned from the past, but all our decisions are about the future.



Most of what we need to know to make good decisions today about **campus design** is outside our comprehension: we don't even know it's there.

THANK YOU!

QUESTIONS?