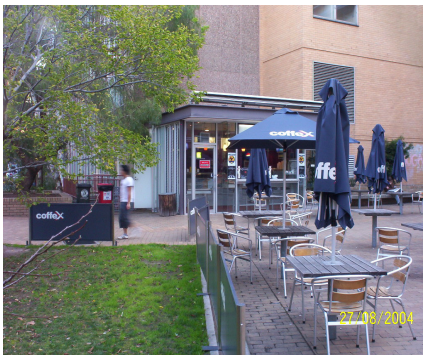




Next- or Net- Generation Learning Spaces?

Mode 3 Learning: The Campus as Thirdspace



Dr Kenn Fisher
Associate Professor, University of Melbourne
Senior Research Scholar, University of South Australia

Outline

- Learning Modalities
 - NetGen students
 - Collaborative pedagogies
 - Learning modalities
- Aligning pedagogy & space
 - Linking pedagogy & space
 - Collaborative learning environments
 - Emerging concepts
- Learning Communities
 - Social construction of knowledge
 - The campus as network of nodes
 - Learning hubs & learning commons



Outline

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 - Learning hubs & learning commons



Balance Explicit Teaching & Independent Learning

Teacher Centred

- Content focussed ↔
- Memory ↔
- Rote learning ↔
- Individual testing / competitive ↔
- Problems not 'real' ↔
- Set tasks ↔
- Within discipline ↔
- Rigid timetables & supervision ↔

Learner Centred

- Process focussed – learn to learn
- Critical thinking
- Ability to communicate
- Ability to work in teams / collaborate
- 'Authentic' problem solving
- Project based learning
- Cross disciplinary learning
- Ability to self organise/self-directed

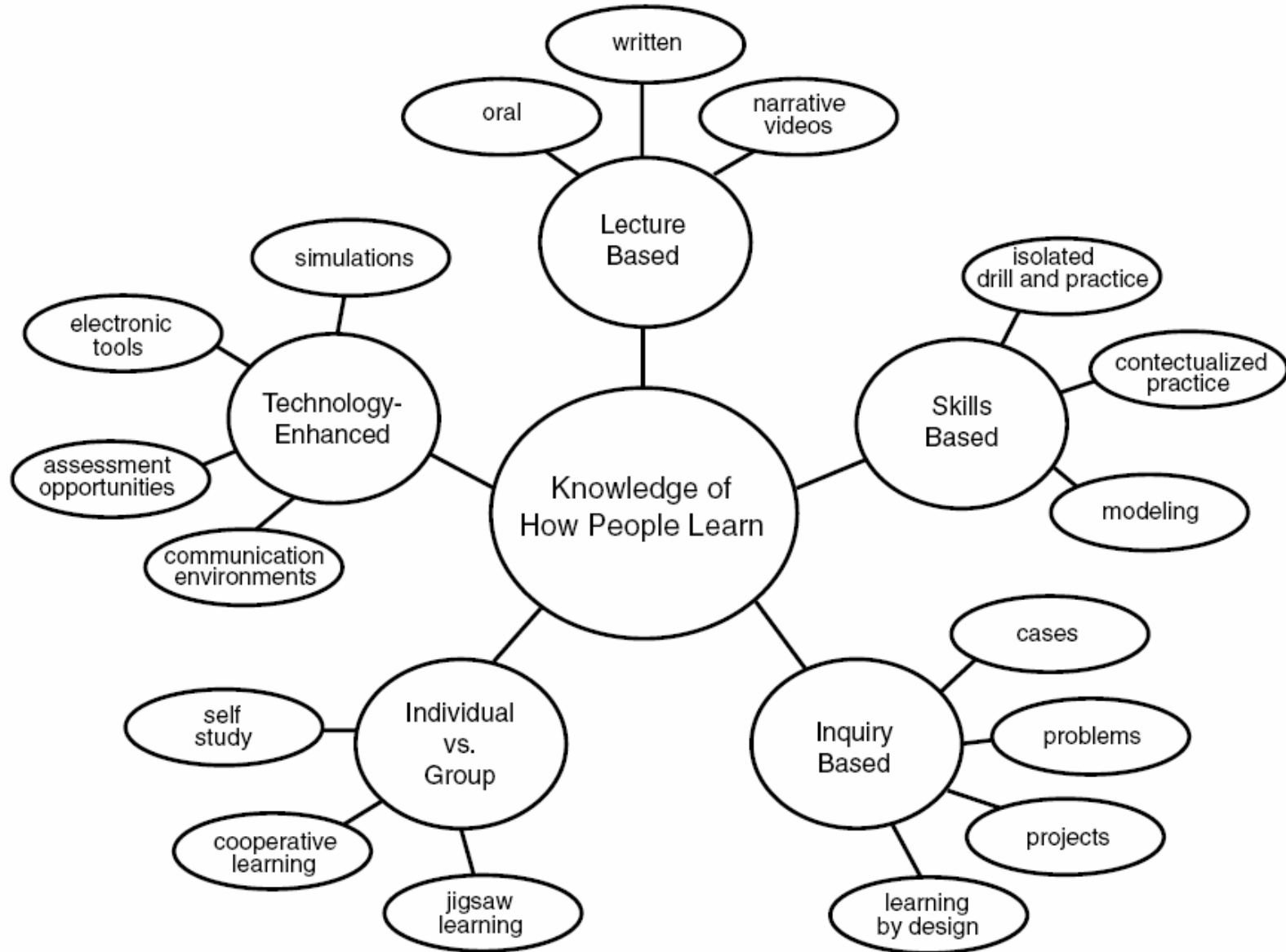
Assessment

- Written exam
- Oral exam

Assessment by a range of means

- Continuous
- Group
- Exam
- Online

How People Learn - Bransford et al 2000



Learning Environment Principles - Bransford et al 2000

- **Learner Centred**

- consider cultural differences & constructivist approaches

- **Knowledge Centred**

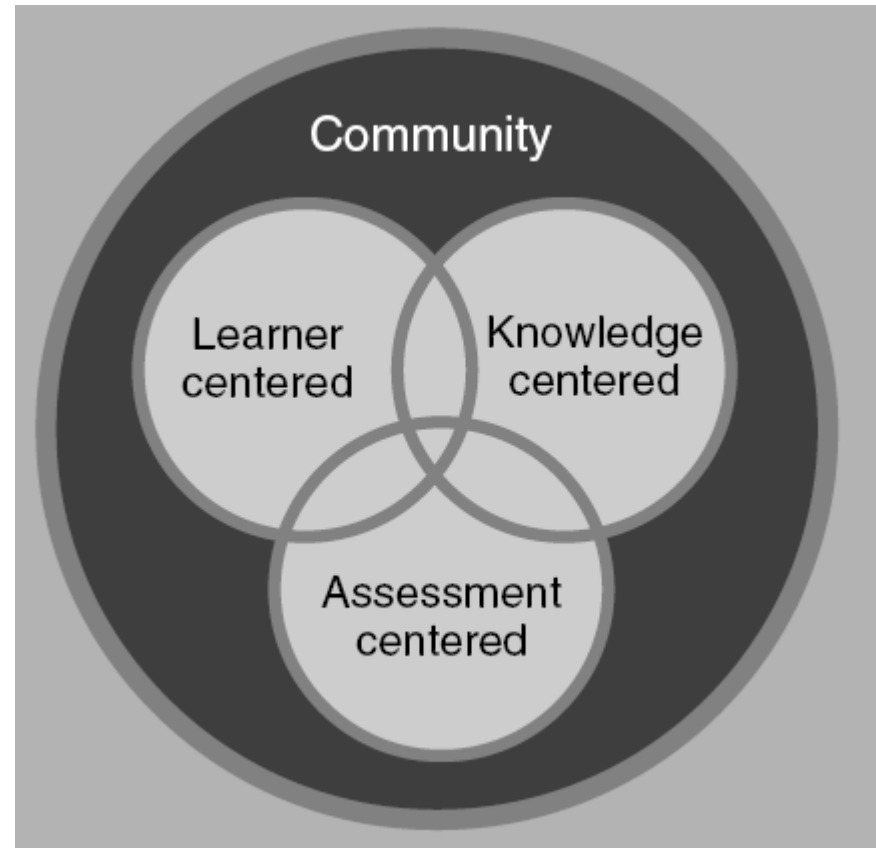
- attention to what is taught (information, subject matter), why it is taught (understanding), and what competence or mastery looks like

- **Assessment Centred**

- students' thinking visible to both teachers & student - formative assessments help both to monitor progress

- **Community Centred**

- learning is influenced by context - development of norms for the classroom as well as connections to the outside world, that support core learning values



Graduate Attributes



Adult Learning

‘Andragogy’ - continuing education, professional development & workplace-based training (Knowles, 1983; 1990)

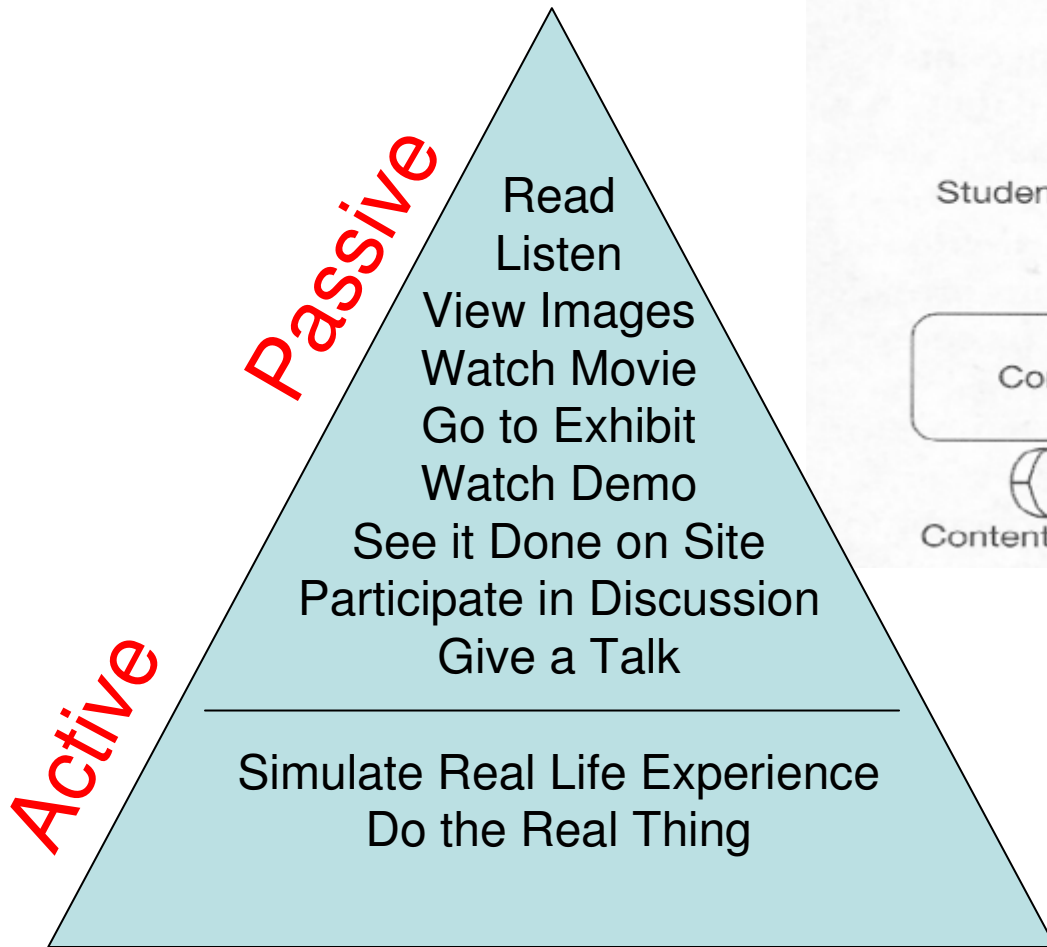
Adult learners:

- Bring widespread & **relevant experience** to the learning situation
- Need to understand the **relevance** of what they are learning
- Learn most effectively when learning meets an **immediate need**
- Expect to be treated as an **autonomous** individual

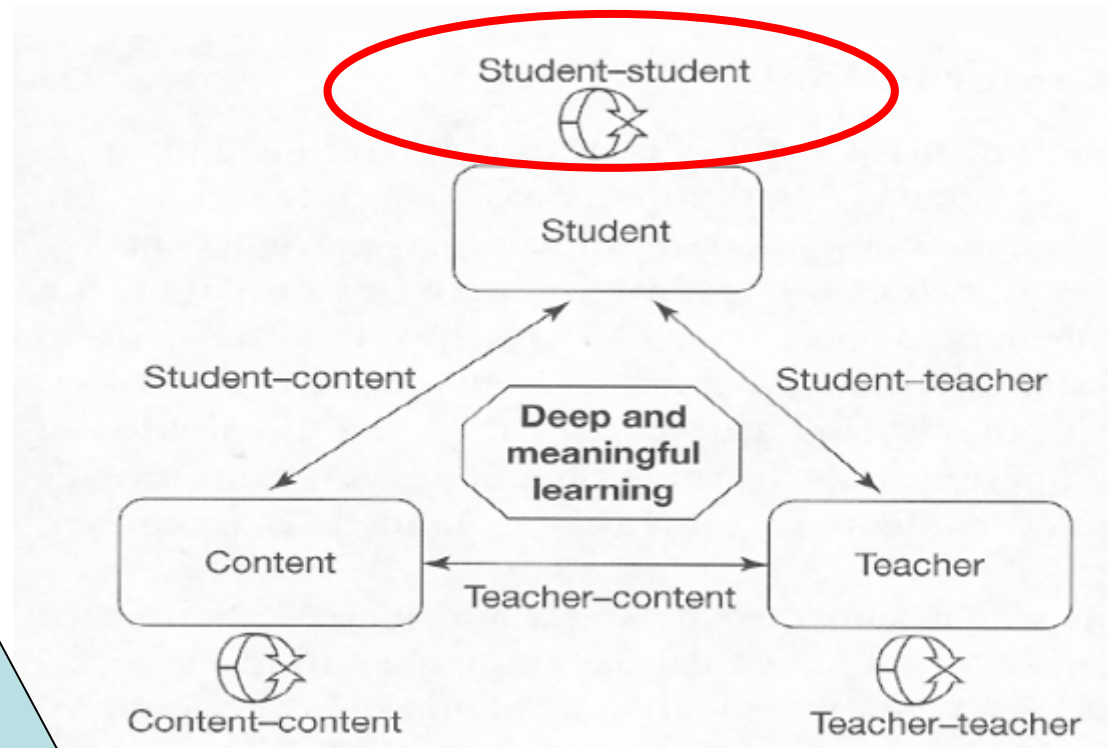
Adult learning experience should be:

- Based on the learner’s own **self-analysis of learning needs**
- Allow the learner to draw upon **existing knowledge and skills**
- **Self-directed**
- Active (whenever possible)
- Occur in a **suitable & comfortable physical environment**
- Empathetic to the **learner’s identity** – trusting relationship
- Focus on the **resolution of problems**

The 'Experience Cone': Deep & Meaningful Learning



Dale, 1969, A/V Methods in Teaching



Garrison & Anderson 2003

NetGen & 'Digital Natives' – Mountifield 2005

Digitally literate

- Use variety of IT devices
- Surf the Net
- Experimental

Multiple media literacy

- Comfortable in visual rich environment
- Able to weave together images, text, sound
- Visual interfaces, streaming media, gaming

Always connected

- Mobile phones, laptops, PDA, IM, web cams, wireless, blogs, email, wikis, chat, gaming

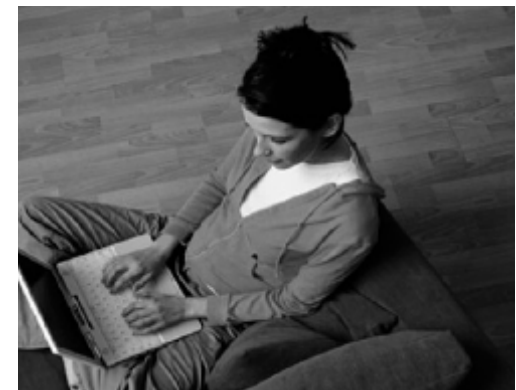
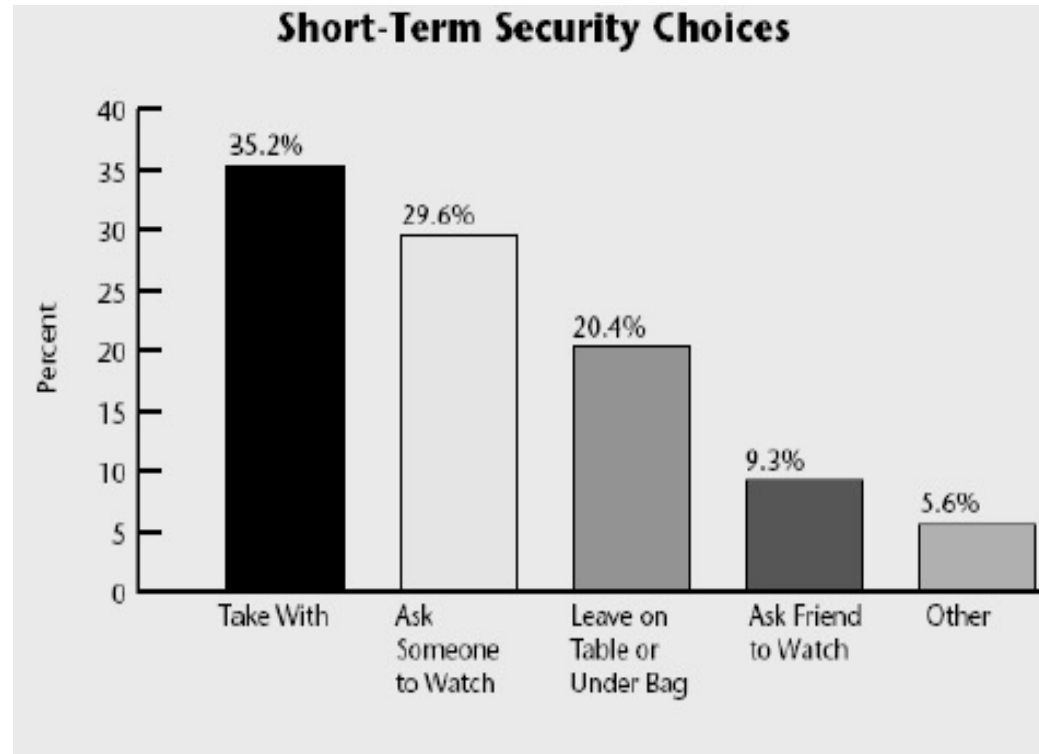
Immediacy

- Expect information, communication, entertainment to be 24/7
- Immediate responses & instant gratification
- High expectations



Laptop Use – Wolff, 2006 & Gibbons, 2007

- Security issues
 - Power supply
 - Carrying weight
 - Need for wired data points
 - Larger tables
 - Near windows
 - Access to food & drink
 - Comfortable seating – stay!
-
- Continuing need for desktop computing



Japanese use of Mobile Phones – The Age 14th April 2007

Japanese use 'keitai' - Australians use PCs

- Send / receive emails, download music, access 'mixi' (Japanese 'Myspace'), access web pages, train timetables etc
- **Many high school students graduate without learning how to use a personal computer**
- 2000 - 2006, 20 y.o. use of internet fell from 23.6% to 11.9% - same proportion as 50-year-olds - ability with PCs has regressed to match their parents
- **4 million young part-time workers cannot afford PCs and excluded from work**
- Telstra's Next G and i-Mode, based on technology introduced in Japan in 1999
- Can surf between three high-definition PC websites at a time, use Flash software, download Word, Excel & PDF files



Virtual collaborative learning

Virtual teamwork simulation

- 6 teams of 5-6 students
- Virtual communication, no f2f



Ectus MEDIA used for 3 phases of the simulation:

- Presentation** - Group presentations via videoconference link
- Revision** - Revision of presentations
- Feedback** - Peer and lecturer evaluation



International Marketing Course

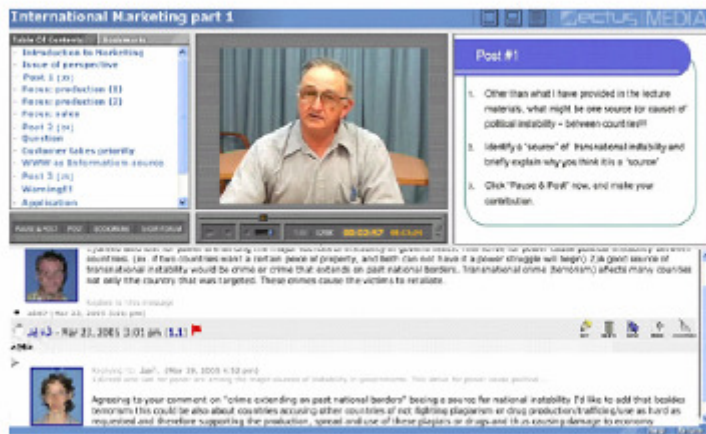
- 4 x 10' mini-lectures (instead of 2 hour lecture blocks)
- Each mini lecture contained 1-3 open ended questions, e.g.

What are the characteristics of a “global customer”? How are they different from an “international customer”?

- Students required not only to post answers but also to reply and interact with one another

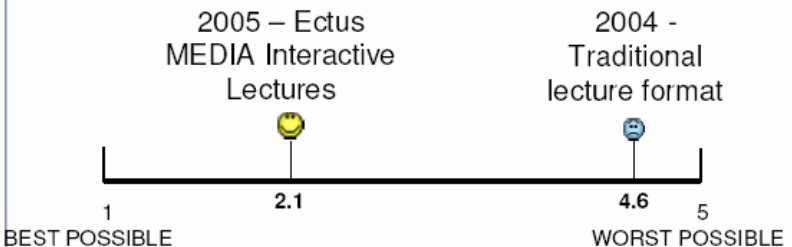


Ectus MEDIA interaction

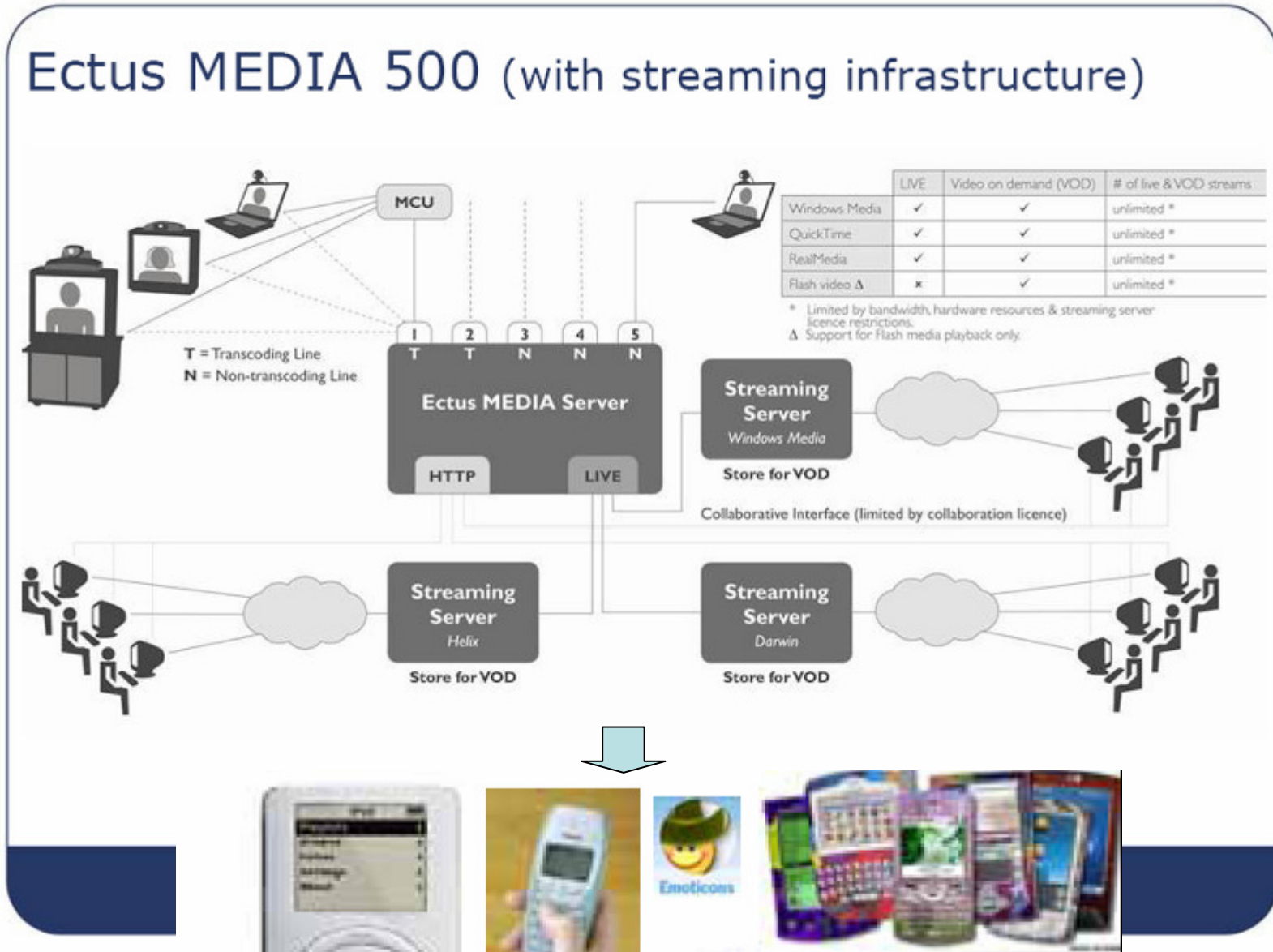


Course evaluations

Question : Did you receive sufficient faculty to student interaction?



Learning Management Systems – Tarnaowska/Hansen, 2005



eLearning

Atlantic Link demonstrates Award Winning Rapid e-Learning at The ASTD 2007 International Conference & Exposition - Training Press Releases - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.trainingpressreleases.com/newsstory.asp?NewsID=2883

Microsoft Outlook W... Place: Education THE AGE The Age: national, w... Australian Internet Banking Aus... Online Banking Box.net - Free Onlin... E*TRADE Australia

24 May 2007

Search for in [Advanced search](#)

Press release

Atlantic Link demonstrates Award Winning Rapid e-Learning at The ASTD 2007 International Conference & Exposition

Atlantic Link | Nottingham, UK

24-May-2007 » Training Press Releases » Atlantic Link's expansion into the US continues as the company demonstrates their Award Winning Rapid e-Learning software at The ASTD 2007 International Conference & Exposition.



The ASTD 2007 International Conference & Exposition offers attendees the largest EXPO in the industry, with an audience that craves the latest in tools and products to help build their training programs.

It takes place at Atlanta, Georgia on June the 3rd to the 6th.

"We see the USA as a massive opportunity for our world-beating products and expect the same meteoric success that we have seen in the UK", says Peter Hopley VP for International Sales.

Atlantic Link courses running on a Windows Mobile phone.

"We have already shot off to a tremendous start in the USA and signed an OEM deal with a leading e-learning vendor which we plan to announce at the show."

Done

Start | Firefox | Adobe Acrobat | Edinburgh Ci... | Edinburgh Ci... | Indra K Ram... | 3:46 PM Thursday

Educating the Net Gen (Educause - Brown, 2005)

Net Gen Trait	Learning Theory Principles	Learning Space Application	IT Application
Group activity oriented	Collaborative, cooperative, supportive	Small-group work spaces	IM chat; virtual whiteboards; screen sharing
Goal and achievement oriented	Metacognition; formative assessment	Access to tutors, consultants, and faculty in the learning space	Online formative quizzes; e-portfolios
Multitaskers	Active	Table space for a variety of tools	Wireless
Experimental; trial-and-error learners	Multiple learning paths	Integrated lab facilities	Applications for analysis and research
Heavily reliant on network access	Multiple learning resources	IT highly integrated into all aspects of learning spaces	IT infrastructure that fully supports learning space functions
Pragmatic and inductive	Encouraging of discovery	Availability of labs, equipment, and access to primary resources	Availability of analysis and presentation applications
Ethnically diverse	Engagement of preconceptions	Accessible facilities	Accessible online resources
Visual	Environmental factors; importance of culture and group aspects of learners	Shared screens (either projector or LCD); availability of printing	Image databases; media editing programs
Interactive	Compelling and challenging material	Workgroup facilitation; access to experts	Variety of resources; no "one size fits all"

Virtual & Physical, Time & Space - Mitchell, 2005

	synchronous	asynchronous
local	face-to-face meeting places	site specific signage exhibitions installations white board
remote	telephone video conference text messages shared cyber links	internet web virtual studio 'google it'

Research Led Teaching - The New Production of Knowledge

Mode 1

[Closed]

Disciplinary

Homogeneous

Organisationally hierarchical

Tends to preserve its form

Quality control related to discipline

Context based on basic research or academic science

Mode 2

[Open]

Trans-disciplinary

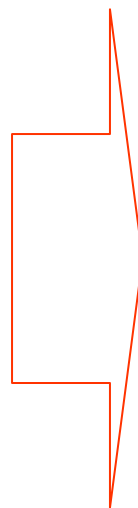
Heterogeneous

Organisationally heterarchical

Transient

Quality temporary and heterogeneous practitioners

Context around a particular application



(Gibbons, 1994)
(Kirkpatrick, 2007)

Pedagogy & Space – 3 Modes

Three spatial archetypes:

- Teacher centred [mode 1]
- Student centred [mode 2]
- Informal – ‘thirdspace’ [mode 3]

Issues:

- How do you measure space utilisation in 3 modalities?
- Do you measure inputs or outputs – what are the performance criteria?
- How do you measure the quality of learning environments?

Questions:

- What is the right balance of the three
- Where should they be located?

Typical

80%

Mode 1



15%

Mode 2



5%

Mode 3



Outline

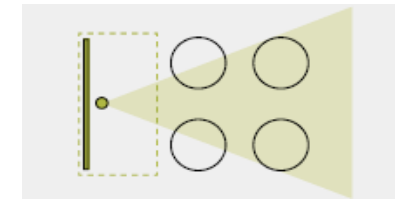
- Learning Modalities
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Linking Pedagogy & Space – SCUP Scott Webber 2004

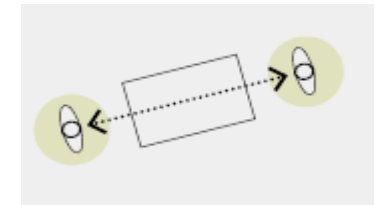
delivering

- instructor controls presentation
- focus on presentation
- passive learning



applying

- controlled observation
- one-to-one
- informal
- active learning



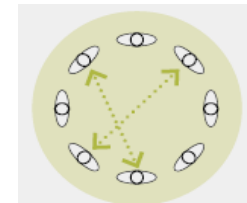
creating

- multiple disciplines
- leaderless/egalitarian
- casual/active learning
- research



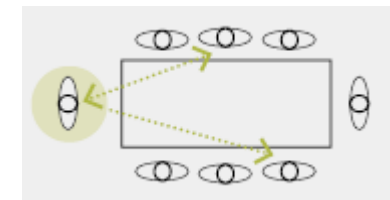
communicating

- knowledge is dispersed
- impromptu delivery
- organise information

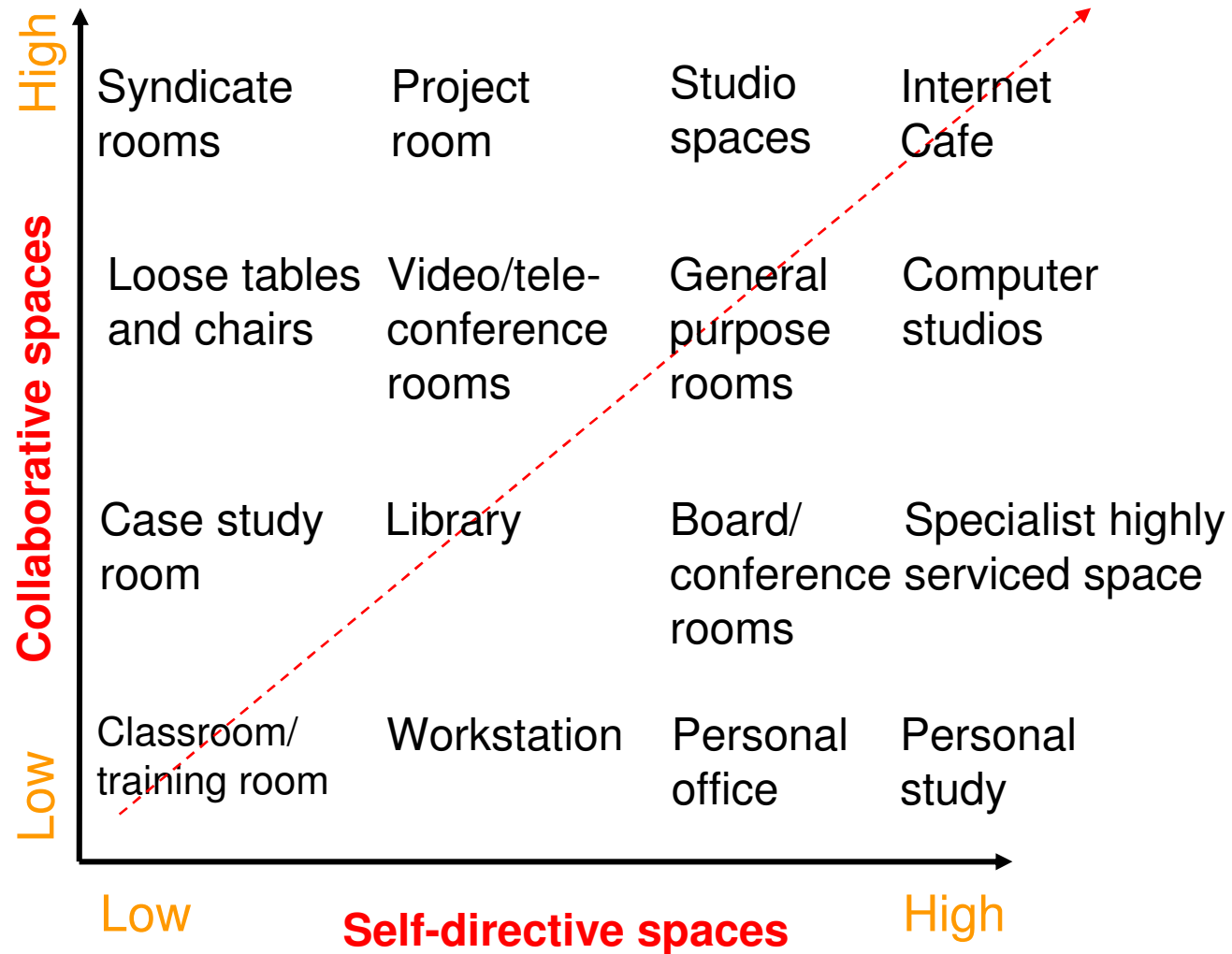


decisionmaking

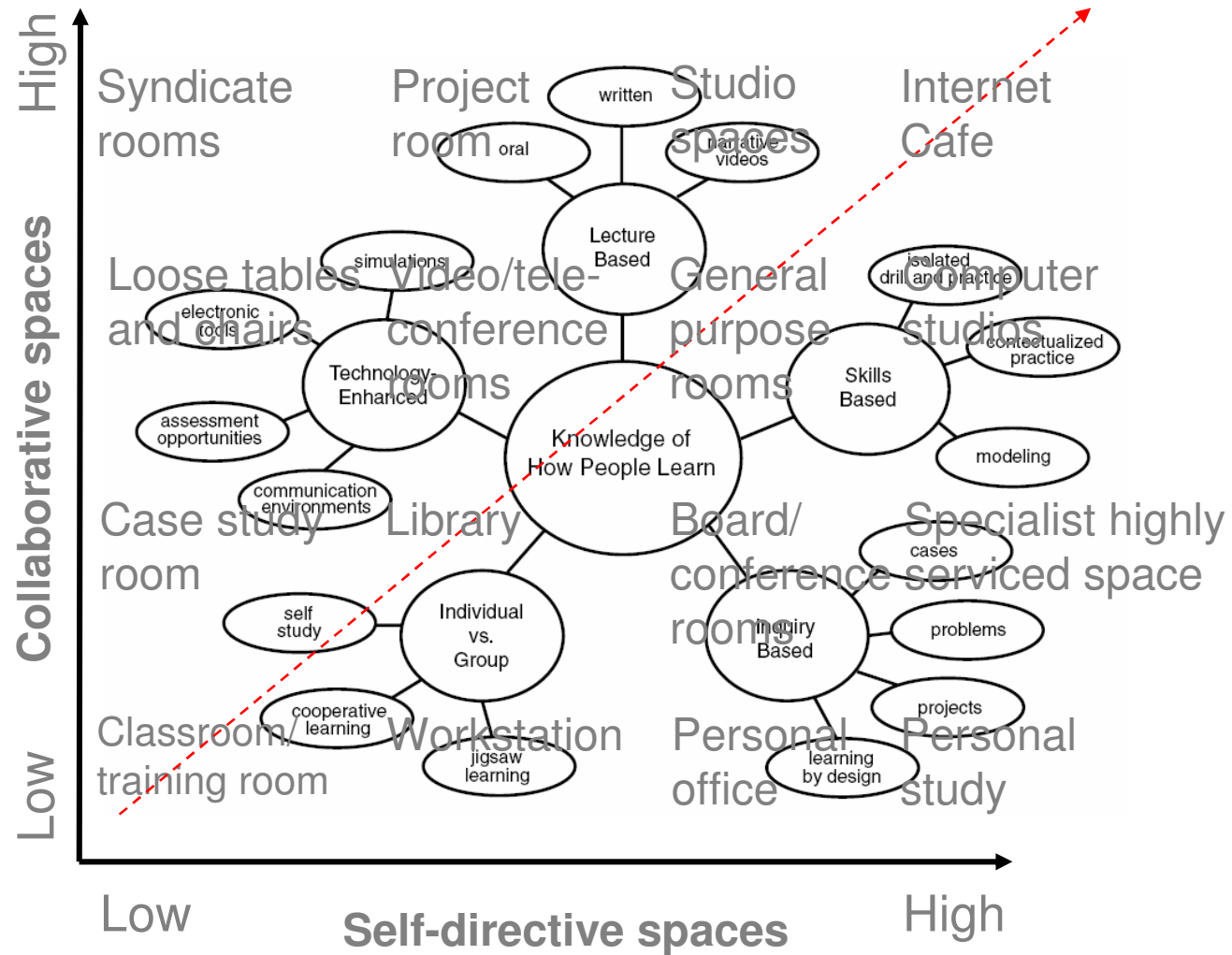
- information is shared
- leader sets final direction
- semi-formal to formal
- make decisions



Pedagogy & Space Matrix – Independent vs Collaborative



Pedagogy & Space Matrix – Independent vs Collaborative



Practice Model (PBL) – Schon, 1999



Reflection

Breakout

office
study carrel

Doing

Studio

language lab
computer studio
syndicate room



Collaboration

Touch Down

telephone booth
café tables
courtyard seating

Seminar

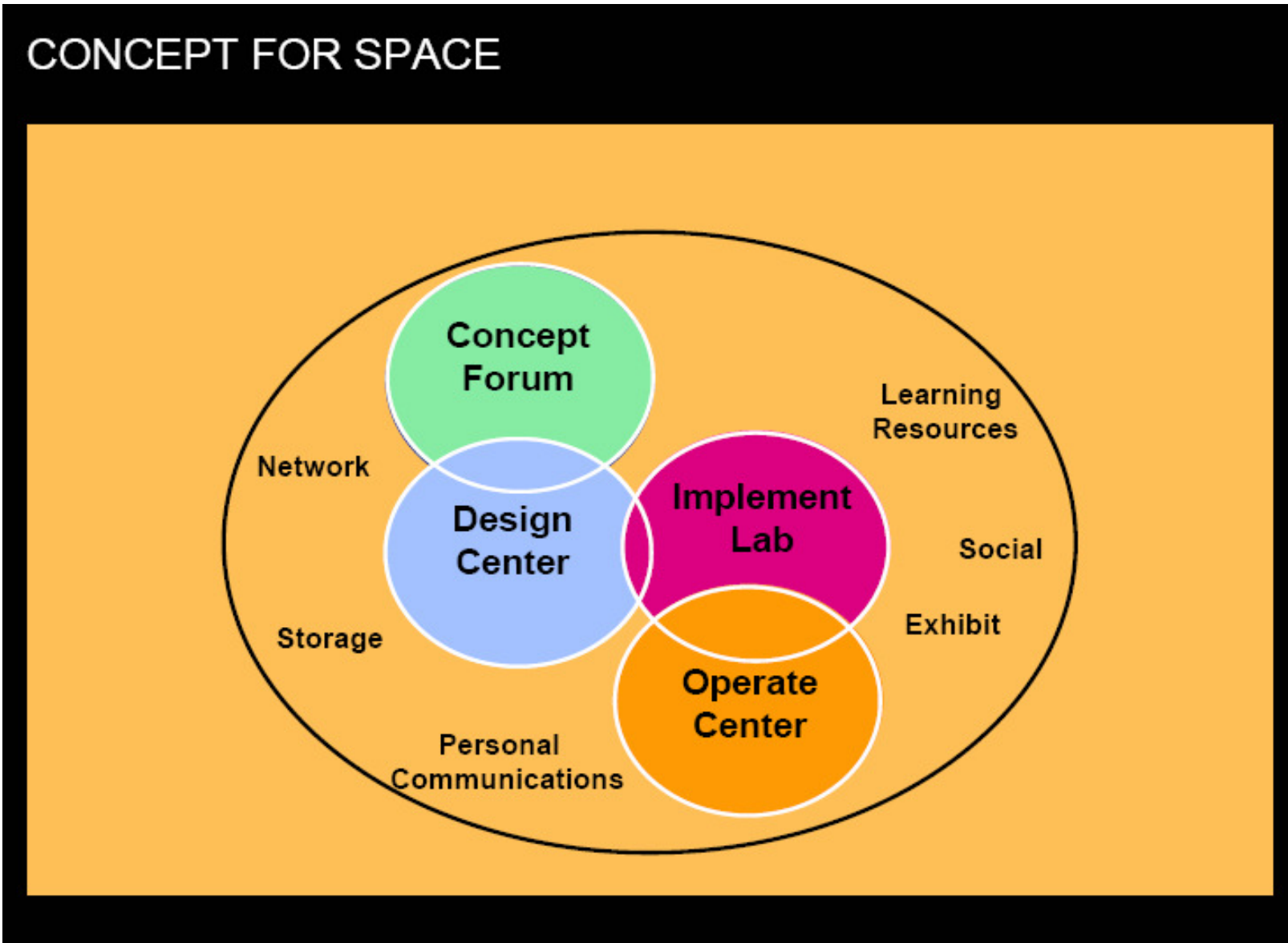
forum
lounge
meeting
videoconference



Dialogue



Problem Based Learning – MIT Aeronautical



Problem Based Learning – MIT Aeronautical

CONCEIVE SPACE

- Allows student to envision new systems, understand user needs, develop concepts
- Emphases Reflections
- Reinforces human interaction: talking and thinking
- Largely technology-free zone
- Linked with library/resource center



Problem Based Learning – MIT Aeronautical

DESIGN SPACE

- Support new paradigm of cooperative digitally supported design
- Allows student to design, share designs, and understand interaction
- Central room and team breakout rooms
- IT accessible from student living groups
- Keep design space near build space to reinforce connection



Problem Based Learning – MIT Aeronautical

IMPLEMENT SPACE

- Allow students to build small, medium and large system
- Mechanical, electronic, specialty fabrication, visible to students and visitors
- Software engineering and integration
- Safe, yet accessible as much as possible on “student hours”



Problem Based Learning – MIT Aeronautical

OPERATE SPACE

- Create opportunities for students to learn about operations
- Operate their experiments and projects
- Operate facility class experiments
- Simulated operations of real systems
- I-lab links to real systems



Problem Based Learning – MIT Aeronautical

STUDENT PROJECT AREAS... 'Studio'

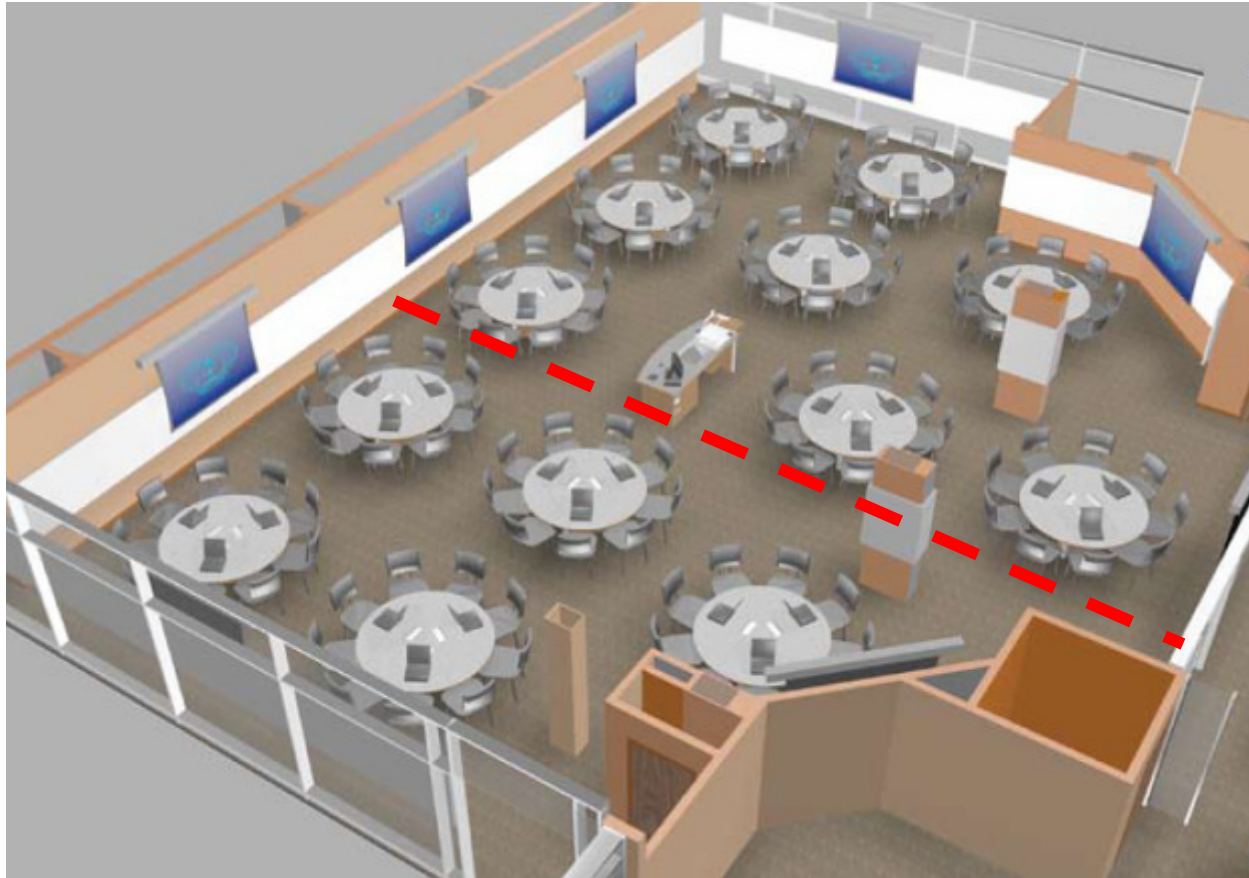


NLI 2004 Conference

Process for Designing Learning Spaces

MIT / CTA

Technology Enabled Active Learning – MIT Physics 1

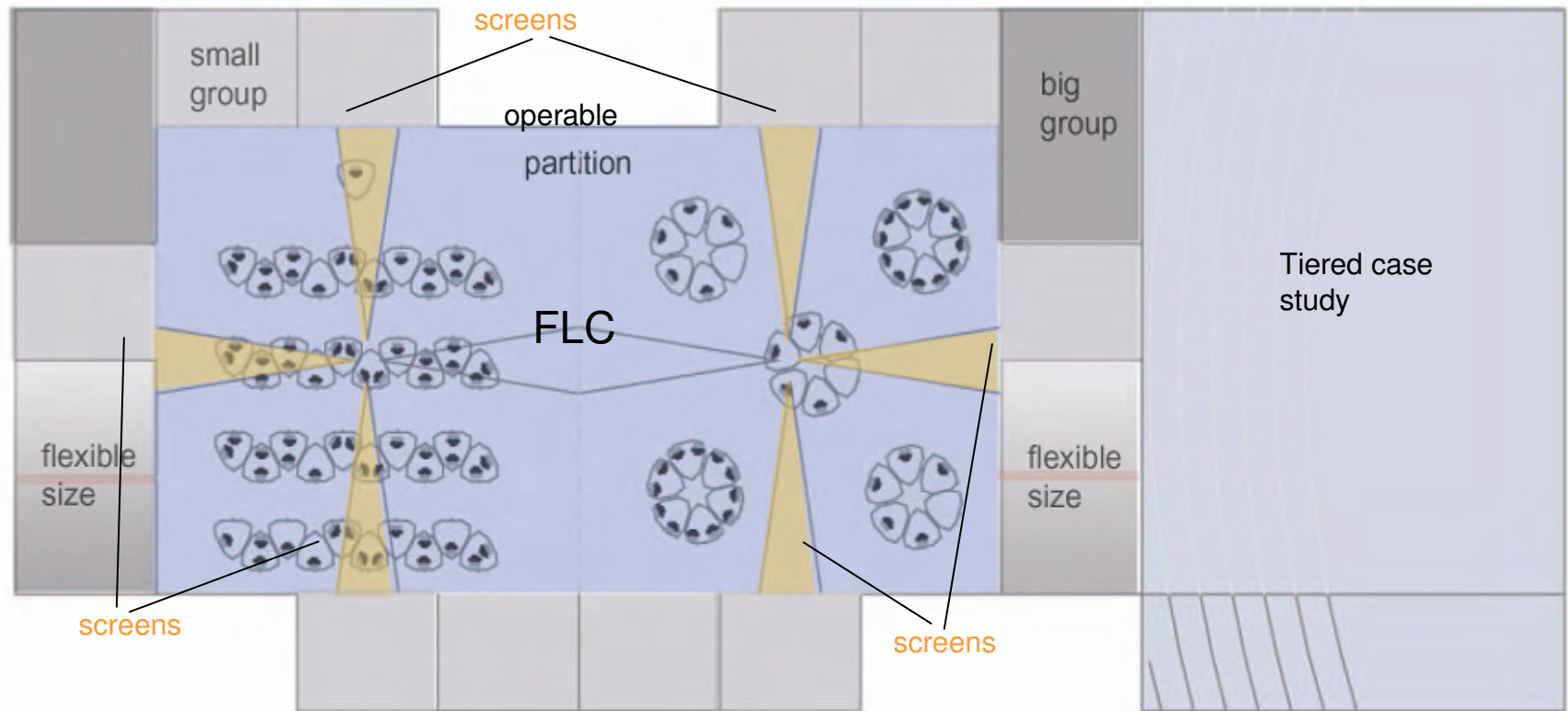


- Groups (self-directed) in searching for understanding, meaning or solutions or creating a product, with teacher support
- Some delivery, with Web access and team teaching - includes remote IVT
- Flexible layout accommodates range of projects - divide into smaller spaces

Flexible furniture model

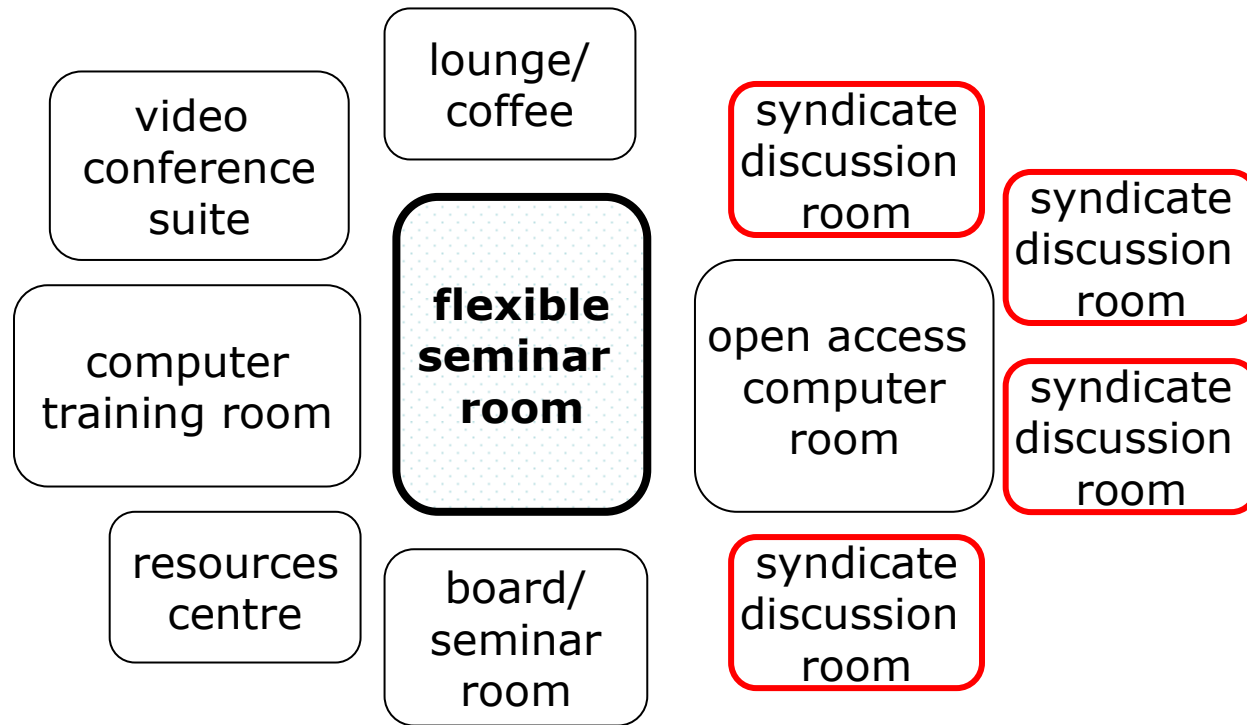


Flexible Learning Centre (FLC)

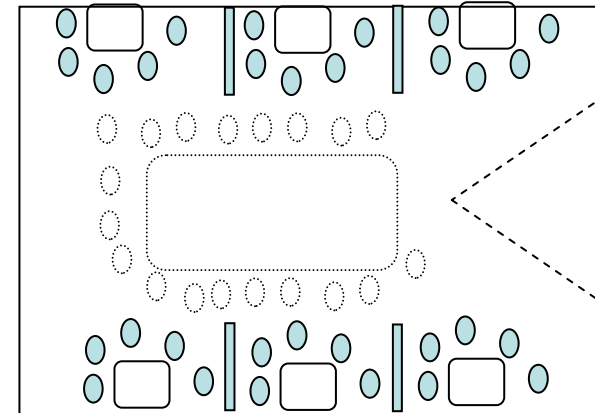


Different possibilities in each side facilitated by movable furnishings which allow a variety of settings and pedagogies to take place within one space

Flexible Learning Centres – Griffith University



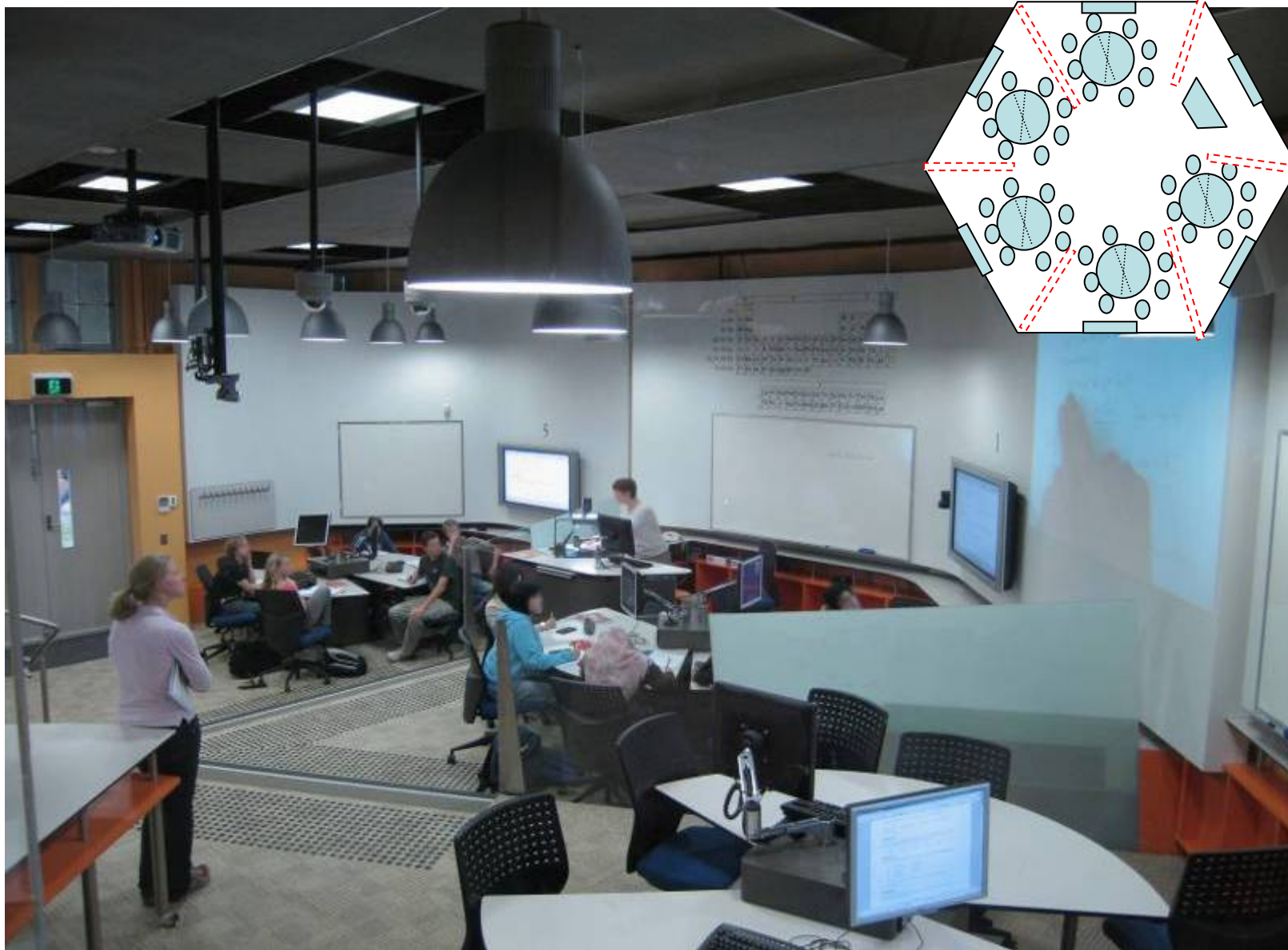
Learning studio – ANU



Use of office screens for collaborative dividers



Learning Lab [Chemistry 1] - Melbourne University

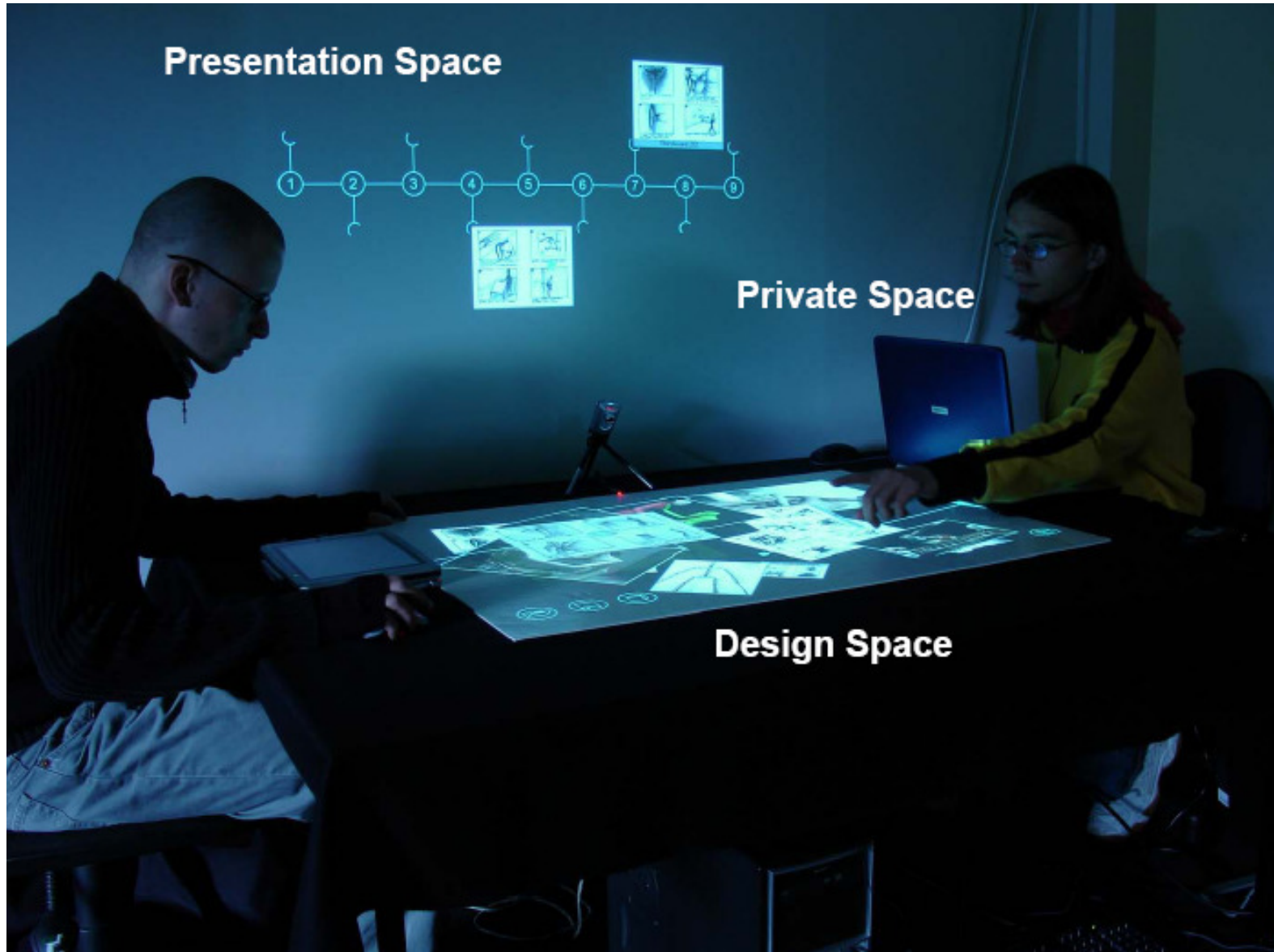


Adv. Collab. Learning Centre & Access Grid – vuw



Victoria University of Wellington

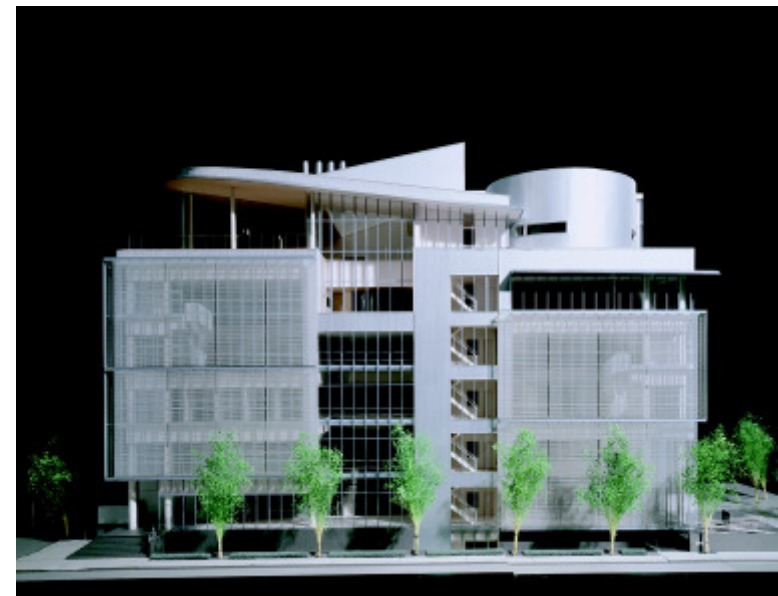
HitLab Areas of Research - www.hitlabnz.org



Learning Studios – Mitchell et al 2005

Emerging principles:

1. Bring natural light, air, and **view** back to the classroom
2. **All campus spaces** - outdoor spaces & mobile spaces, are potentially wirelessly serviced ad-hoc classrooms
3. Take care of the **logistics** and the **security** of laptops, cellphones, and PDAs
4. Design spaces for individual users of electronic devices & **new social dynamics** that these devices enable
5. Keep it **simple and flexible**, and design around **people**, not technology



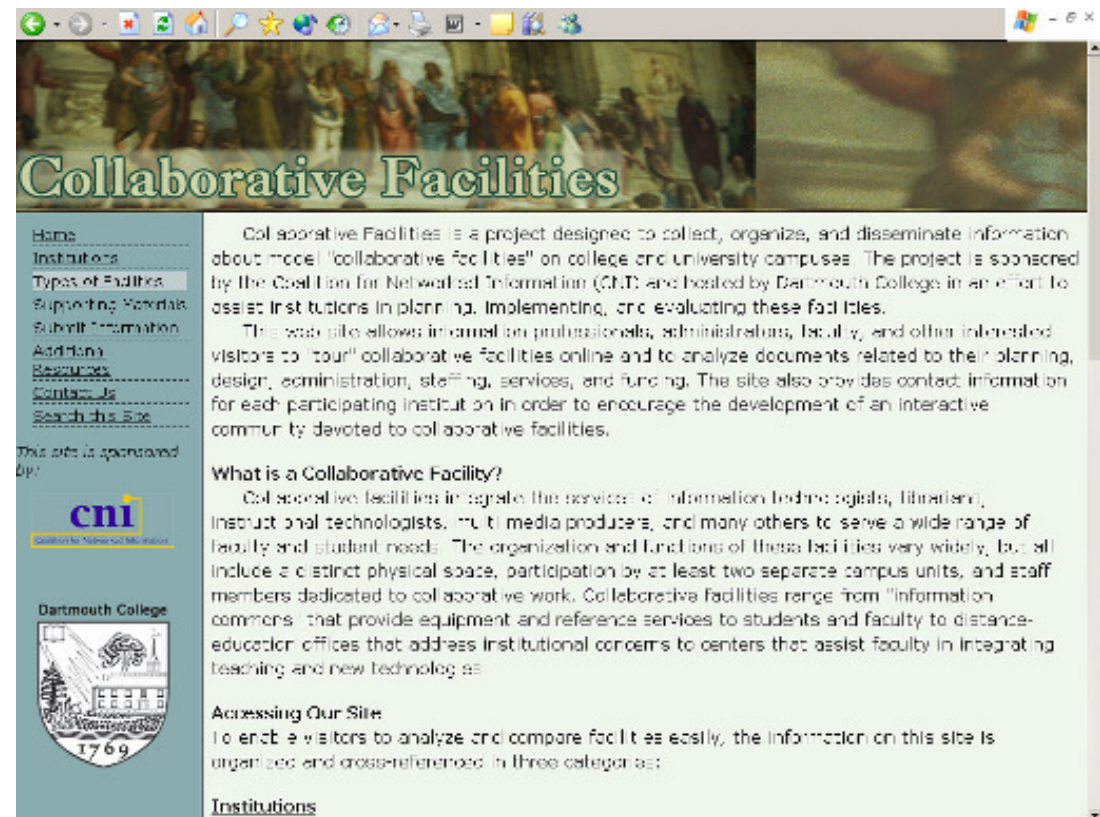
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Learning Commons - Typologies

- Information Commons
- Digital Library Centers
- Information Arcades
- Centers for **Instructional & Faculty Development**
- Centers or Classrooms for Instructional Delivery
- Facilities for **Multi-Media Production**
- Facilities for **Multi-Media Delivery**
- Centers for Distance Education



<http://www.dartmouth.edu/~collab/>

Brookdale 'Clearinghouse' – Information Commons



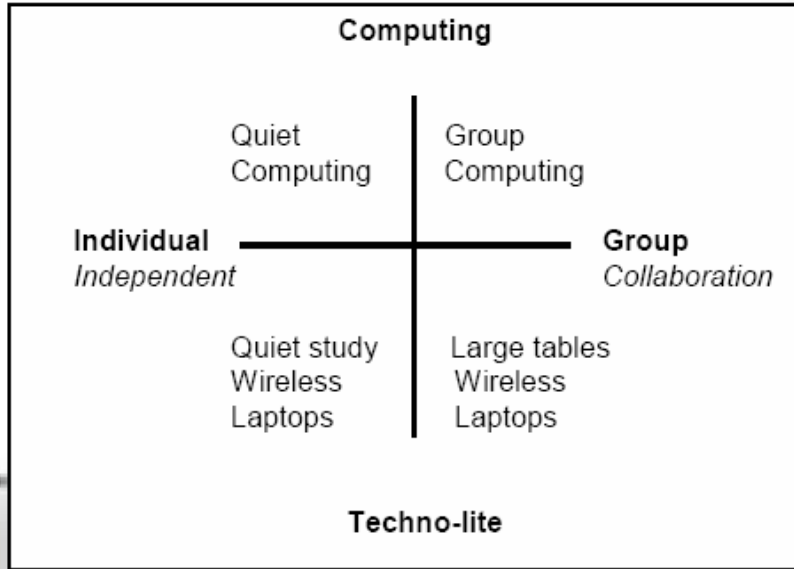
The screenshot shows a web browser window displaying the 'Information Commons' website. The page has a blue header with the title 'Information Commons' and the subtitle 'a directory of innovative services and resources in academic libraries'. On the left side, there is a navigation menu with links for 'Home', 'Sites by Name', 'by Location', 'by Carnegie Classification', 'Job Descriptions', and 'Bibliography'. The main content area is titled 'Sites by Name' and features an alphabetical index from A to Z. Under the 'A' section, several university links are listed, including Adelphi University, NY; Appalachian State University, NC; Arizona State University, AZ; and Australian National University. A 'TOP' link is positioned below the 'A' section. Under the 'B' section, links for Brigham Young University, UT; Brookdale Community College, NJ; Brooklyn College, NY; and Bucknell University, PA are shown, with another 'TOP' link below. The 'C' section begins with 'C' and lists 'Calgary, University of, Alberta, CANADA' and 'California Polytechnic State University,'.

University of Auckland – Information & Student Commons

Information Commons		Student Commons
Learning Services, Teaching spaces, Quiet study space	4	Postgraduate Lounge, International Student Centre
Student Learning Centre, Teaching spaces, Quiet Computer space	3	Health and Counselling Accommodation Centre
I.C. HelpDesk, Teaching space, Group Computer space	2	AUSA offices. Café, Travel Agent, Copy Centre, Mini-market
High Demand Collection, ELSAC	1	Pharmacy, Bank Bookshop
Group study & Discussion space, Computer space	0	Bookshop

Source: Mountfield 2005

University of Auckland – Information & Student Commons



Source: Mountfield 2005

University of Otago – Information Services Building



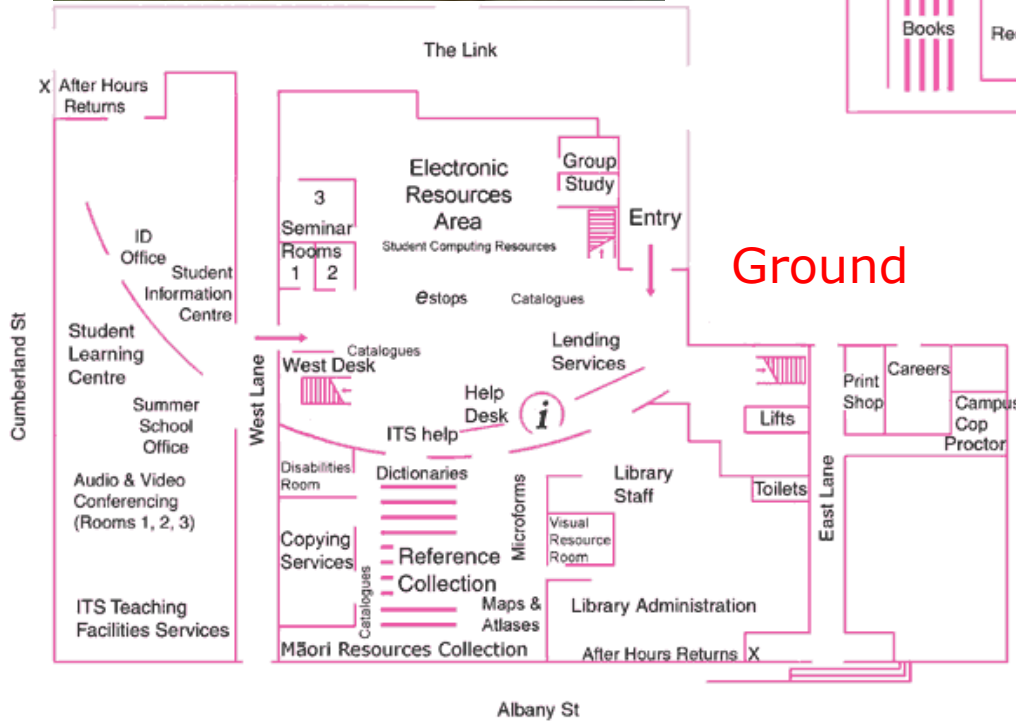
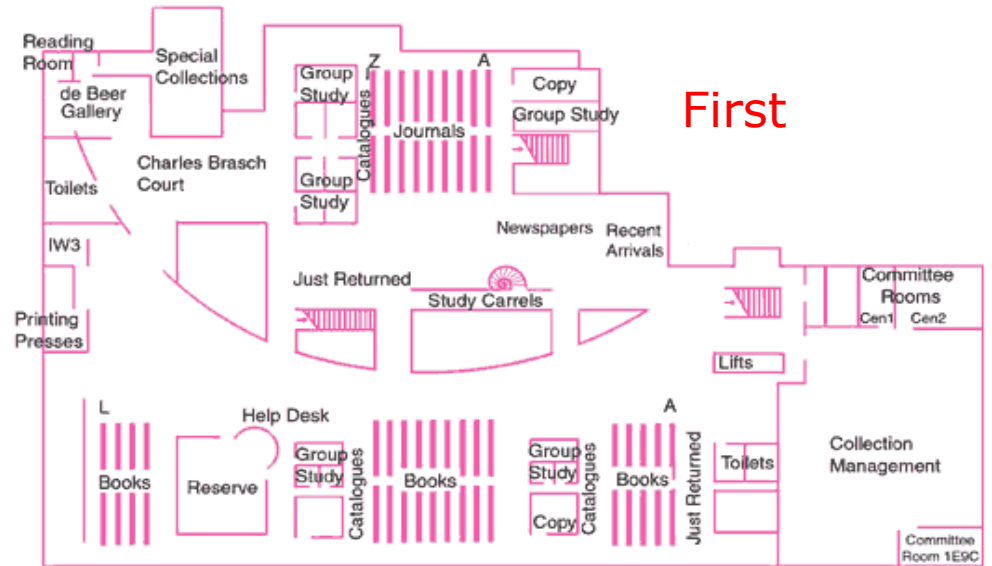
Community Concourse

- Information Kiosks
- Exhibits and Displays
- Food Services
- Informal Seating
- Terrace

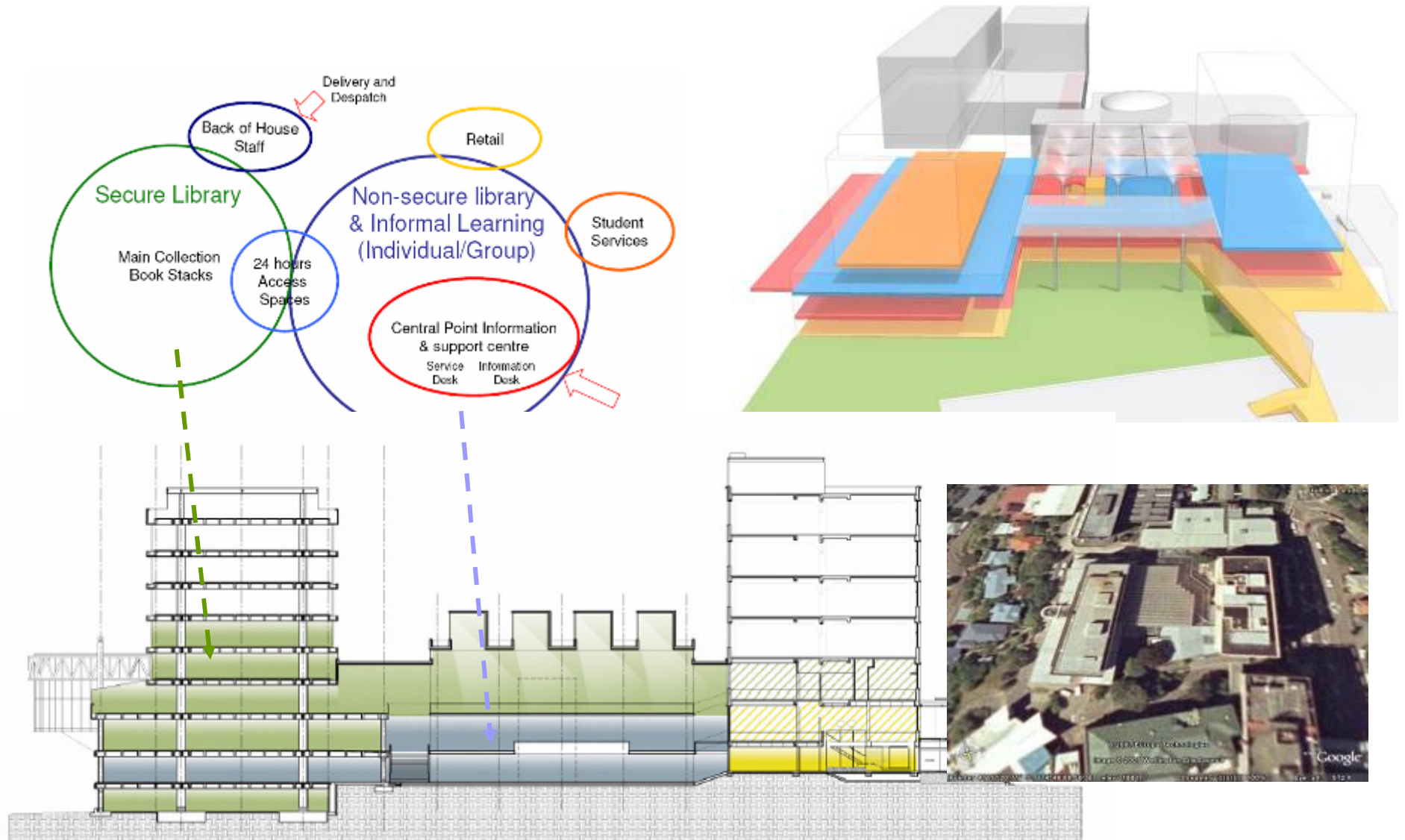


Pfeiffer Partners (formerly HHPA)

University of Otago – Information Services Building



Victoria University of Wellington – Hub & Library



Seating Spaces

Secure Zone

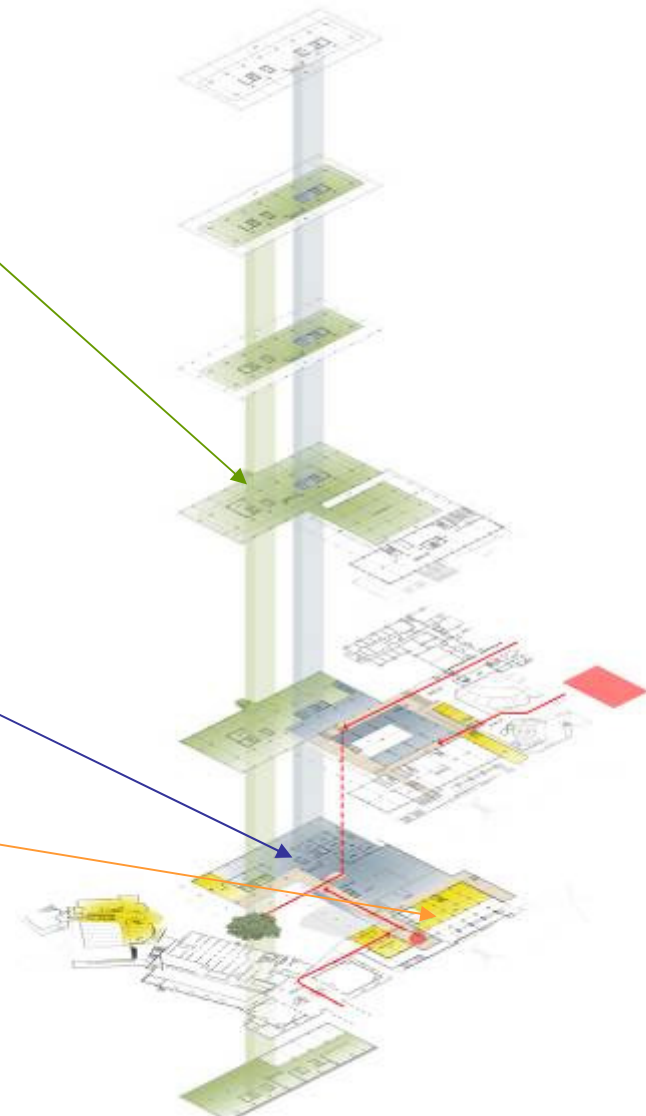
- Seats with computers (SCS)
- Seats with carrells
- Seats at group tables
- Group withdrawal rooms
- A/V seats
- A/V room seats
- Slides room seats
- SCS Print Kiosk

Non Secure Zone (RFID)

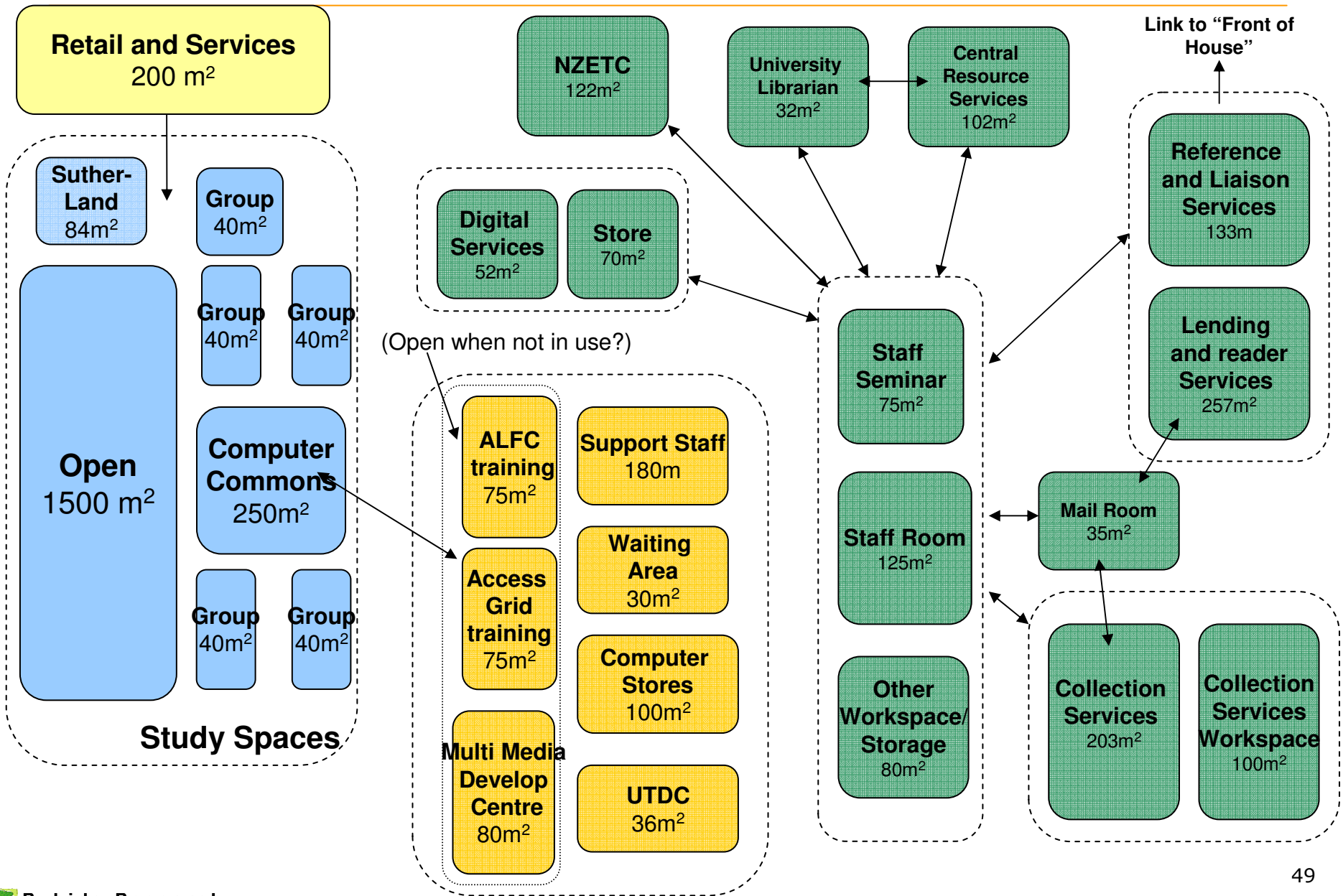
- Seats with computers (SCS)
- Seats in 'study-house'

Social Zone

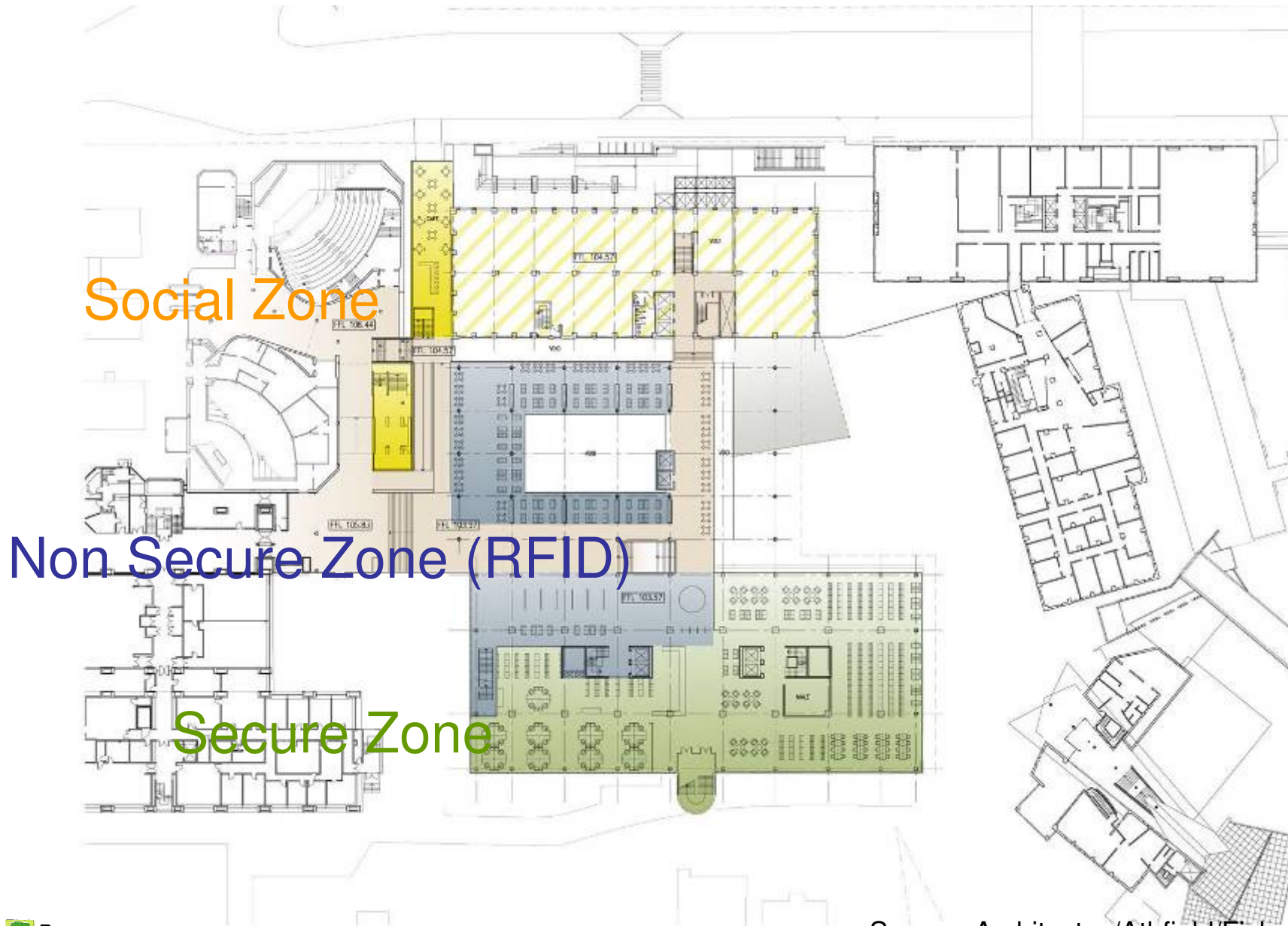
- Seats in circulation spaces
- Seats in eddy space zones



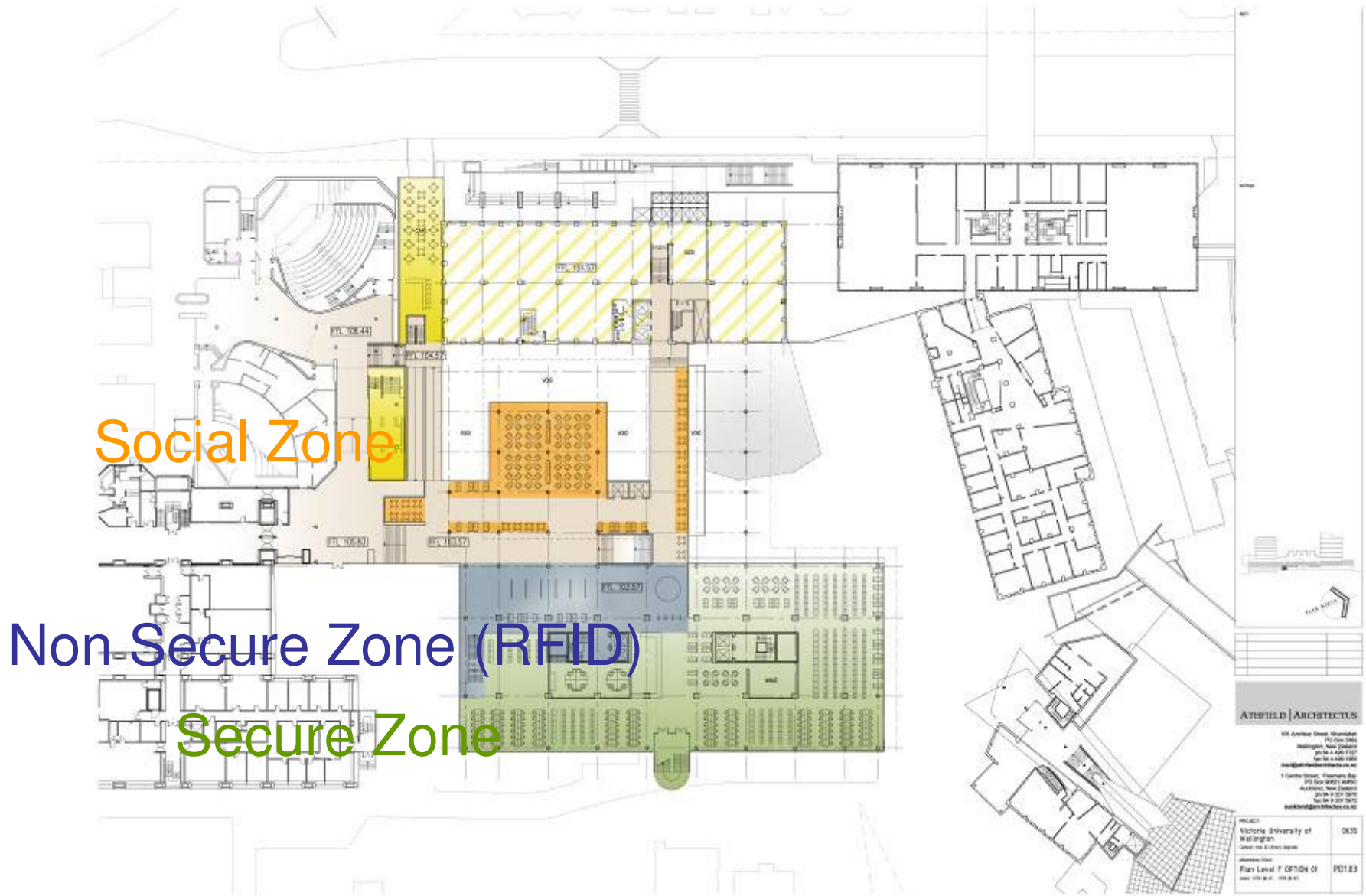
Layer F - Library Support and Reader Zones



Level F



Level F - Alternate



Peer to peer learning spaces – Scottish Funding Council



Computer stations, Anglia Polytechnic University

(photo: AMA)

Cafeteria computer drop in, Sheffield Hallam University

(photo: AMA)



Dining decks, South East Essex College

(photo: courtesy of South East Essex College)

Wifi cafeteria, University of Wolverhampton

(photo: AMA)



The Saltire Centre – Caledonian University



The Saltire Centre – Caledonian University



The Saltire Centre – Caledonian University



The Saltire Centre – Caledonian University



The Saltire Centre – Caledonian University



The Saltire Centre – Caledonian University



The Saltire Centre – Caledonian University



Hubs & Communities - University of Pennsylvania

The Graduate Student Center - BigPond Dial-Up Residential Internet Explorer

File Edit View Favorites Tools Help

Address <http://www.gsc.upenn.edu/resguide/campus hubs.htm> Go Links

Google hubs Search PageRank 100 blocked Options hubs

GRADUATE STUDENT CENTER

at the University of Pennsylvania

GSC Home | Penn Home About Us | Programs | Calendar | Resource Guide | NSO

Graduate Student Resource Guide 2003-2004

Welcome

PennCard, PennKey and Campus Express

Campus Hubs and Communities

Preparing for and living in the Penn Community

Financial Resources

Academic Resources

School Contacts

University Support Services

Campus Hubs and Communities

Student Government and Organizations

Recreation

Arts and Culture

[Graduate Student Center](#)

[Graduate Programs of Sansom Place](#)

[African-American Resource Center](#)

[Civic House](#)

[Greenfield Intercultural Center](#)

Office of [International Programs](#)

[La Casa Latina](#)

[Lesbian Gay Bisexual Transgender Center at Penn](#)

[Makuu: Black Student Cultural Center](#)

[Pan-Asian American Community House](#)

[Religious Life](#)

Weiss [Tech House](#)

Penn [Women's Center](#)

Start Adelaide Unive... Inbox - Micros... Adobe Reader ... The Graduat... Uni Graduate A... Keeping Penn c... UofA Facilities ... Internet 8:50 PM Tuesday

University Square - University of Pennsylvania

Keeping Penn campus vibrant

University Square is the latest in restoring the neighbourhood.

By Tom Belden

Inquirer Staff Writer

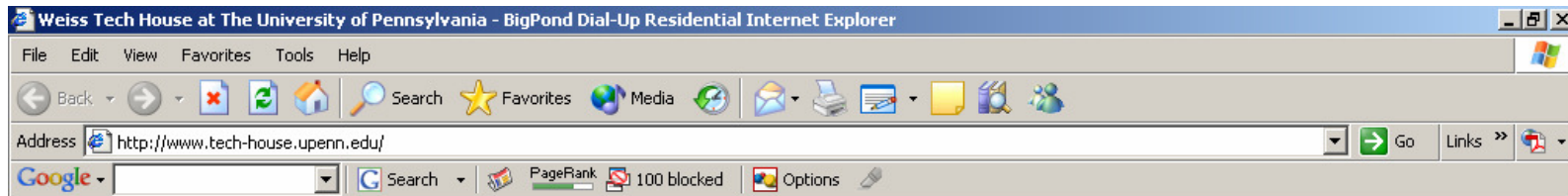
<http://www.philly.com/mld/inquirer/4032768.htm>



Listeners enjoy the Arpeggio jazz ensemble at University Square, a new retail development space created at 36th and Sansom Streets by the University of Pennsylvania. BONNIE WELLER / Inquirer Staff Photographer

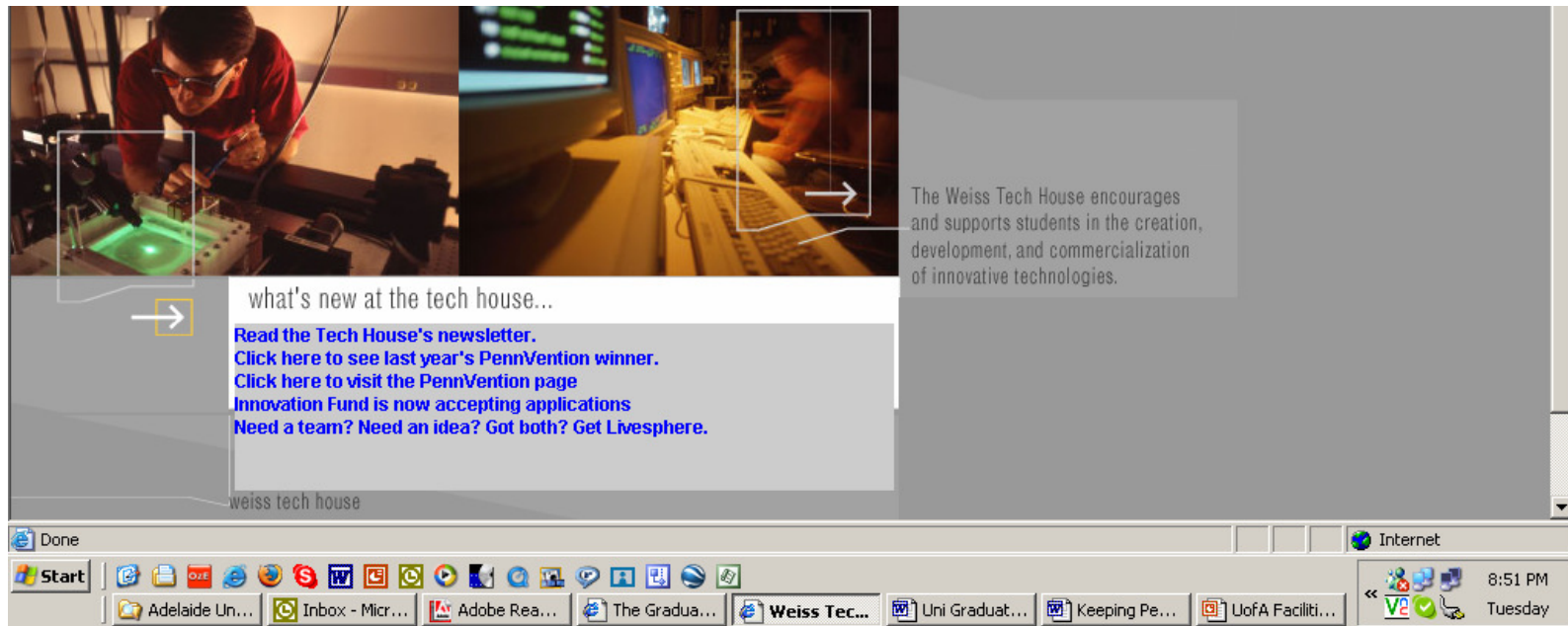
People who run urban universities could get a good education in business by hanging out for half an hour at 36th and Sansom Streets in Philadelphia.

Technology Hub - University of Pennsylvania



Goals

- Infect undergraduates with excitement of technological innovation
- Provide an action-oriented context to motivate learning
- Foster development of problem solving skills critical for innovation
- Nurture an innovation community at Penn
- Provide knowledge & infrastructure resources that enable innovation



Interactive Learning Hub – Nodes & Critical Mass

1. Social construction of knowledge & 'communities of practice'
2. Asynchronous/synchronous learning
3. New production of knowledge
4. Social capital – networks & social architecture
5. Research priorities. Government 'Link' funding... social network analysis
6. Cluster theory

Source: Sovell, 2003

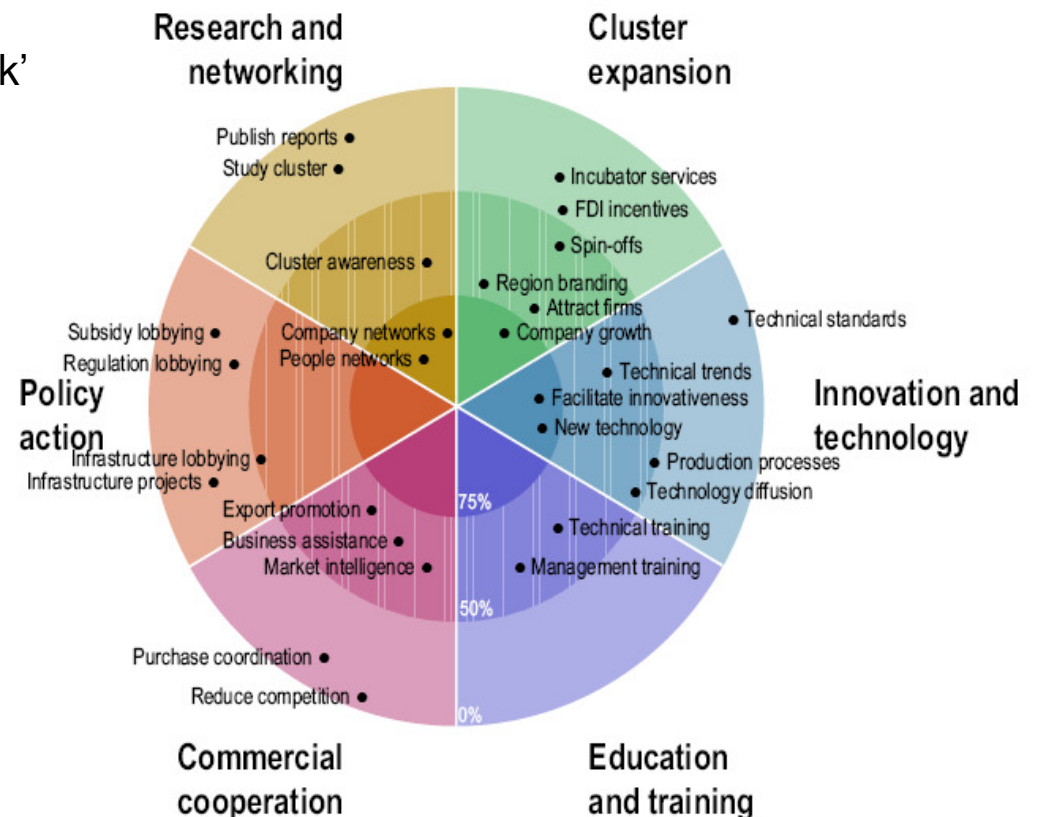


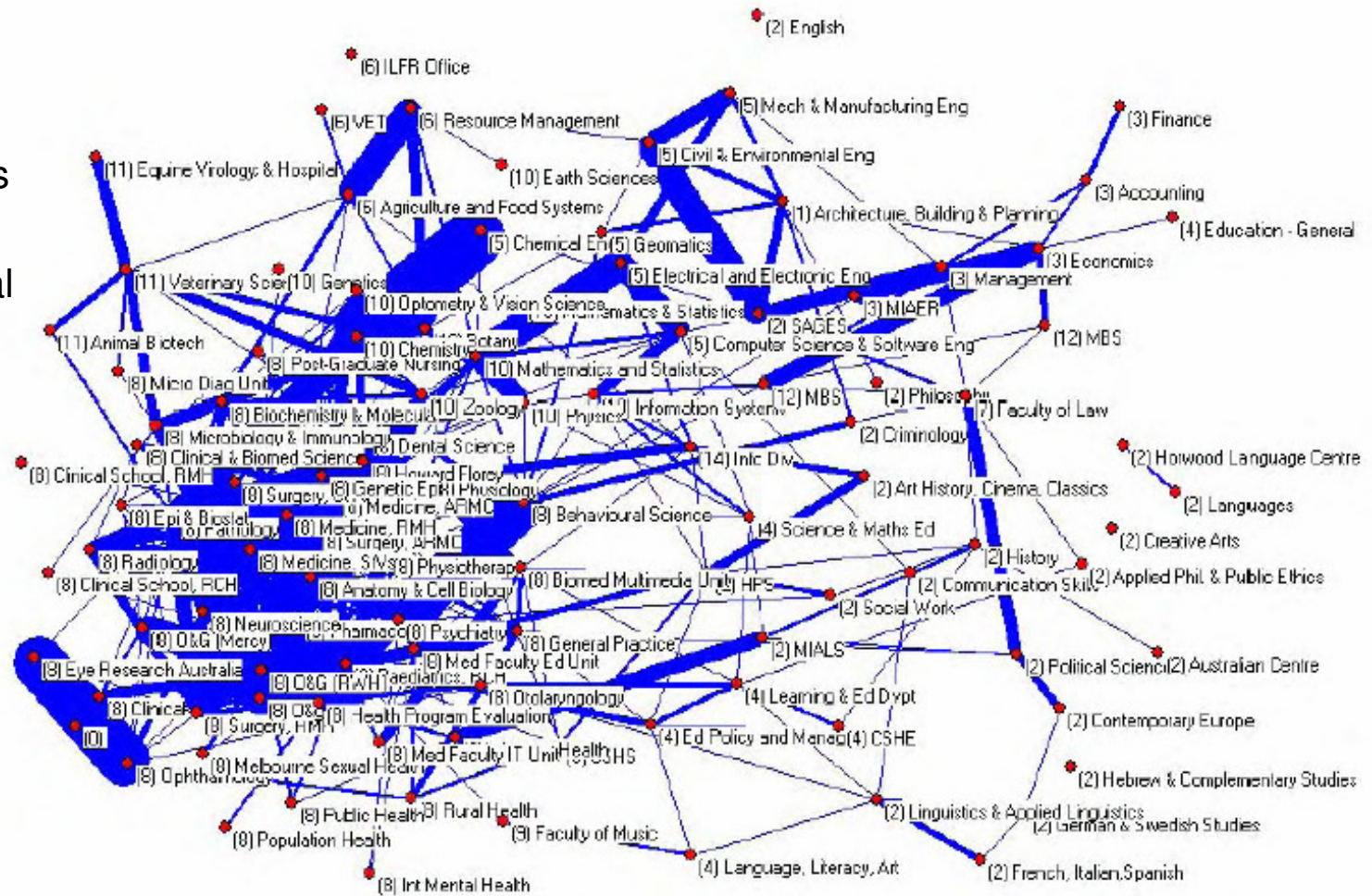
Figure 25
The Cluster Initiative Target Board

Illustrates six segments of related objectives. The more frequent an objective is, the closer it is to the centre. Objectives inside the centre and middle rings are performed by 75% and 50% of the CIs respectively.

Social Network Analysis – Research Collaborations

3 years of Collaborations

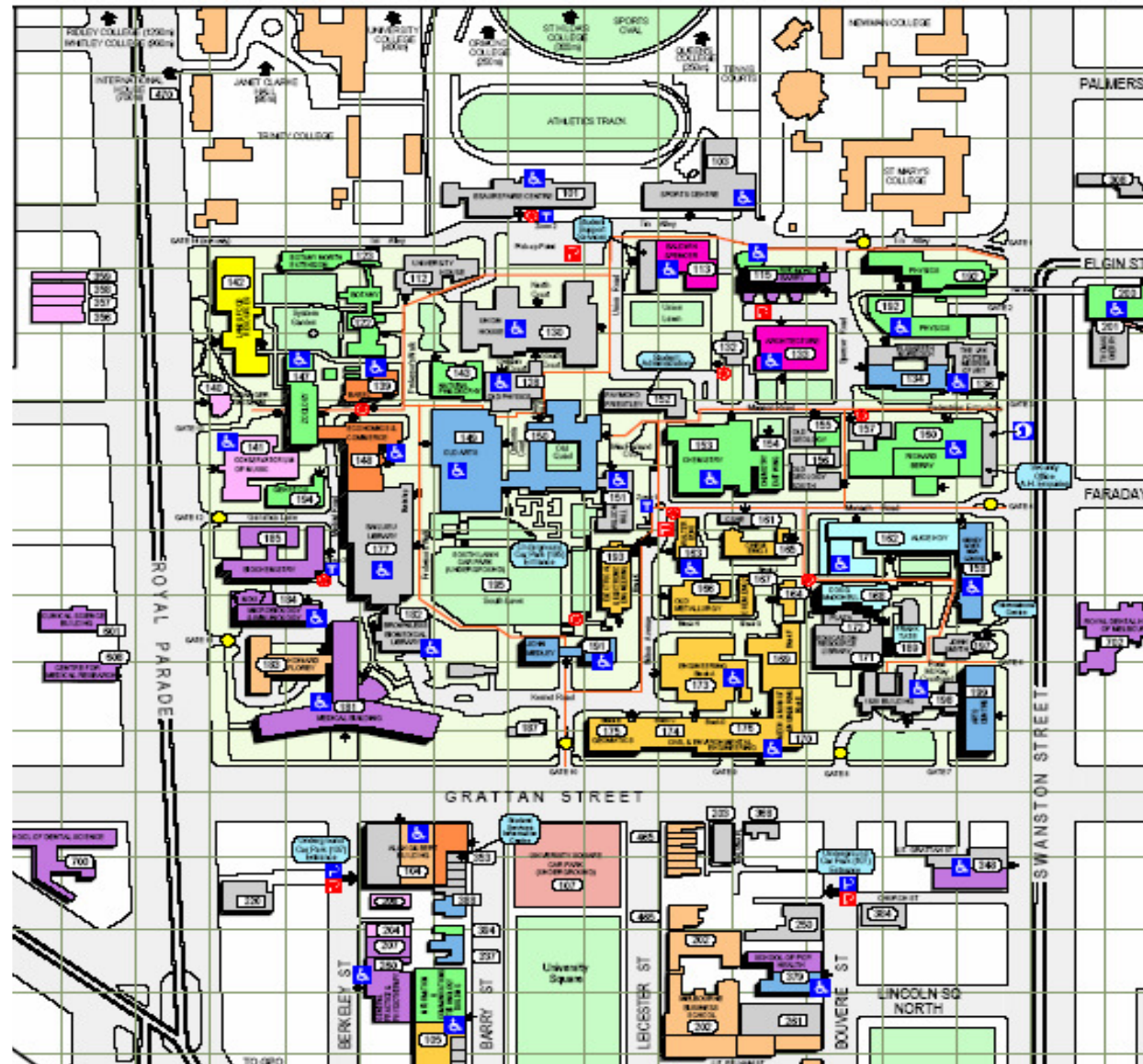
- Research Grants won
- Refereed Journal articles
- Refereed conference papers
- Books & book chapters



Social network analysis

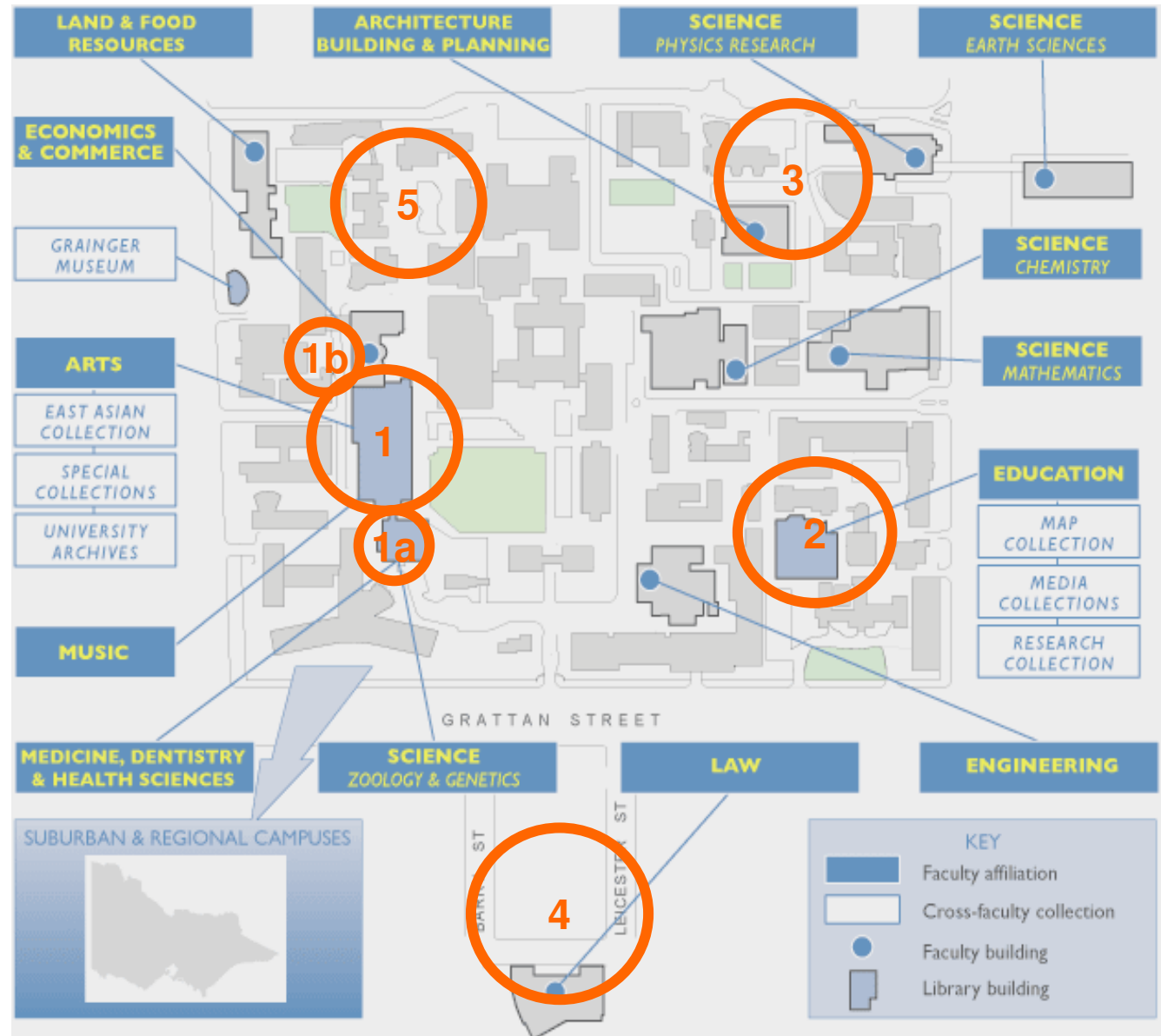
- | | |
|---------------------------------------|--|
| 1 Architecture, Building and Planning | 8 Medicine, Dentistry and Health Sciences |
| 2 Arts | 9 Music |
| 3 Economics and Commerce | 10 Science |
| 4 Education | 11 Veterinary Science |
| 5 Engineering | 12 Melbourne Business School (MBS) |
| 6 Land and Food Resources | 13 Victorian College of the Arts (VCA) |
| 7 Law | 14 University Administration (Info Division) |

Melbourne University Campus

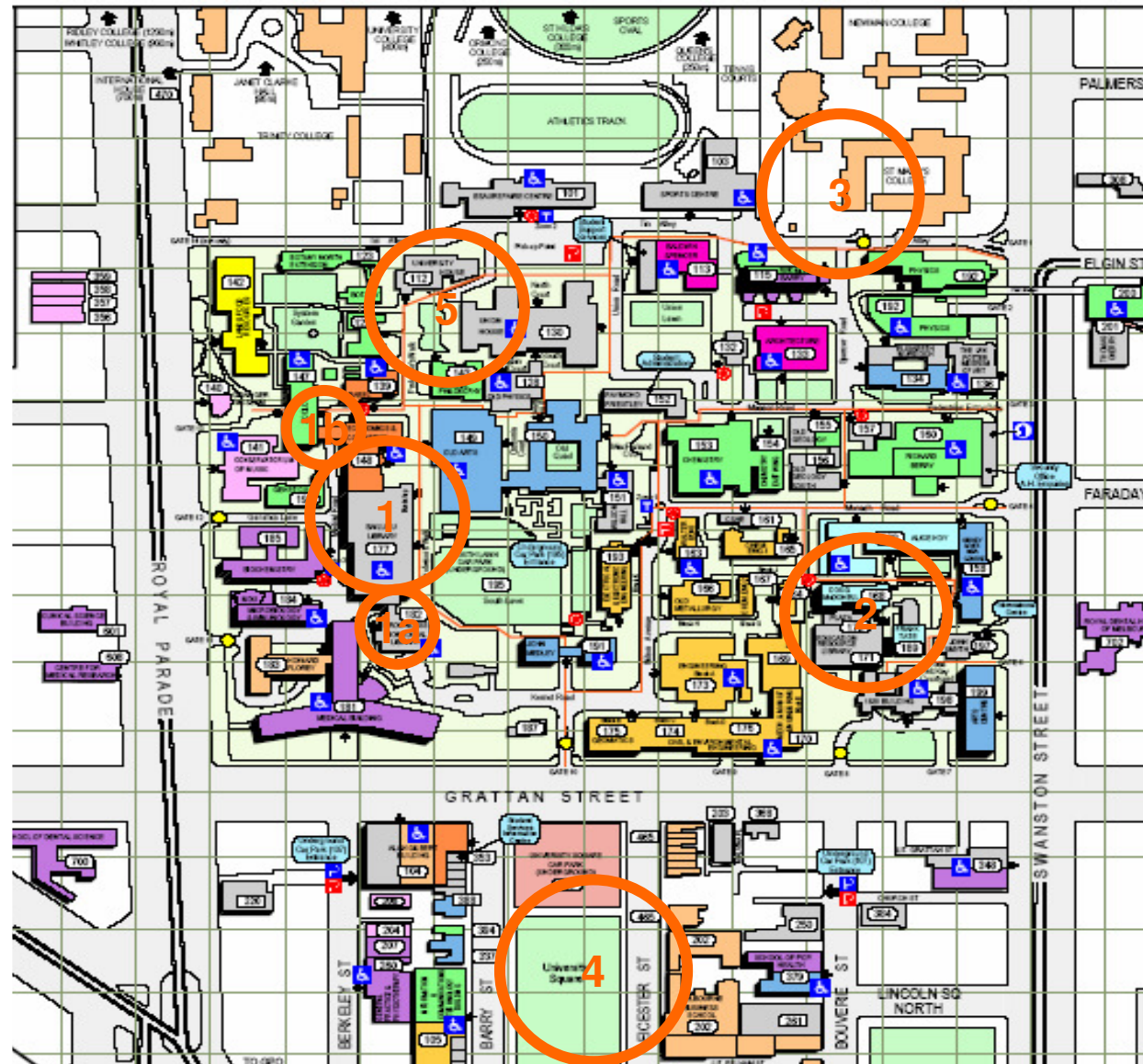


Network of Nodes – University of Melbourne Libraries/Hubs

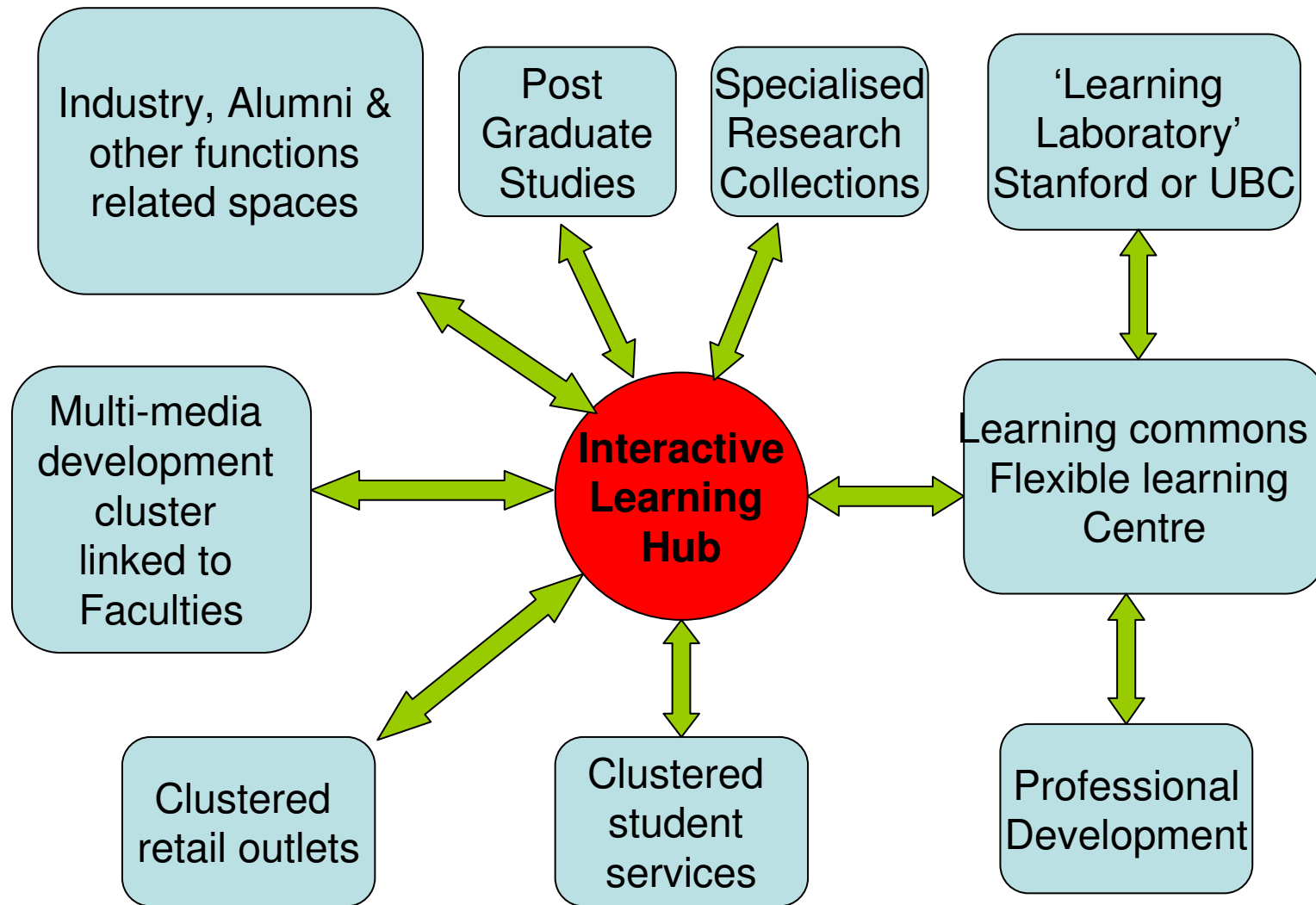
1. Arts
- 1a BioMedical
- 1b Music
2. ERC, Eng, E Asian, GS
3. Architecture, Physical Sciences
4. Economics/Commerce, Law, MBS
5. LFR, Life Sciences
6. Bio21



Melbourne University Campus



Research Led Learning - Interactive Learning Hub



Concluding Remarks

- Learning Modalities
 - NetGen students & adult learning
 - Collaborative pedagogies
 - Learning modalities
- Aligning pedagogy & space
 - Linking pedagogy & space
 - Collaborative learning environments
 - Emerging concepts
- Learning Communities
 - Social construction of knowledge
 - The campus as network of nodes
 - Learning hubs & learning commons



Thank You

kenn@rubida.net