Space Development
The Impact of Changing User Needs at HKUST Library

读者需求的改变与图书馆空间发展
Who Am I?

- Edward Spodick (史博德), Librarian
- IT and Services Infrastructure Manager
- (資訊科技及服務基礎設施主任)
- The Hong Kong University of Science and Technology
- lbspodic@ust.hk
- 852-2358-6743
- Founded 1991 (PG only, then UG)
- Massive annual expansion for 5 years
- Now 13,700 students, 530 faculty, on 60 hectares
- Academic Quality on a global level, from Business to Engineering and Mathematics
- Purpose-built campus on a cliff over the sea

What about the Library???
HKUST Library – Beginnings

图书馆选址
HKUST Library

- Opened in 1991 with 3 floors
- 4\textsuperscript{th} and 5\textsuperscript{th} floors scheduled to open over time with campus expansion
- Building frame for future addition, now complete
• Location 地点 – optimize, find the good
• Layout 图则 – lighting and shelving
• Lifts and Stairwells 电 梯楼梯 – emergencies / deliveries
• Rooms 房间 – Numbers / Types / Dimensions
• Furnishings 家具 – color, material, philosophy, psychology
• Power 电源 – Underfloor trunking / Furniture
• Plan for Expansion if feasible / needed
Design for Change

- Technology
- How users learn
- How instructors teach
- How society will change
- How your population will change
- How your users' expectations will change
- One size may not fit all – design for your needs
### Planning Considerations

| Action | Evaluation / Assessment | Consultation | Integration / Divergence | Style / Environment | Needs / Costs | Signage | Repurposing | Fire exit lanes | Collaboration / Partners | Politics / Funding | Planning | Promotion | Experiment with spaces | University / Library / Institutional Mission and Strategic Goals | Empower Users – move stuff, act on feedback, barrier-free access | Space utilization / allocation – dual / triple purpose, variety, flexibility |
|--------|--------------------------|--------------|---------------------------|---------------------|---------------|---------|-------------|----------------|--------------------------|------------------|----------|-----------|--------------------------|---------------------------------------------------------------|---------------------------------------------------------------|

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• Stop – don’t just rush through the days
• Look – watch the users and the space, and campus
• Listen – ask the users what they need
• Think – what are the trends, implications
• Talk – communication is a two-way street
• Repeat – no dead-ends, ongoing, iterative
Information Commons (phase I - Fall 2006)
– changes in pedagogy and study patterns, and online reference
因应教学模式的改变, 图书馆在06年创建了IC共享空间

Information Commons Expansion (phase II - Fall 2009)
– more flexible furniture choices, accommodate increased collaboration, small groups, flexible high-tech teaching space
在09年的扩充, 增强了小组设施和弹性教学空间
Other changes in usage patterns include:

**Users noisier** – more conflict with those wanting quiet

- computers create noise
- increased collaboration work creates noise
- redesigned LG3 as a **Quiet Floor** with individual carrels only
- swapped LG3 group studies with LG4 faculty studies
More **Power** needed – and more and more

- 84% vote in poll
- visible safety problem
- add sockets everywhere (>1,500 so far)
- require sockets for new furniture

**Wifi Everywhere (Toilets?)**

**Laptop Security (Toilets!)**

**Hot Water**

**Cellphone Zones (Terraces?)**
A major educational initiative in Hong Kong Including:

**Fall 2012:**
A change from 3-year to 4-year undergraduate programs in all Hong Kong public Universities 本科学制从三年改为四年
Changing Space – Building Extension
Students

- As of January 2010: 9,515
- 334 implementation (2012): +1,850 Ugs (~30% increase)
  (excluding more students in self-financing programs and overseas students)
- 19% increase overall
- As of September 2015: 13,780
  (with bigger class sizes and more PG, actual increase over 5 years is 45%)

Library Space

- Existing Library: 10,550 m²
- Extension: 1,800 m²
- 17% increase (a need for efficiency)
- Give all to maximize study space
- No additional shelving
- Requires some off-site shelving
- Re-allocate existing spaces
- Proposed a Campus Learning Commons – on LG1
- Later an LC extension and space enhancements

Study Seats

- Starting number: 2,125
- With Extension: 2,500
  - 17% increase
  - In the same amount of space
  - Maintaining ‘white space’
- With Learning Commons: 3,100
  - 45% increase overall
  - Increasing percentage of student usage
  - Increasing volume of faculty/staff usage
- With LC Extension: 3,300
  - >700 available 24/7
Changing Space – Learning Commons

LC共享空间
Users – Communication Channels

Academic Support Units
Student Union
Focus Groups
Open forums

TALK to your users and potential users

Clarifications? Questions? Ideas?
Needs? Criticisms?

Surveys + Polls
Library Blog / Forums
Traditional Feedback (Phone, Fax, Post, Email, Coffee Shop)

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Learning Commons – User Needs

共享空间模式中的读者需求

- Technology
- Student services 1-stop
- Collaborative learning
- Meetings, seminars, tutorials
- Presentation support
- Learning and teaching
- Socializing
- Refreshment / Relaxation

- User-friendly
- Student and faculty support
- Teaching skills/spaces
- Media creation, digitization, production and workshop
- Videoconferencing
- Career development
- Counseling
- 24-hour/7
Learning Commons – Layout
<table>
<thead>
<tr>
<th>Year</th>
<th>Study Rooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>4</td>
</tr>
<tr>
<td>1994</td>
<td>10</td>
</tr>
<tr>
<td>2000</td>
<td>12</td>
</tr>
<tr>
<td>2006</td>
<td>Information Commons</td>
</tr>
<tr>
<td>2009</td>
<td>Information Commons Expansion</td>
</tr>
<tr>
<td>2011</td>
<td>27</td>
</tr>
<tr>
<td>2012</td>
<td>49</td>
</tr>
<tr>
<td>2015</td>
<td>55</td>
</tr>
</tbody>
</table>

- 3-3-4 HK Educational initiative
- Building Extension opens
- Learning Commons opens
- LC Extension and space conversions
- All with whiteboards, large monitors
- All with artwork, new bright, open design
- Different sizes (5-35 people)
- All bookable online by users

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Furniture Samples Room 座椅样本试用

- As tenders came back, samples were obtained.
- A room/space was set up for Samples.
- Always collect user feedback.
334 – Changing User Needs
不断改变的读者需求 - 学制改变

- More and more students / crowding
  学生人数上升

- Increase in Humanities and Social Sciences
  在科大，人文社科明显比之前加重

- Increased emphasis on whole person development
  更注重全人发展
More Exhibitions and Gallery Space

- More *exhibitions* in G/F Gallery 地面层展览厅
- **New** Special Collections *Gallery* (donated funding) 捐款支持特藏展览厅的建设
- Display *student* artworks – *Art Dimensions* program 在馆内展示学生艺术作品
- More artist and gallery *talks* and *demonstrations* 艺术家讲座和示范
- Establish artistic *partnerships* with *academic* programs 与学系建立艺术计划的合作
Benefits and Pressures

• Greatly increased occupancy/utilization
• Much more pressure for 24/7 Expansion
• LC Great, Give Us More!
  LC Bad, Give Us Quiet Space!
• Crowded, Dirty, Hungry, Noisy
  Happy, Productive, Resourceful!
User Needs Targeted
改善计划的目标

- Expand 24/7 and holiday options
- Greater openness of design
- Retain seats – but feel less crowded
- Improve views – make windows usable
- More flexible furniture – heights and styles
- More individual study & quiet space
Results – 1/F – 改进后的一楼

SEAT

(-4%)
Results - LG1 - 改进后的地下一层

STUDY ROOMS: 8 => 11
SEATS: 184 => 291 (+58%)
OPEN LC SEATS: 94 => 223 (+137%)
<table>
<thead>
<tr>
<th>Type of defects</th>
<th>2013/2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>495</td>
</tr>
<tr>
<td>Water Supplies</td>
<td>55</td>
</tr>
<tr>
<td>Drainage</td>
<td>59</td>
</tr>
<tr>
<td>Wall</td>
<td>32</td>
</tr>
<tr>
<td>Others</td>
<td>121</td>
</tr>
<tr>
<td>Ceiling</td>
<td>8</td>
</tr>
<tr>
<td>Furniture &amp; Fittings</td>
<td>142</td>
</tr>
<tr>
<td>Window</td>
<td>3</td>
</tr>
<tr>
<td>Floor</td>
<td>3</td>
</tr>
<tr>
<td>Air Conditioning</td>
<td>31</td>
</tr>
<tr>
<td>Door</td>
<td>30</td>
</tr>
<tr>
<td>Sanitary Fitting</td>
<td>12</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>991</strong></td>
</tr>
</tbody>
</table>

Defects completion based on 260 days* = completed **3.8 defects per day** for Facilities team.
• What about users who are not currently served?

Collaborators? Distant learners? Alumni?
Secondary students? Businesses?

Revisit Mission and Strategic Goals

• Think outside the box
– observe/solve problems

针问题的解决方法
往往来自破格思维
• Think outside the box – non-traditional uses/users:
  非一般的图书馆空间用途

  http://library.ust.hk/blog/2011/04/02/non-traditional/

• There is no substitute for actual communication with users and potential stakeholders.
What do we see?

What do we miss?