Rethinking the academic workplace opportunities of a crisis

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Faculty of Architecture, TU Delft, Netherlands

Fire destroyed Architecture building
TU Delft, May 13, 2008
CONTENT

1. PROCESS AFTER THE FIRE

2. RETHINKING & IMPLEMENTING CONCEPTS (< 6 months)

3. EVALUATIONS 2011 (after 3 years)

4. STRATEGIC CHOICES / DESIGN CHALLENGES

CONTENT / Learning outcomes

PROCESS AFTER THE FIRE
1. Recognize the teamwork between policy makers, controllers, users, architects, and their representatives required for campus management.

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2. Illustrate evidence-based design guidelines for the changing academic workplace, from the traditional territorial, cellular office towards activity-related, non-territorial concepts.

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3. Discuss post-occupancy evaluations of new concepts for the academic workplace.

STRATEGIC CHOICES / DESIGN CHALLENGES
4. List interrelated strategic choices for the campus of the future.
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*Integrated solutions: how & now*
Emergency management

< 3 days after the fire
Aankondiging in Aula
Found a ‘new’ building within 10 days

sustainable = re-use

ASSIGNMENT: relocate 3300 students and > 800 employees
DEADLINE: renovate 320,000 sqft < 6 months
+ new construction 40,000 sqft < next 6 months
1. professors & professionals

2. all parties have studied or worked at faculty

Project group representing
- policy makers: board of executives
- dean
- controllers
- users
- architects that have known the faculty for years

1) BRIEF team
- Alexandra den Heijer (chair)
- Christian van Ee (secretary of education)
- Herman Schoffelen (secretary of faculty)
- Erik Coen (logical quality education)
- Anton Lasenbury (departmental heads)
- Rijsels Wasser (on behalf of students & student associations)
- Huske Hoogen (Fokkema architects)

2) DESIGN team
- Wytsje Palj (chair)
- Sander Fokkema (Fokkema architects)
- Job Roos (Bakema & Roos architects)
- Monk Esthet (furniture)
- Wijn de Meij (interior)
- Herman Korteweg (Korteweg & Jans)
- designers from these architectural firms
- chair: BRIEF, CONSTRUCTION & FACILITIES

3) CONSTRUCTION & FACILITIES team
- Johan Eggink (chair CONSTRUCTION)
- Dennis Duyzer (chair FACILITIES)
- construction team
- facilities: building & infrastructure
- Johan Eggink (chair CONSTRUCTION & FACILITIES)
- facilities: internal & external parties
- Achterste: faculty & facilities
- Dennis Duyzer (chair of internal & external parties)

http://www.managingtheuniversitycampus.nl
What we started with in June 2008...
Facts

150 participating companies
25 consultancy / architecture firms
350 construction workers on site
800 orders
15 km sprinkler / 5500 sprinklers
30,000 litres paint
220 km data cables
5200 wall outlets
Managing the university campus

- **strategic**
  - policy makers

- **financial**
  - controllers

- **users**
  - functional

- **technical managers**

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**Phase 1 - EAST:** 16,000 m² gfa in use September 2008

**Phase 2 - WEST:** 16,000 m² gfa in use November 2008

**Phase 3 - GLASS HOUSES:** 4,000 m² gfa new in use May 2009

- **Undergraduates < 4 months after fire**
- **Project ready < 1 year**

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http://www.managingtheuniversitycampus.nl
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Integrated solutions: how & now
42,000 m²
± 420,000 sqft

Cellular office space in old building – average occupancy rate 15%
11th floor – 13.5 m² usable floor area / fte

32.000 m²
± 320.000 sqft
Design the building as a city
– reduce footprint (-15%), more shared / public space
GOALS ORGANISATION
1. Community building
2. More effective support of education, research & management
3. Creating the place to meet
4. Stimulate social interaction & intellectual interaction
5. Flexible use of facilities
6. Sustainable
Dutch references – new academic workplace

<table>
<thead>
<tr>
<th>Institution</th>
<th>m² usable floor area / workplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR.3</td>
<td>31.9</td>
</tr>
<tr>
<td>UvA.2</td>
<td>16.5</td>
</tr>
<tr>
<td>UvA.1</td>
<td>10.3</td>
</tr>
<tr>
<td>UvA.0-5</td>
<td>80.2</td>
</tr>
<tr>
<td>RoGo.4</td>
<td>9.4</td>
</tr>
<tr>
<td>RoGo.4-1</td>
<td>0.4</td>
</tr>
<tr>
<td>LUIJ.3</td>
<td>8.9</td>
</tr>
<tr>
<td>TU.1</td>
<td>8.9</td>
</tr>
<tr>
<td>VU.2</td>
<td>7.7</td>
</tr>
</tbody>
</table>
Campus of the future:
- sustainable solutions
- CO₂ neutral campus
(photo: Wageningen)
Campus of the future: - lecture halls – only to share
(photo: VU Amsterdam)

Campus of the future: - transparency, shared facilities
(photo: VU Amsterdam)
Campus of the future:
- creating the place to meet

(photo: Delft)

Campus of the future:
- more quality, less quantity
- new life for old buildings
- increase benefits / m2 to cover high maintenance cost / m2
- users accept more defects of meaningful, historic buildings

(photo: Maastricht University)
Reducing m2, but improving...
Quality of place (interior design)

the academic workplace
place → building → city

one territorial office workplace → many non-territorial places

FUNCTION MIX – campus of the future

one workplace → many workplaces

http://www.managingtheuniversitycampus.nl
2011: “To share or not to be…”

<table>
<thead>
<tr>
<th>ORGANISATIONAL LEVELS / potential partners for shared use, management and/or ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>global</td>
</tr>
<tr>
<td>continental</td>
</tr>
<tr>
<td>national</td>
</tr>
<tr>
<td>regional</td>
</tr>
<tr>
<td>local</td>
</tr>
<tr>
<td>university</td>
</tr>
<tr>
<td>faculty</td>
</tr>
<tr>
<td>department</td>
</tr>
<tr>
<td>section</td>
</tr>
<tr>
<td>individual</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHYSICAL SCALES / resources to accommodate the required campus functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>world</td>
</tr>
<tr>
<td>Europe</td>
</tr>
<tr>
<td>Netherlands</td>
</tr>
<tr>
<td>region</td>
</tr>
<tr>
<td>city</td>
</tr>
<tr>
<td>campus</td>
</tr>
<tr>
<td>building</td>
</tr>
<tr>
<td>zone</td>
</tr>
<tr>
<td>subzone</td>
</tr>
<tr>
<td>place</td>
</tr>
</tbody>
</table>

models for shared use/management/ownership with internal partners on campus

models for shared use/management/ownership with external partners on campus

ACADEMIC FUNCTIONS • EDUCATION & RESEARCH

RESIDENTIAL FUNCTIONS

RETAIL & LEISURE FUNCTIONS

RELATED BUSINESS FUNCTIONS

INFRASTRUCTURE FUNCTIONS

<table>
<thead>
<tr>
<th>Amsterdam</th>
<th>Maastricht</th>
<th>Eindhoven</th>
<th>Leiden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groningen</td>
<td>Enschede</td>
<td>Delft</td>
<td>Nijmegen</td>
</tr>
<tr>
<td>Tilburg</td>
<td>Utrecht</td>
<td>Wageningen</td>
<td>Rotterdam</td>
</tr>
</tbody>
</table>

0  5  10 km
Appendix I
Dutch university campuses

EUR Erasmus University Rotterdam
LED Leiden University
DU Delft University
RU Radboud University Nijmegen
RUU University of Groningen
TUD Delft University of Technology
TUE Eindhoven University of Technology
UWB Maastricht University
UT University of Twente
UU Utrecht University
UvA University of Amsterdam
UvT Tilburg University
WU Wageningen University
1. Studio space

- student back at the faculty
- 6 m2 usable per workplace
- became less after decision process

- tables are assigned to groups of students per semester (no permanent territory)
- smart use of space (by smart scheduling)
STUDIO space
Sept 1, 2008

Sept 4, 2008

Sept 18, 2008

Sept 18, 2008

http://www.managingtheuniversitycampus.nl
2. Office space

- no individual territory
- 12 m² usable per fte → became more after design process
- activity related concept
Zone for one department
students and academic staff sharing workspace → reducing the footprint, improving interaction

3. Lecture halls
- more shared use of large halls
- more small spaces locally
- flexible floor plan
- differentiation of quality:
  also used for seminars / conferences

http://www.managingtheuniversitycampus.nl
4. Library
5. Educational facilities

6. Laboratories
7. Conference rooms
8. Restaurants & bars

8. Restaurants & bars
9. Public functions
9. Public space

• usable space in corridors for informal meetings and work
10. Storage

→ including digital storage

Virtual tour of the building (2’45”)

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EVALUATIONS 2011 (after 3 years)
3. Discuss post-occupancy evaluations of new concepts for the academic workplace.

some academics – 30 of 450 – were still very dissatisfied...
- “we will work at home”
- “we can not concentrate in this colorful, crowded city”
- “we want to share an office with the same person every day”
- “we don’t have enough individual storage space” (just 1,20 m)
### PRIMARY FACTS

<table>
<thead>
<tr>
<th>ORGANISATION</th>
<th>BUILDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 1400 BSc students</td>
<td>• 700 BSC STUDIO DESKS</td>
</tr>
<tr>
<td>• 1675 MSc students</td>
<td>• 830 MSC STUDIO DESKS</td>
</tr>
<tr>
<td>• 450 FTE staff</td>
<td>• 470 DESKS</td>
</tr>
<tr>
<td>• 800 employees</td>
<td>• 350 AVAILABLE EXTRA SEATS</td>
</tr>
<tr>
<td>• 170 0,0 fte</td>
<td></td>
</tr>
<tr>
<td>• 270 PARKING PLACES</td>
<td>44 MEETING ROOMS</td>
</tr>
<tr>
<td>AND MUCH MORE</td>
<td>5 LECTURE HALLS</td>
</tr>
<tr>
<td></td>
<td>1 LIBRARY</td>
</tr>
<tr>
<td></td>
<td>1 RESTAURANT</td>
</tr>
<tr>
<td></td>
<td>3 BARS</td>
</tr>
<tr>
<td></td>
<td>2260</td>
</tr>
<tr>
<td></td>
<td>400</td>
</tr>
<tr>
<td></td>
<td>→ less</td>
</tr>
</tbody>
</table>

### BK City Slim

Transform BK City to an energy / CO₂ neutral building
Reduce footprint: more users / m²
BK city won an EU price (Europa Nostra 2011) for conservation of cultural heritage

BK city got many other nominations and won Architecture prices (2009-2011)
Reducing the footprint (1)

workplace for students:
• brief: 5.6 m²
• realized: 4.0 m²
• 2011: 4.3 m²
• 283 tables, 1530 → 2260 chairs
• 0.75 workplace / enrolled student
• occupancy rate > 40%

m² is usable floor area (m² ufa)

Reducing the footprint (2)

workplace for employees:
• brief: 12 m²
• realized: 14 m²
• 2011: 11.2 m²
• 470 → 396 desks
• 0.86 workplace / fte
• occupancy rate 22% → 27%

m² is usable floor area (m² ufa)
accommodating a flexible workforce

<table>
<thead>
<tr>
<th>personen</th>
<th>omvang aanstelling in fte</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>0,1</td>
</tr>
<tr>
<td>177</td>
<td>0,2</td>
</tr>
<tr>
<td>51</td>
<td>0,3</td>
</tr>
<tr>
<td>83</td>
<td>0,4</td>
</tr>
<tr>
<td>44</td>
<td>0,5</td>
</tr>
<tr>
<td>61</td>
<td>0,6</td>
</tr>
<tr>
<td>15</td>
<td>0,7</td>
</tr>
<tr>
<td>82</td>
<td>0,8</td>
</tr>
<tr>
<td>14</td>
<td>0,9</td>
</tr>
<tr>
<td>261</td>
<td>1,0</td>
</tr>
<tr>
<td></td>
<td>373</td>
</tr>
<tr>
<td></td>
<td>0,6 t/m 0,5 fte aanstelling</td>
</tr>
<tr>
<td></td>
<td>433</td>
</tr>
<tr>
<td></td>
<td>0,6 t/m 1,0 fte</td>
</tr>
</tbody>
</table>

bron: a.c.denheijer@tudelft.nl

Changes from 2008 - 2011

- some individuals sit at the same desk every day – but they clean their desks!
- some meeting spaces were transformed in studio space (meeting spaces are shared quite well)
- more individual storage... we lost that battle
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Changing the academic workplace

**Strategic goals:**
- increase competitive advantage (image)
- stimulate collaboration between different user groups
- change culture

**Functional goals:**
- higher productivity
- better match for user activities
- higher quality of the working environment

**Financial goals:**
- reduce risks
- reduce costs
- increase value

**Physical goals:**
- reduce the footprint
- reduce CO₂ emission

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**Strategic choices, linked to stakeholders**

<table>
<thead>
<tr>
<th>accommodate &quot;exclusive&quot; and &quot;closed&quot;</th>
<th>accommodate &quot;shared&quot; and &quot;open&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>low % of resources spent on the campus</td>
<td>high % of resources spent on the campus</td>
</tr>
<tr>
<td>only public funding</td>
<td>allow private funding</td>
</tr>
<tr>
<td>low space use per student or employee</td>
<td>high space use per student or employee</td>
</tr>
<tr>
<td>focus on individual needs</td>
<td>focus on collective needs</td>
</tr>
<tr>
<td>accept % buildings in bad condition</td>
<td>all buildings at least in reasonable condition</td>
</tr>
<tr>
<td>small(er) ecological footprint</td>
<td>large(r) ecological footprint</td>
</tr>
</tbody>
</table>
Changing the academic workplace

• from private to more public space
• from office space to a multifunctional working environment
• from individual to shared - “to share or not to be…”
• is expanding from a workplace to the campus and the city
• trading quantity (per user) for quality of the working environment
• increasingly paperless (paper determines territory…)
• from one assigned workplace to many meaningful workplaces or to finding the most comfortable workplace in every season

Follow me on Twitter: @alexandra_dh

More about case BK city & book “Managing the university campus”:
http://managingtheuniversitycampus.nl

also available in the SCUP bookstore
Maryland Ballroom Foyer

http://www.managingtheuniversitycampus.nl