CWE Collaborative Work Environments

A New Team Based Approach

Hank de Cillia - Henry de Cillia Associates, Inc.

Robert Luchetti - Robert Luchetti Associates, Inc.

NeoCon 2004 | June 15, 2004

To assist architects, interior designers and facility planners in determining the most effective use of 'office' space

Our conclusions are based on the research findings of many leading workplace thinkers and designers, who we will refer to throughout our presentation.

We expect that the dominant paradigm for office design in the first decade of the 21st century will be to provide support for working together (collaborative) activities

Collaborative Work Environments
A New Team Based Approach

Research/Trends

Why Collaborate?

Technology for Collaborative Workspaces

CWE: A Team Based Planning Rationale

Designing Collaborative Work Environments

New Furniture to Support Collaborative Work

- Organizations are flatter and less hierarchical

- More emphasis on team and group work

- More customer-focused and project-oriented

- Workforce more diverse and it's growing older

- Temporary workers making up a larger percentage of office worker population

- Technologies are more personal, collaborative and portable

- They enable 'work from anywhere' business strategies
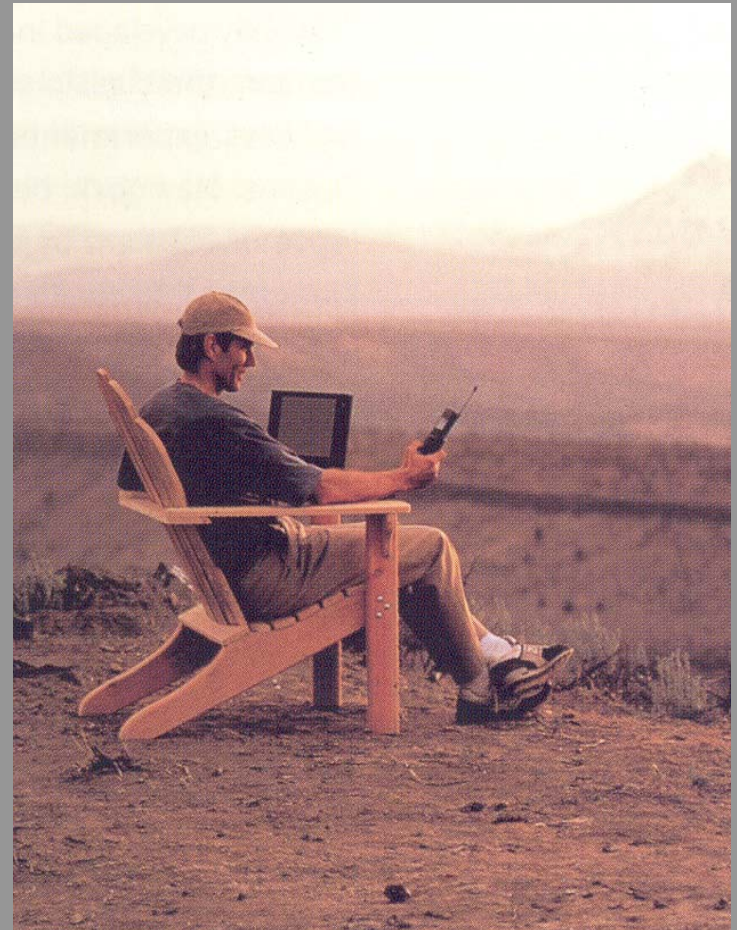
- In spite of 'work at home' and 'shared workstation' programs, the best results come from workspace redesign programs that better help people work together.

- These programs reduce the size of offices or workstations to free up space for 'teamwork' or meeting and project rooms are added to increase organizational effectiveness.

- Organizations will continue to rely on 'face-to-face' and 'shoulder-to-shoulder' communications.

- The 'office of the future' may more resemble a conference center than an traditional office.

- We still need 'places' to do private tasks, however.

- Even in team-based organizations, solo work still consumes majority of average worker's time in the office.

- We need individual and team work balance.

"The Next Society" (Peter Drucker)

"…the dominant factor in the next society will be ….the rapid growth in the older population and the rapid shrinking of the younger generation."

"… people …will not keep on working as traditional full-time…employees but will participate … as temporaries, as part-timers, as consultants, …."

"Within next 20 years…half the people who work for an organization will not be employed by it…."
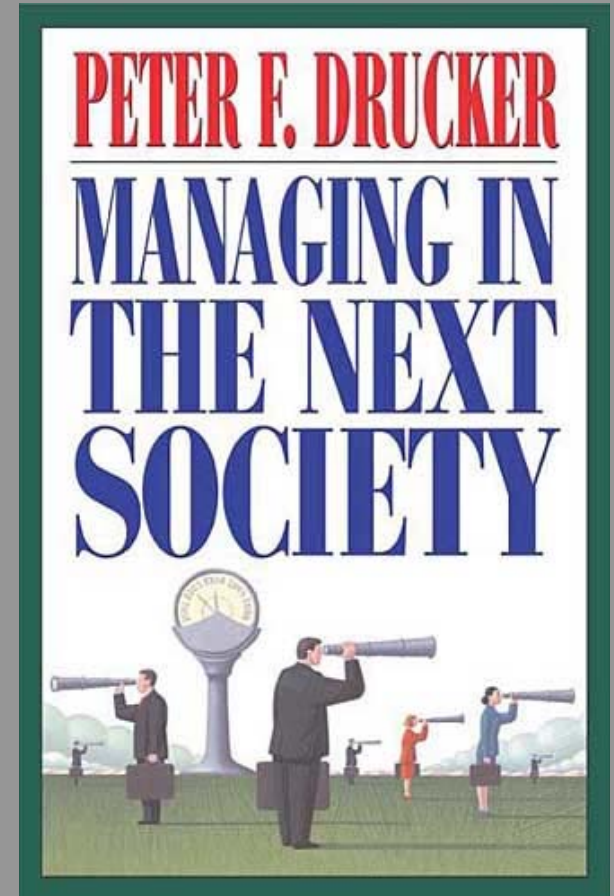
"The New Office - Research Findings"

"A significant change in our notion of work has already occurred --- the shift to interdisciplinary teams. Our work is increasingly interdependent....Increasingly, the workplace is being used as a tool for management to support collaborative work."
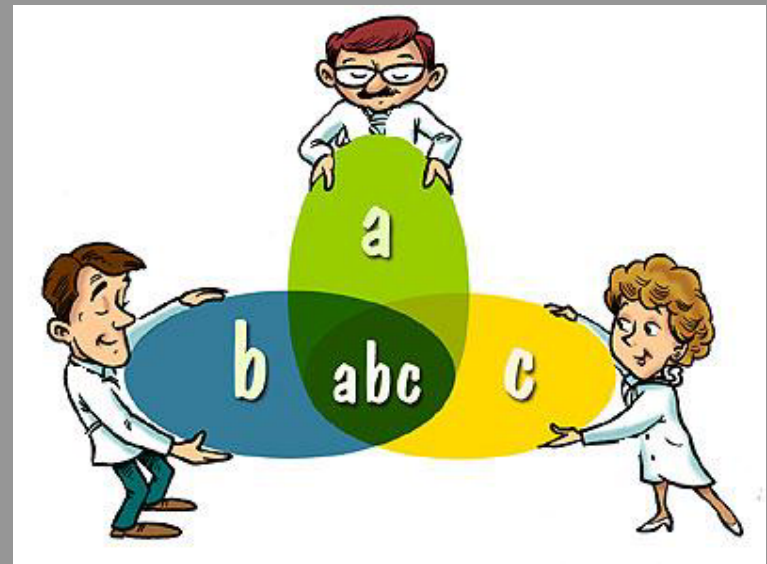
Martha Whitaker, HOK

"Modern work is largely collaborative. Most white collar workers spend large portions of their time in meetings. Increasingly, jobs are being organized by teams...a representative work group has fewer than ten members and works on their task for a period of weeks or months...collaboration requires face-to-face interactions."

Gary Olson, University of Michigan Collaboration Lab

" One way to enhance interaction is to create 'group space'. Group space is common nonterritorial workspace shared by a group or work unit. In some facilities, companies have reduced the size of individual offices to a single worksurface with storage and contributed the remainder of the traditional office space allotment to the group area."

Tom Allen, MIT
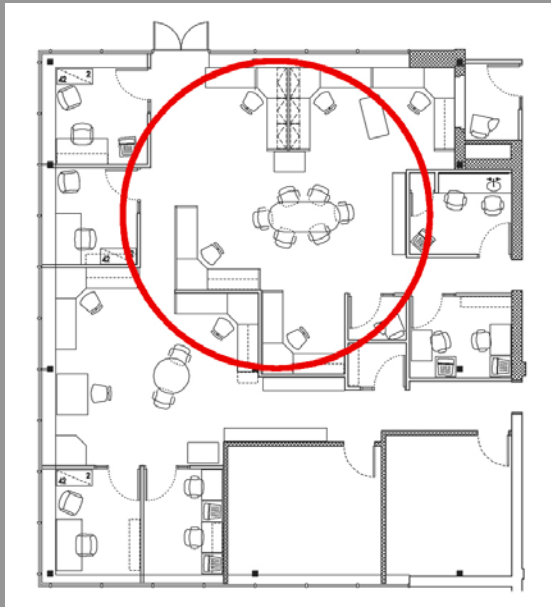
" Companies that adopt a 'project team organization'
    structure experience an eight to ten fold increase in
    planned meetings... the typical organization allocates
    about six square feet per person for meeting space; in the
    future, project team organizations will allocate up to
    thirty five square feet per person for meeting and
    collaborative workspace."

Jon Ryburg, Facility Performance Group

"The primary unit of organizational productivity is shifting from the individual to the team."

Phillip Stone, Harvard Business School

"People are spending more time in meetings and informal conversations working collectively toward common goals; Clusters of small workstations are arranged around tables seating four to eight persons, and enclosed rooms where teams can display their collective work and engage in open dialogue are being built."

Marilyn Farrow, IIDA

"The most effective teams consist of six to ten people, have dedicated workrooms, are highly collaborative and want flexibility in their physical environments....Face-to-face contact by team members is critical."

Karen Lalli, Hillier Group
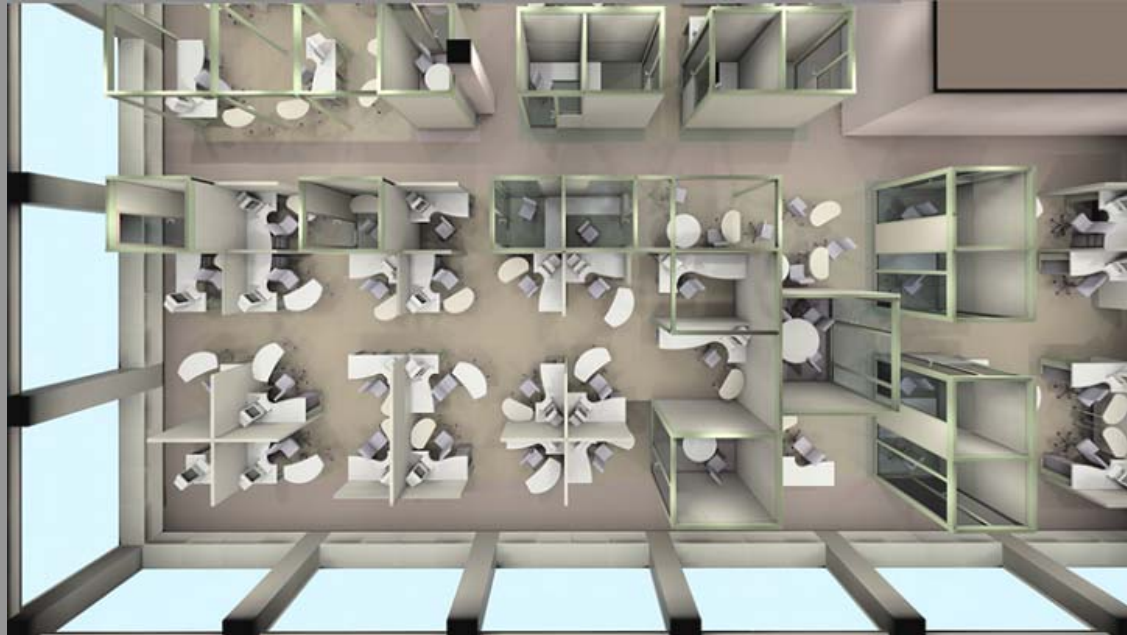
"Alternative Workplace Design Approaches...1990-2000"

"Alternative workplace strategies are new ways of coordinating work processes, organizational culture, information technology and the physical workplace to improve the organization's performance and the quality of work life."

Technology

People

Work Process

Work Culture
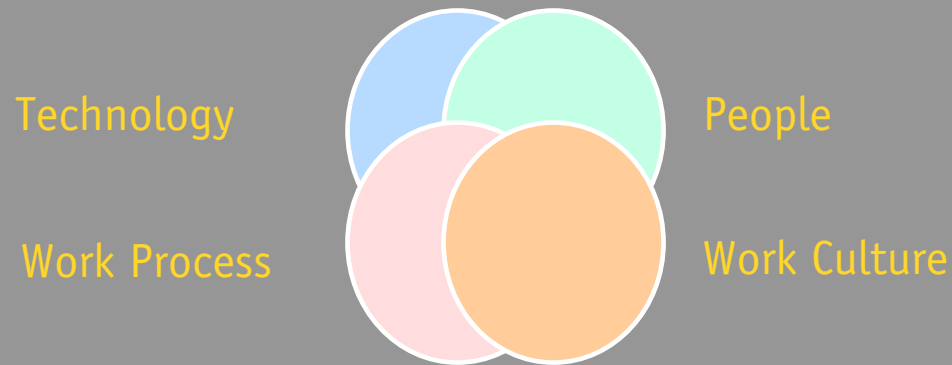
Managing The Reinvented Workplace, IDRC Publication

"Workplace Design Priorities: Unfilled Needs"

The three most often reported workplace qualities that have the greatest effect on individual and team performance, as well as job satisfaction, were ranked as follows:

1. Ability To Do Distraction-Free Solo Work

2. Support for Impromptu Interactions

3. Support for Meetings and Undistracted Groupwork

(BOSTI 2000 Study)

"Future Office Design Trends....2001-2010"

- Individual Workspaces

- Manager Offices

- Executive Offices

- Conference Rooms

- Meeting Rooms

- Project/Team Rooms

- Ad Hoc Spaces

- Admin/Support Spaces

"Collaborate...To Work Together"

No term better describes the great unmet need for workplace planners and designers in this decade: supporting office worker's need to collaborate.

"Collaborate...To Work Together"

Since the early 1970's, when open plan and systems furniture were simultaneously introduced in America, office space planning and design have largely focused on the 'micro' environment of office workers...their private office or workstation.

"Collaborate...To Work Together"

With the previously noted exception of lack of enclosure, we have largely succeeded in furnishing office workers with high performance, ergonomically correct workspaces to accomplish individual tasks.

"Collaborate…To Work Together"

But, as we have come to learn in recent years, work in larger organizations requires groups or teams of people to get things done…and our workplaces have been poorly conceived to support this 'macro' office dynamic.

Why do we increasingly need to work together in modern organizations?

- Many tasks are too large or have deadlines too demanding for one person to do.

- Many tasks require a range of specialized expertise that no one person can possess.

- We convene groups so a larger set of ideas, wisdom and judgments can be pooled.

- Members of an organization are more likely to agree to a decision or plan if they have participated in or even just observed the process that lead to it.

- In many organizations new members are at least in part trained by having them observe groups working on problems.

Why do we increasingly need to work together in modern organizations?

- Downsizing & outsourcing place even more emphasis on the need for collaboration....people frequently visit to participate in project work activities or meetings.

- Similarly, 'work-at-home', 'shared' and/or 'unassigned' workspace programs have an even greater need to foster teamwork and organizational unity by having physical spaces to convene their workforce.

So, collaboration encompasses many group work activities

- Places to hold meetings of various types with groups of varying sizes

- Places for educational activities like customer presentations, management seminars and employee training...

- Places for project teams or functional workgroups to work together on the same activity

- Places that support serendipitous meetings and informal interactions.

Collaborative workspaces require the same level of technical support, using a new generation of collaborative technologies:

- Laptop Computers

- Personal Computers

- Computer (LCD) Projectors

- Electronic/Interactive Whiteboards

- Teleconferencing (Video, Audio, Data)

- Audio Visual Presentation

We can recognize and design spaces for the most common types of collaborative work.

Teaming Spaces	Meeting Spaces	Learning Spaces
Project Spaces		

Ad-Hoc Spaces

Multi-Purpose Spaces

Collaborative Spaces as Activity Settings

- 6 Principles

- 8 Attributes of group settings

- Defining a framework:

  Teaming/Meeting/Learning/Ad Hoc

Collaborative Spaces as Activity Settings: 6 Principles

1. Program: objective/goal of the activity taking place

Collaborative Spaces as Activity Settings: 6 Principles

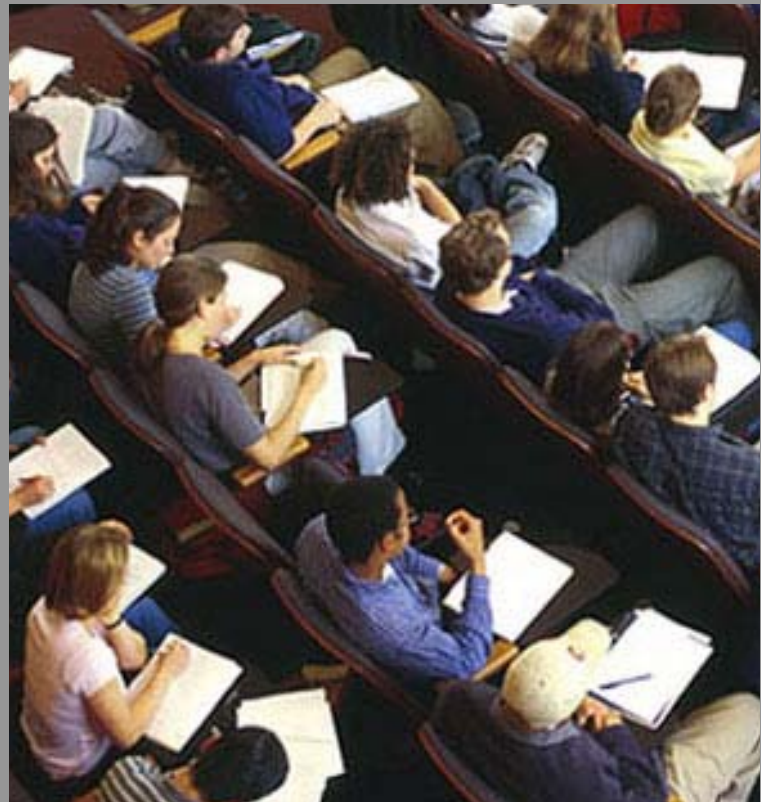**2.** Physical Features: location, spatial description, equipment

Collaborative Spaces as Activity Settings: 6 Principles

3. Time Characteristics: length, time, date, frequency of the   event taking place

Collaborative Spaces as Activity Settings: 6 Principles

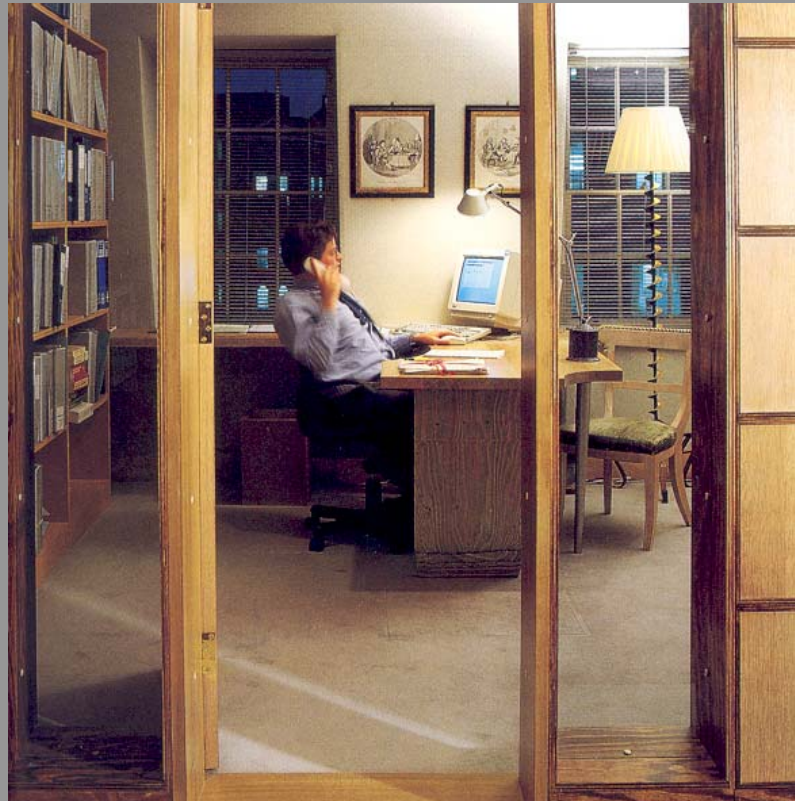4. Human Components: number and types of individuals and groups

Collaborative Spaces as Activity Settings: 6 Principles

5. Power of Human Components: distribution/hierarchy of control

Collaborative Spaces as Activity Settings: 6 Principles

6. Boundary Properties: admission/access regulations

8 Attributes of Group Settings

#	Attribute			
1.	Size	Small Group	⟵⟶	Large Group
2.	Enclosure	Open	⟵⟶	Closed
3.	Duration	Short	⟵⟶	Long
4.	Formality	Informal	⟵⟶	Formal
5.	Flexibility	Flex./Active	⟵⟶	Fixed/Passive
6.	Scheduling	Ad Hoc	⟵⟶	Planned
7.	Ownership	Shared	⟵⟶	Dedicated
8.	Functionality	Multi-purpose	⟵⟶	Specialized

A Team Based Planning Rationale

Attributes of Group Settings

		1-2	3-6	7-12	12-24	25+	
Size	Small Group/Individual	1-2	3-6	7-12	12-24	25+	Large Group
Enclosure	Open	No Privacy				Highly Private/Secure	Closed
Duration	Short	‹15 Min.	15-60 Min.	1-4 Hours	All Day	Open-Ended	Long Duration
Formality	Informal	Conversation				Highly Structured Presentation	Formal
Flexibility	Flexible	Everything Movable				Fixed Walls, Structures, Layout	Fixed
Scheduling	Ad Hoc	First Come, First Served		Departmentally Scheduled		Corporately Scheduled Well in Advance	Planned
Ownership	Shared	Public Spaces		Locally Owned	Departmentally Owned	Corporately Owned	Dedicated
Functionality	Multi-Purpose	Will Support Just About Anything		Supports Activities Pertinent to Project		Single Function	Specialized /Single Use

1   2   3   4   5

CWE

Attributes of Group Settings

1. SIZE

Small Group

Large Group

Attributes of Group Settings

2. ENCLOSURE

Open

Closed

Attributes of Group Settings

3. DURATION

Short Use   Long Use

Attributes of Group Settings

4. OWNERSHIP

Dedicated   Shared

Attributes of Group Settings

5. FORMALITY

Formal   Informal

Attributes of Group Settings

6. FLEXIBILITY

Flexible   Fixed

Attributes of Group Settings

7. SCHEDULING

Ad Hoc

Planned

Attributes of Group Settings

8. FUNCTIONALITY
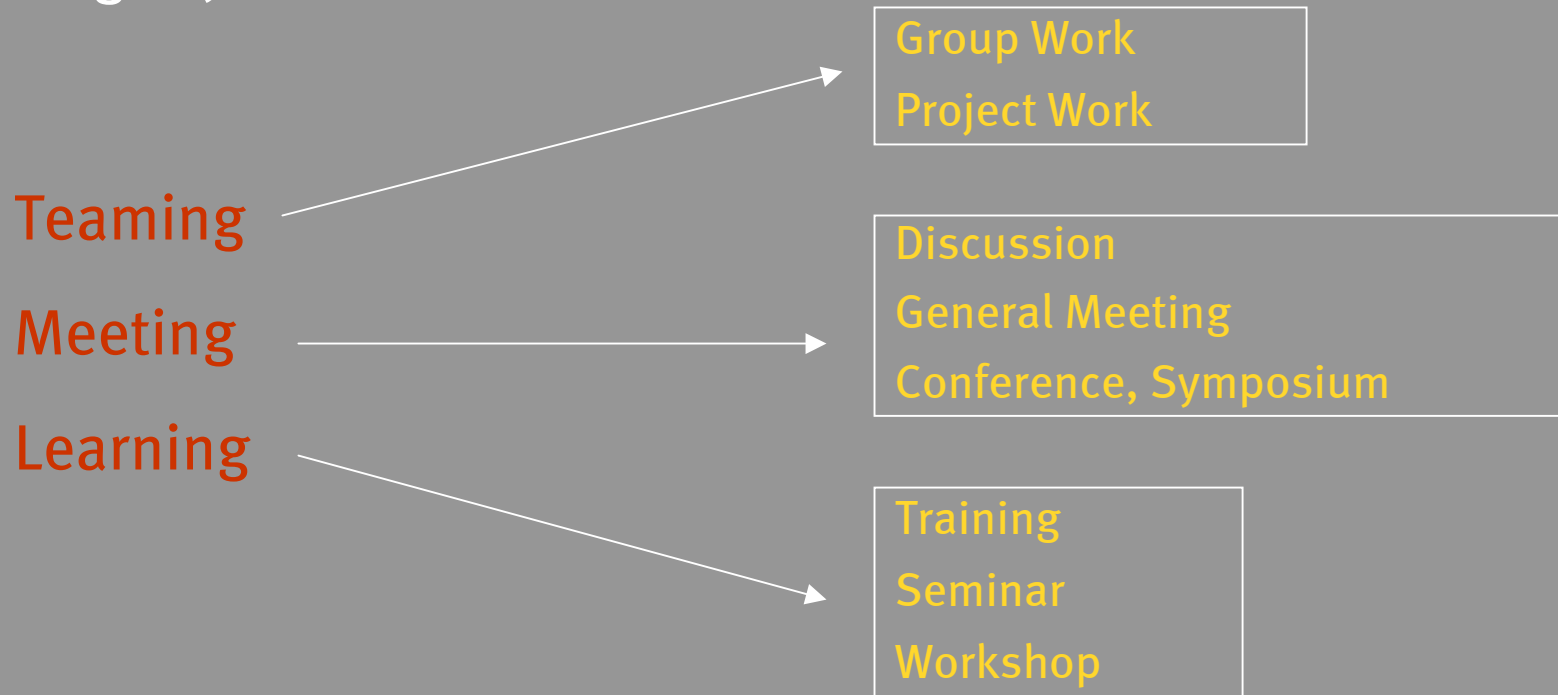
Multi-purpose/use

Specialized/Single use

Defining a Framework or Taxonomy

We explored the different ways that individuals, organizations and businesses have categorized group workspaces into types (typologies)

Teaming → Group Work
Project Work

Meeting → Discussion
General Meeting
Conference, Symposium

Learning → Training
Seminar
Workshop

Wilkhahn

Defining a Framework or Taxonomy: Teaming/Meeting/Learning

Teaming

War room

Project room

Team room

Project office

Group office

Leadership room

Teaming

Defining a Framework or Taxonomy: Teaming/Meeting/Learning

Meeting

Video conf.

Presentation

Multi-purpose

Conference room

Meeting room

Board room

Part of an office

CWE

Meeting

Defining a Framework or Taxonomy: Meeting/Teaming/Learning

Learning

Lecture hall

Lecture/break out

Classroom

Computer lab

Case room

Workshop

Seminar Room

Distance Learning

Presentation

Part of a Faculty Office

Learning

Defining a Framework or Taxonomy: Meeting/Teaming/Learning

Multi-Purpose

Ad- Hoc
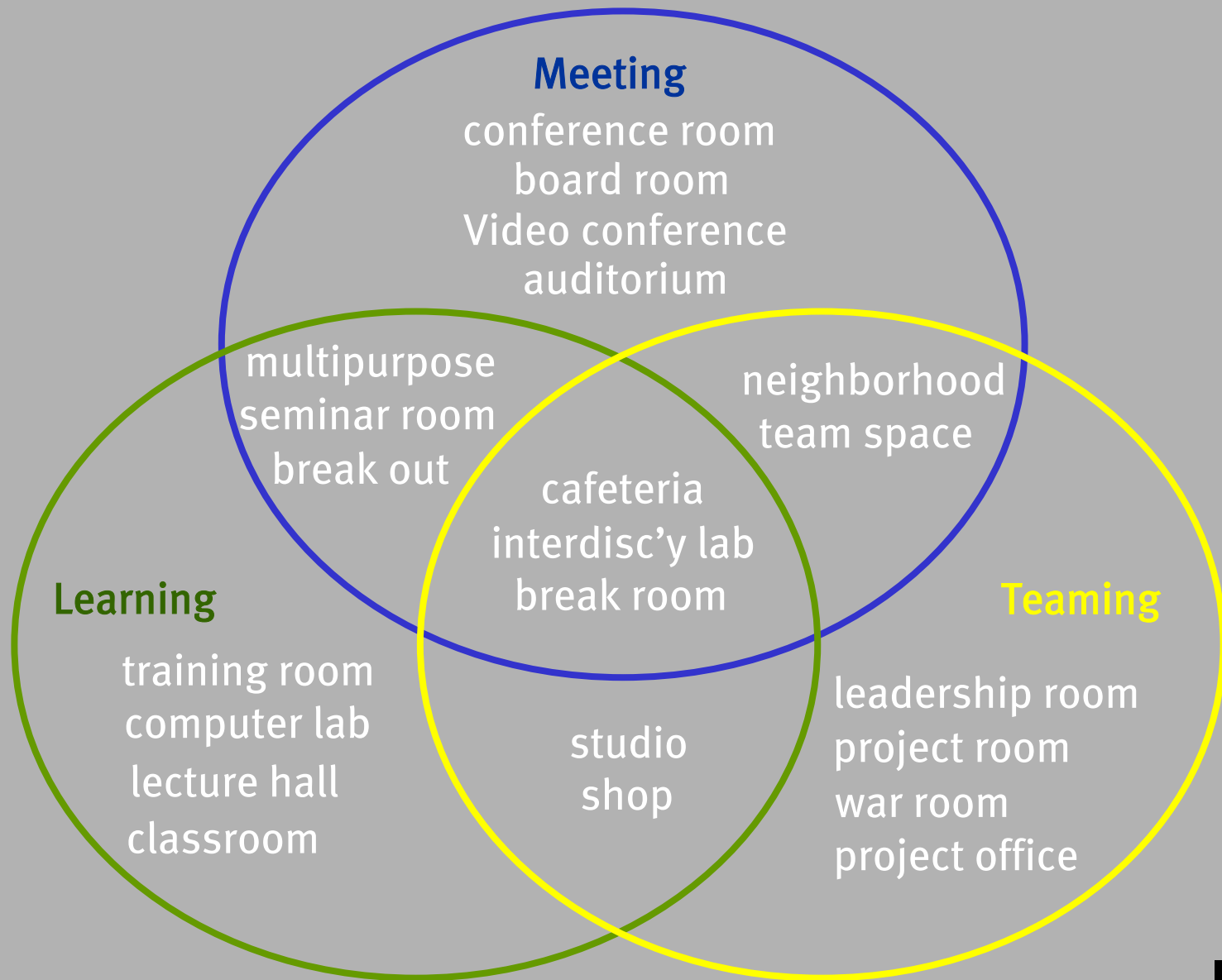
CWE

A Team Based Planning Rationale

Meeting
conference room
board room
Video conference
auditorium

multipurpose
seminar room
break out

neighborhood
team space

cafeteria
interdisc'y lab
break room

Learning
training room
computer lab
lecture hall
classroom

studio
shop

Teaming
leadership room
project room
war room
project office

VECTA

How does the rationale govern the organization of space – how should it be applied to design?

1. What kind of group work and what settings?

2. What attributes do the collaborative settings need?

3. What kind of facility management?

4. What is the primary planning unit ?

5. What kind of how much space?

How does the rationale govern the organization of space? How should it be applied to design?

1. What kind of group work and what settings?

Teaming: *Projects and processes*

Meeting: *Functions, departments and visitors*

Learning: *Education and presentation*

Ad Hoc: *Informal spontaneous interaction*

2. What attributes do the collaborative settings need?

1.	Size	Small Group	Large Group
2.	Enclosure	Open	Closed
3.	Duration	Short	Long
4.	Formality	Informal	Formal
5.	Flexibility	Flex./Active	Fixed/Passive
6.	Scheduling	Ad Hoc	Planned
7.	Ownership	Shared	Dedicated
8.	Functionality	Multi-purpose	Specialized

Designing Collaborative Work Environments

CWE

Formal "classroom"learning

Attribute		1-2	3-6	7-12	12-24	25+	
Size	Small Group/Individual	1-2	3-6	7-12	12-24 ●	25+	Large Group
Enclosure	Open	No Privacy				Highly Private/Secure ●	Closed
Duration	Short	‹15 Min.	15-60 Min.	1-4 Hours ●	All Day	Open-Ended	Long Duration
Formality	Informal	Conversation		●		Highly Structured Presentation	Formal
Flexibility	Flexible	Everything Movable			●	Fixed Walls, Structures, Layout	Fixed
Scheduling	Ad Hoc	First Come, First Served		Departmentally Scheduled ●		Corporately Scheduled Well in Advance	Planned
Ownership	Shared	Public Spaces		Locally Owned	Departmentally Owned	Corporately Owned ●	Dedicated
Functionality	Multi-Purpose	Will Support Just About Anything		Supports Activities Pertinent to Project		Single Function ●	Specialized /Single Use

1   2   3   4   5

Informal team interaction

	(left)	1	2	3	4	5	(right)
Size	Small Group/Individual	1-2	3-6 ●	7-12	12-24	25+	Large Group
Enclosure	Open	No Privacy ●				Highly Private/Secure	Closed
Duration	Short	‹15 Min.	15-60 Min.	1-4 Hours ●	All Day	Open-Ended	Long Duration
Formality	Informal	Conversation ●				Highly Structured Presentation	Formal
Flexibility	Flexible	Everything Movable	●			Fixed Walls, Structures, Layout	Fixed
Scheduling	Ad Hoc	First Come, First Served ●				Corporately Scheduled Well in Advance	Planned
Ownership	Shared	Public Spaces		Locally Owned ●	Departmentally Owned	Corporately Owned	Dedicated
Functionality	Multi-Purpose	Will Support Just About Anything	●	Supports Activities Pertinent to Project		Single Function	Specialized /Single Use

3. What kind of facility management?

Fixed: Universal plan   *Passive*

Flexible: Re-configurable   *Active*

Fluid: Re-arrangable   *Interactive*

Interactive Facility Management

Traditional Classroom

Shared Tables

Team Tables

Seminar/Caseroom

3. What is the primary planning unit ?

Individual or Group ?

Team

Neighborhood

Project

Department

Function

5. What kind of how much space?

Real Estate Trend:
Using less space per person - squeeze more people in less space

225 (227)250sf/person down to 150 – 200 (leasable area)

......but not all of this goes to the individual

	Old		New
Individual	85 to 95%	⟷	*65 to 75%*
Collaborative	5 to 15%	⟷	25 to 35%

4. How much of what kind of space?

Before and After – individual and collaborative spaces
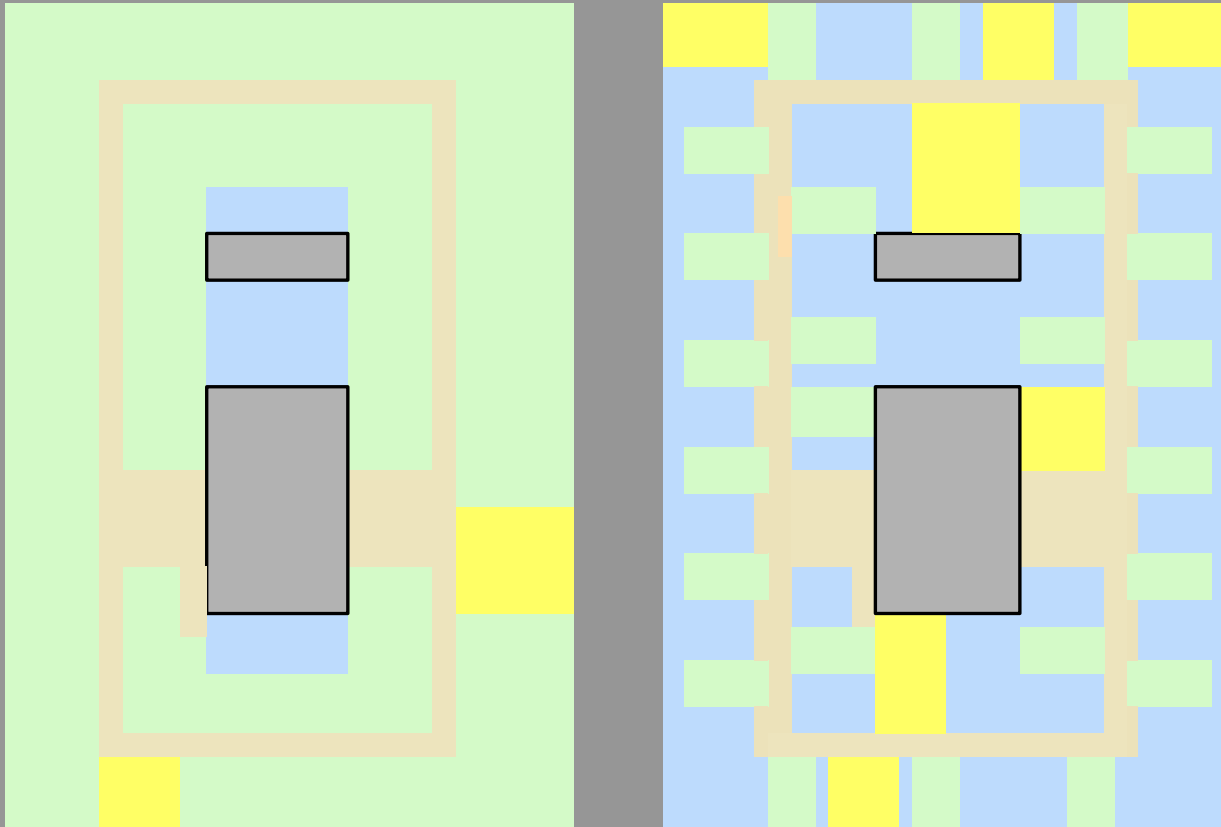
Neighborhoods of open and closed settings
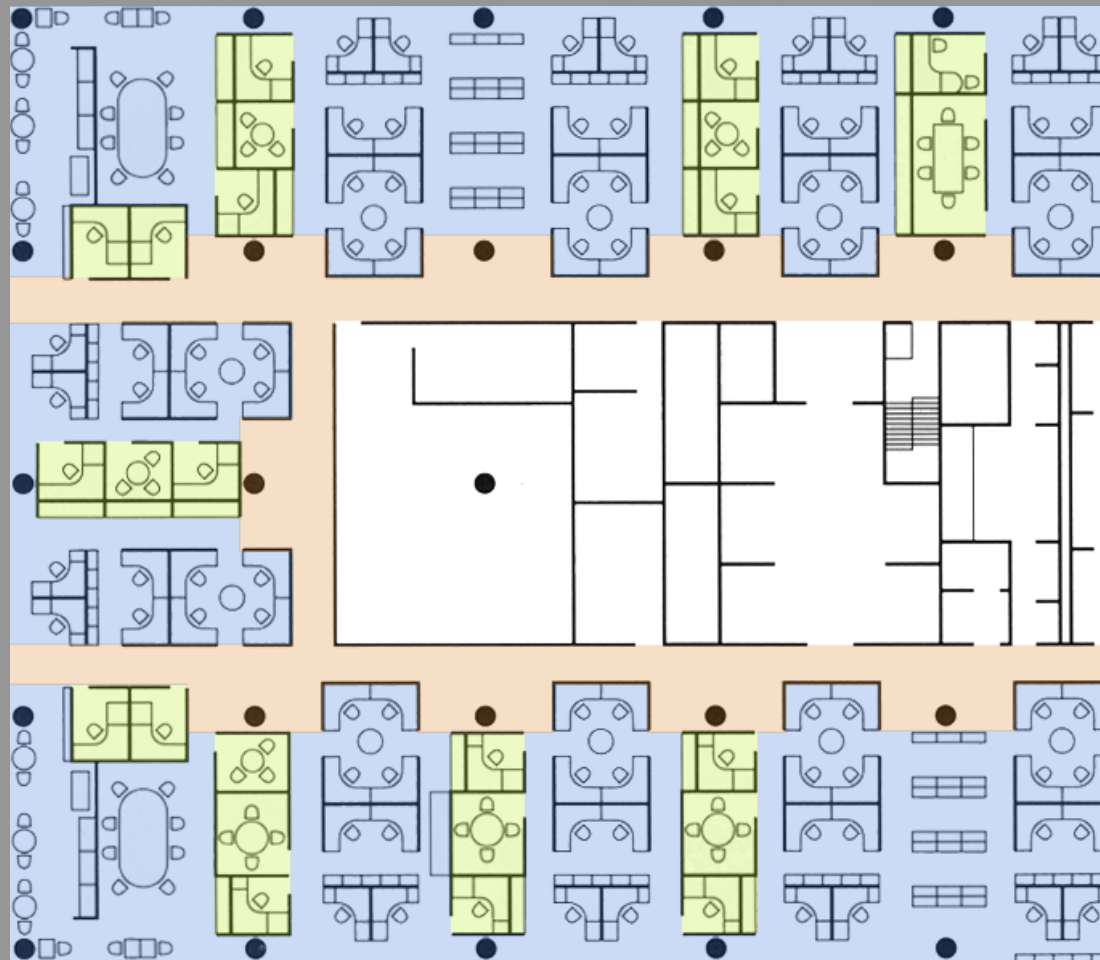
Closed offices surrounding group space
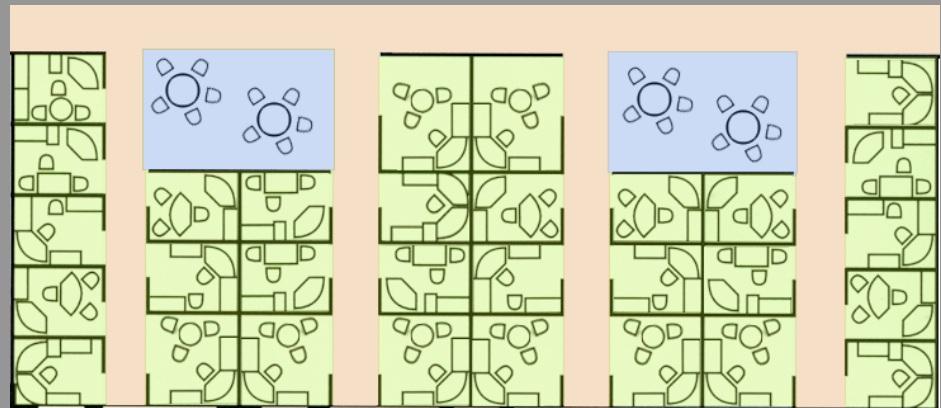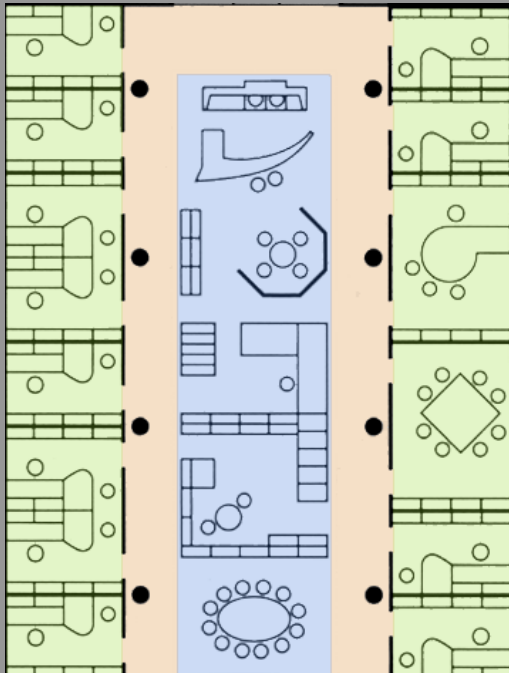
Closed offices around project space

Open team tables with shared individual and group settings
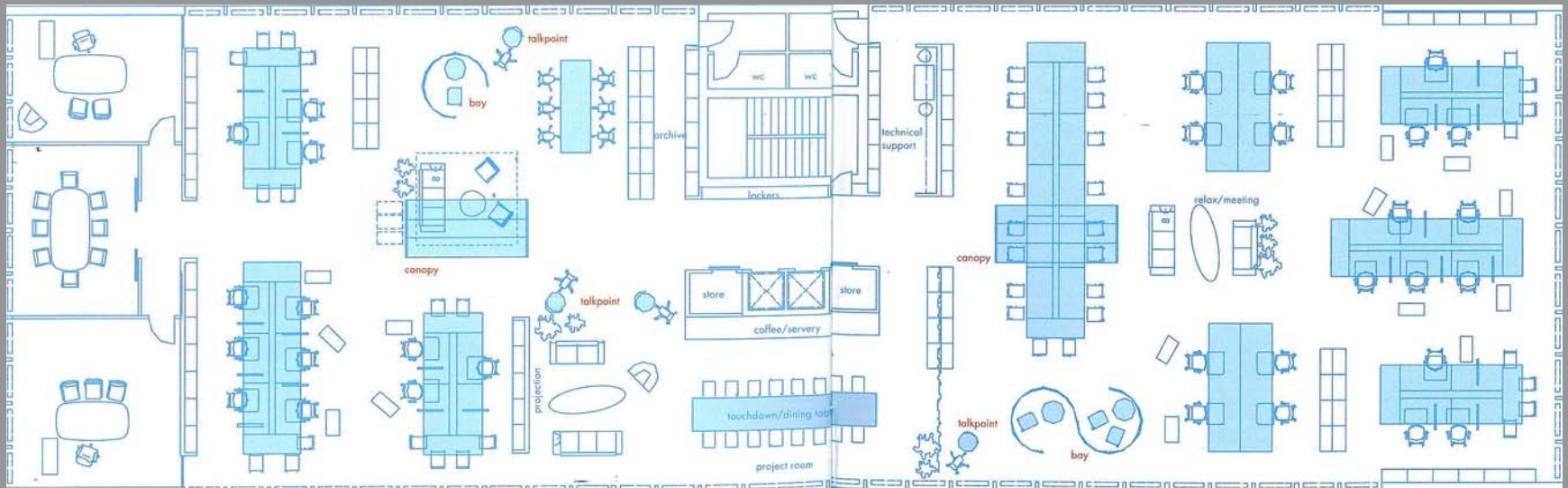
1. What kind of group work and what settings?

   Teaming   Meeting   Learning   Ad- Hoc

2. What attributes do the collaborative settings need?

   Size - Enclosure - Duration - Formality

   Flexibility - Scheduling - Ownership - Functionality

3. Facilities management strategy?

   Fixed   Flexible   Fluid

   Passive   Active   Interactive

4. What is the primary planning unit?

   Team   Neighborhood   Function

5. How much of what kind of space do you have?

   Individual ⟵⟶ *Group*

A New Team Based Approach
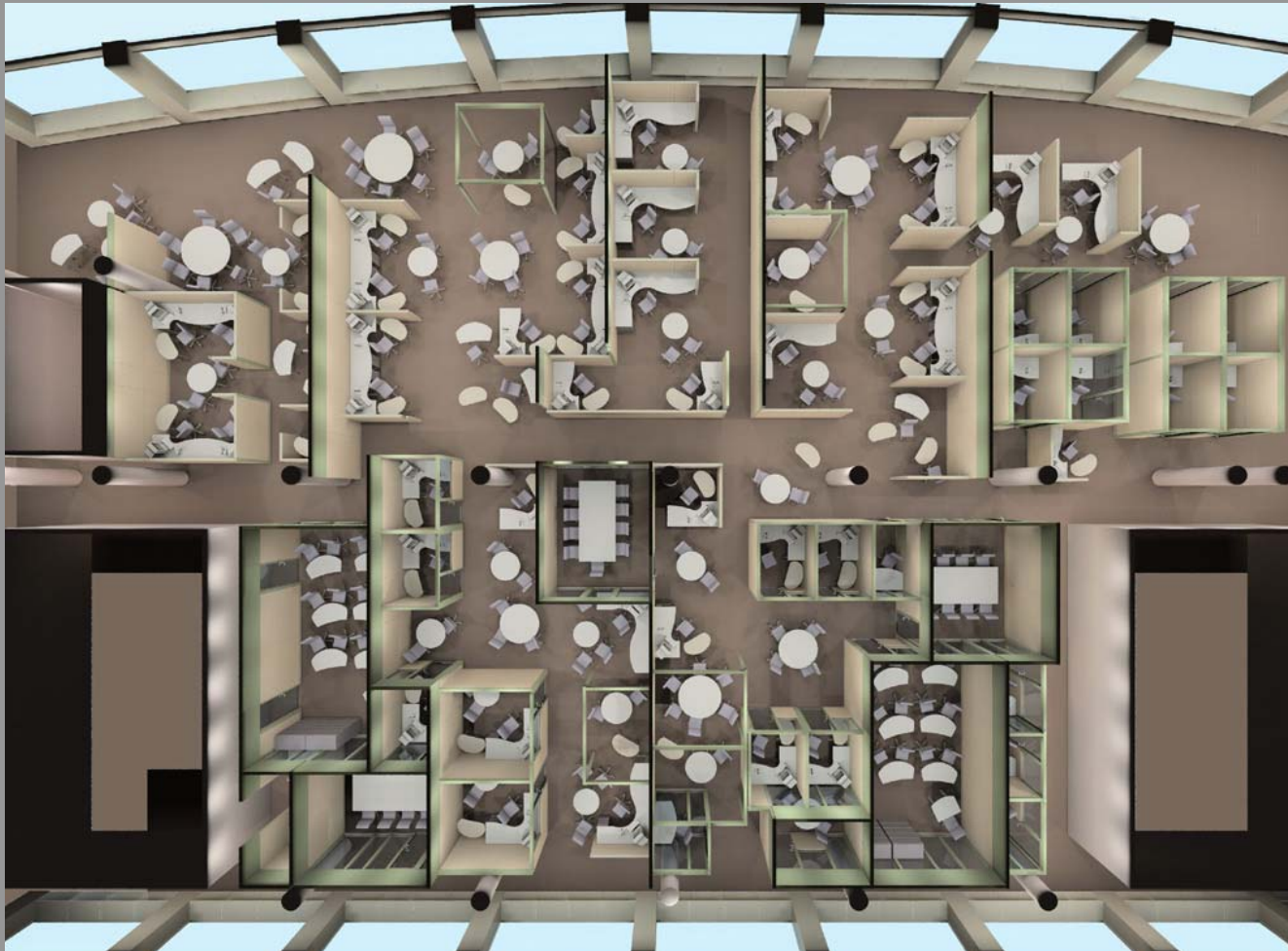
Classification of types of furniture made for collaboration

Flexible open workstations, tables, seating, carts, screens and storage

Teaming

Meeting

Conference and meeting room tables, seating, casegoods, easels

Presentation screens and whiteboards, tables, seating, carts and casegoods

Learning

Ad-Hoc

Lounge seating, worksurfaces, easels and screens

Innovative and new products designed to support collaborative work

Allsteel	KI	Steelcase
Brayton	Knoll	Turnstone
Bretford	Metro	Teknion
Egan Visuals	Nevers	Vecta
Falcon/Howe	Nienkamper	Versteel
Harter	Nucraft	Vitra
Haworth	Polyvision	Werndl
Herman Miller	Smart Technologies	Wilkhahn
Jofco		

Allsteel

Marbles

Brayton

Migrations
Clubmobile
Sidewalk

Teaming	Meeting
Learning	Ad-Hoc

Teaming	Meeting
Learning	Ad-Hoc

New Furniture to Support Collaborative Work

CWE

Bretford

Plus

Liquid Workspace

Traffic

Teaming	Meeting
Learning	Ad-Hoc

Egan Visuals

EganSystem

Classic Series

Mobiles

Powerplane Workstations

TeamBoard

Teaming	Meeting
Learning	Ad-Hoc
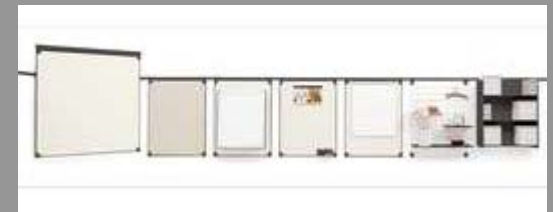
Falcon/Howe

Utility
Tuff
Simpla

| Teaming | Meeting |
| Learning | Ad-Hoc |

Haworth

Crossings
Moxie
If
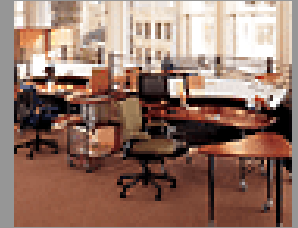
| Teaming | Meeting |
| Learning | Ad-Hoc |

Harter

Cyclus

Forum

Sling

Teaming	Meeting
Learning	Ad-Hoc

Herman Miller

Intersect

Resolve

Caper

Teaming	Meeting
Learning	Ad-Hoc

New Furniture to Support Collaborative Work

CWE

Jofco

Collective Space
Collective Lounge
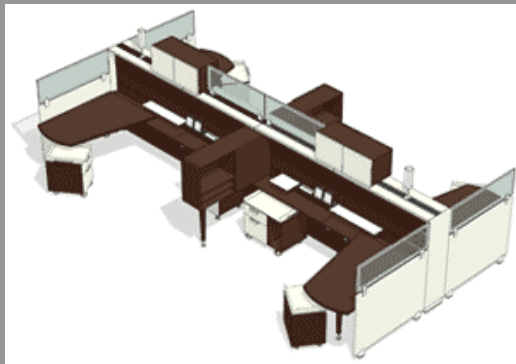
Teaming | Meeting
Learning | Ad-Hoc

KI

All Terrain
Torsion
Dance
Hurry Up

Teaming | Meeting
Learning | Ad-Hoc

Knoll

AutoStrada

Upstart

Currents

Visor

Teaming	Meeting
Learning	Ad-Hoc

Metro

Teamwork

Detour

Topo

Bix

Teaming | Meeting

Learning | Ad-Hoc

Nevers

Eventi

Seminario

Simple

Teaming	Meeting
Learning	Ad-Hoc

Nienkamper

Vox

Teaming	Meeting
Learning	Ad-Hoc

Nucraft

Avid

Mural

Vertex

Teaming	Meeting
Learning	Ad-Hoc

Polyvision

Walk and Talk I

Impluse

Interactive Plasma

Teaming | Meeting

Learning | Ad-Hoc

Smart Technologies

Interactive

Whiteboards

Teaming | Meeting

Learning | Ad-Hoc

New Furniture to Support Collaborative Work

Steelcase

Activity Products

Pathways Post and Beam

Teaming | Meeting

Learning | Ad-Hoc

Turnstone

Groupwork
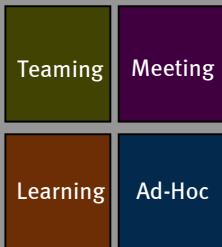
Teaming | Meeting
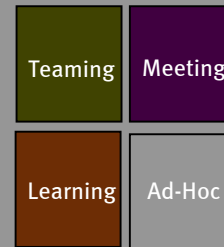
Learning | Ad-Hoc

Teknion

Ability

XM

Outpost

Teaming	Meeting
Learning	Ad-Hoc

Versteel

Tim

Chela

Teaming	Meeting
Learning	Ad-Hoc

CWE
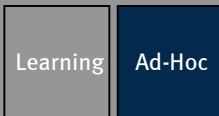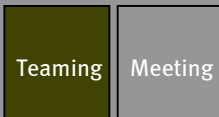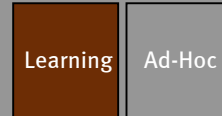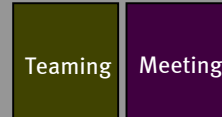
Vecta

Rocky

Café

Train

Runner

Ballet

Reunion

E-Table

Teaming | Meeting

Learning | Ad-Hoc

CWE

Vitra

Joyn

Mobile Elements

Ad Hoc   Ad Usum

Ad Wall
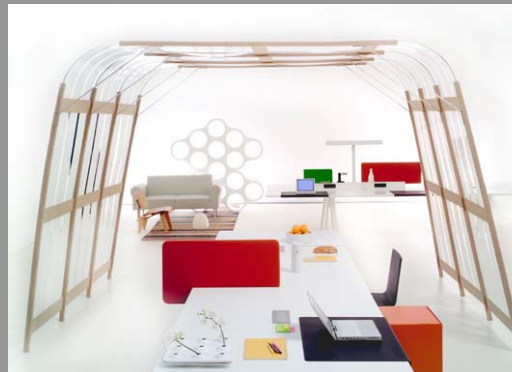
Teaming	Meeting
Learning	Ad-Hoc

Werndl

Freewall

Teaming	Meeting
Learning	Ad-Hoc

WIlkhahn

Logon

Comboard

Confair

Tubis

Teaming	Meeting
Learning	Ad-Hoc

Collaborative Work Environments
A New Team Based Approach

Research/Trends

Why Collaborate?

Technology for Collaborative Workspaces

CWE: A Team Based Planning Rationale

Designing Collaborative Work Environments

New Furniture to Support Collaborative Work

CWE

Collaborative Work Environments

A New Team Based Approach

Hank de Cillia - Henry de Cillia Associates, Inc.

Robert Luchetti - Robert Luchetti Associates, Inc.

NeoCon 2004 | June 15, 2004