HermanMiller

Making Teamwork Work

Designing Spaces that Support Collaborative Efforts

" 'Teams' and 'struggle' are two words I hear a lot," says a researcher who has listened to managers, facility planners, and team members from a variety of companies talk about their efforts to promote and support collaborative work.[1]

Despite the benefits that teamwork promises to business organizations determined to improve productivity, quality, and worker commitment, many appear to struggle with the implementation of more collaborative organizational structures and work processes. Managers express disappointment in teams that don't perform to expectations. Workers complain that so-called team activities take too much time from their "real work." Facilities and human resource managers often find themselves caught in the middle, trying to provide environmental and organizational designs that support team efforts, while simultaneously reducing costs and response time.

Why is the transition to more collaborative ways of working proving so painful? Research suggests that the shift requires fundamental changes that many organizations may not be ready to acknowledge or equipped to accommodate. In her study of cross-functional teams, *Team Talk,* author Anne Donnellon found that organizations undermine the very teams they hope to empower if they fail to recognize that these collaborative work units can't simply be plugged into existing organizational frameworks. When companies tried to assimilate teams into hierarchies and reward systems based on individual accountability and functional responsibility, she writes, they "severely constrained the development of those teams by continuing to motivate individualistic and independent talk and action."[2]

Collaborative efforts can also be impeded by work tools and environments designed to support individual tasks and work processes. Donnellon points out that "the work of most professional or managerial teams is to construct new meanings—in the form of new product developments, enhanced processes, or the solution to a vexing problem—by sharing and integrating their knowledge. Teamwork is essentially a linguistic phenomenon."[3] Encouraging the types of interactions and conversations that can lead to the creation of "new meanings" requires more than locating team members in the same general vicinity or hooking them all up to the local area network.

In his book *No More Teams!,* Michael Schrage notes that "organizations rarely design for collaboration, because it's alien to the way the organization thinks of itself."[4] Still informed by a linear model of work and information flow, organizations continue to build physical work environments and technological infrastructures that support the processing of information rather than its creation and that focus on individuals rather than the relationships among them.

By itself, the design of the physical workplace cannot bring about the basic transformation required for an organization to embrace and reap the benefits of collaborative ways of working. But facilities design can create significant barriers to the type of activities that true collaboration requires, or, in combination with an organizational culture and structure that values and actively pursues collaborative effort, the environment can be used to create settings that encourage and support the behaviors and relationships that create new meanings.

This report summarizes what is known about teams and collaborative effort and what researchers are learning about how to design places that foster them.

Life Cycles in the Collaborative Process

"'Collaboration' describes a process of value creation that our traditional structures of communication and teamwork can't achieve," writes Michael Schrage. He defines collaboration as "the process of shared creation: two or more individuals with complementary skills interacting to create a shared understanding that none had previously possessed or could have come to on their own."[5] Collaboration, he says, creates shared meaning, and can occur formally, when management commissions a task force, or informally, when two people start a conversation at the coffee machine.

The quality and intensity of collaborative relationships and the types of interaction associated with them evolve over the course of the collaboration. One research group identified three distinct stages in the life cycles of the product-development teams they studied—stages related to tasks and production of results. During the *creation stage*, tasks center around exploring the problem, possible solutions, and available knowledge and resources. Team members' attention is focused outward, on research activities and networking, and inward, on team building and role clarification.

The *development stage* involves intense interaction among team members, although the team still draws on external resources as needed. During the *diffusion stage*, the team works to transfer ownership and commitment to others in the organization. Focus turns outward as team bonds begin to loosen and individual members are drawn off into other projects.[6]

Each stage in this progression has its own requirements for work tools and environmental support; what helps at one point in the team's life cycle can hinder at another. During the creation stage, team members need to meet together to learn about each other and come to agreement about how to proceed. During the intense development stage, the group needs protection from interruption. The diffusion phase requires members to stay in contact to maintain communication and commitment while reaching out to groups outside the team.

Another life-cycles model, which focuses less on tasks and more on the stage of social relationship building, offers further insight into the evolving shape and needs of collaborative groups. The Dexler/Sibbet Team Performance Model posits seven recurring stages (orientation, trust building, goal/role clarification, commitment, implementation, high performance, and renewal) that trace a repeating wave from "constraint" as teams form to "freedom" as they master constraints. Teams move toward constraint again as new realities enter the picture, and then toward freedom again as the new realities are integrated. "In real life, the process is as varied as music," the authors say, "but the basic pattern plays throughout."[7]

In applying this model to groupware needs, the researchers found that different stages have different support needs in terms of location and time together. At the beginning of a collaboration, building trust and commitment requires face-to-face, same-time/same-place interaction. During the intense middle stages, needs may shift to same-time/different-place support tools for group members in different geographic locations or to different-time/same-place tools for members working on the same thing (a product prototype, for instance) but not always at the same time. The final, renewal stages often require same-time/same-place interactions again as the team regroups to decide where to go next.[8]

Designing for Collaboration

In field observations of business teams, Herman Miller research has identified several common facility strategies that companies currently use to accommodate teams:

- **Business as Usual** The organization makes no special provision for collaborative work; teams meet in unassigned conference rooms or meeting areas.
- **Assigned Meeting/Project Space** Teams work together in a "nonresidential" project space or in meeting rooms assigned for the life of the project. Members' individual offices may be located in adjacent space or with their functional work groups.
- **Group Scheduled Meeting Space** Teams work mostly in the field; at the corporate location, they meet in scheduled conference rooms.
- **Co-located Teams** Dedicated team workspace incorporates collaborative and individual workspaces within team boundaries.
- **Shared Special-Purpose Areas** Teams have shared use of spaces such as labs, workshops, studios, video conferencing, "war" rooms, and magnet areas.
- **Virtual Teams** Teams collaborate mostly through the use of technology.[9]

None of these represents a single, best way to organize space for teams, and new strategies will likely emerge as evolving technologies continue to reduce the constraints of time and location. Within and alongside these strategies, however, the design of the physical environment can play an important role in encouraging and sustaining collaborative effort at key points.

Initiation

The physical setting may have its most significant impact on collaborative work processes before they ever begin. Workplaces designed to encourage casual encounters among people from different areas of the company can set the stage for collaboration. In their book, *Workplace by Design,* Franklin Becker and Fritz Steele recommend designing in "activity magnet areas" that attract people and encourage interaction.[10] Carefully located and designed break areas, mail stations, and copy centers can serve to draw people from various parts of the organization and provide them with shared space and basic tools for initiating collaborative efforts.

One study of project teams in restructuring companies noted some new facility strategies to encourage crossover communications between teams. These included locating coffee break areas between rather than within team areas, putting in open stairways between floors and reducing elevator use, and creating common areas with tables and chairs and marker boards in the traffic paths between departments.[11]

Strategic location of shared, special-purpose areas (video-conferencing rooms, labs, studios, and the like) can also serve to encourage contact among people from different teams or departments. Locating these areas somewhere other than directly adjacent to the groups most likely to use them—a planning principle Becker and Steele call "functional inconvenience"[12]—will help to pull workers into areas of the company where they might otherwise not venture.

Participation

During the early stages of any collaborative effort—when group members are forming commitment to a team, a project, an idea, a way of working together—involvement in the design of the team's physical space can help clarify and solidify goals and processes. Communal design of a project room or team space can help the group think about how members are going to work together, as well as promote esprit de corps. The workspace that results is likely to be highly functional, having been designed by the people who actually use it, and one that can serve as a concrete reminder of group identity and resolve.

Generation

Since creating something—a new product, a new meaning, a new opportunity or understanding—is the central goal of collaboration, it is important to consider how physical settings affect the creative process. In his study of creativity, psychologist Mihaly Csikszentmihalyi found that different stages of the process are best served by different surroundings. "During preparation, when one is gathering the elements out of which the problem is going to emerge, an orderly, familiar environment is indicated, where one can concentrate on interesting issues without the distractions of 'real'

life," he writes. "At the next stage, when thoughts about the problem incubate below the level of awareness, a different environment may be more helpful. The distraction of novel stimuli, of magnificent views, of alien cultures allows the subconscious mental processes to make connections that are unlikely when the problem is pursued by the linear logic learned from experience."[13]

Becker and Steele point out that, while creativity can't be programmed, the environment can be used to "influence the pattern of experiences over time, increasing the probability that new ideas or connections will occur to people who can do something with them." Visual displays of new products or graphic depictions of relevant market statistics or current issues may be located in break areas or along heavily traveled corridors. The authors list key features of settings that encourage creativity:

- Stimulating environments that display information about work in progress, the market, what's happening in the world
- Resource-rich, so ideas can be pursued immediately
- Unconstrained, "in terms of what it's okay to try or do"
- User-controllable, in terms of being able to manage accessibility and distractions[14]

In addition to stimulating ideas, visual display or representation can serve as a medium of collaboration. Michael Schrage calls it "shared space." It can be a whiteboard, a project room with models or prototypes, an intranet home page, or just a paper napkin passed between two people at a coffee bar. Whether physical or electronic, shared space is essential to successful collaboration, providing a medium for communication that goes beyond the exchange of information that typifies meetings and conversations to allow people to create information, to think out loud, together.

Schrage lists important qualities of shared space as equally accessible to all team members, dynamic and easily manipulable, and capable of recording and preserving collaborative thought. He says that the best shared spaces stimulate the senses as well as the mind and create a sense of co-presence, even when collaborators are separated by distance or time. The space becomes a partner in the collaborative process, ensuring that "the whole of the relationship is greater than the sum of the individuals' expertise."[15]

Transformation

Team settings should be easy to manipulate and rearrange, to allow their users to alter them to meet changing requirements of different stages in the life cycle of the collaboration and to allow organizations to renew and reuse them for other groups and purposes when that cycle is complete. Achieving the appropriate balance of separation and stimulation for a given stage of collaborative effort requires a highly flexible environment. The isolated project room or off-site location that protects concentration or stimulates creative thought during one phase of the process may hinder vital contact with people and ideas during another phase.

Research and experience caution that flexible workplaces don't have to be mobile workplaces and that "offices on wheels" reflect a misunderstanding of the kinds of stability people require in order to concentrate and work productively.[16] Most people do not function well in environments that are in a constant state of flux. Csikszentmihalyi notes that the beginning and ending stages of the creative process tend to thrive in comfortable, familiar surroundings that people are able to arrange to suit their activity patterns and to reflect their own needs and tastes.[17]

Putting It Into Practice

Herman Miller recently undertook a collaboration of its own with Cheskin, a research and consulting firm in Redwood Shores, California, to study a team working in an environment designed to support and encourage collaborative behavior. A Cheskin project team worked for several months in a space designed to "encourage informal interaction as well as planned interaction by creating a space that, as a whole, allows for serendipitous collaboration."[18]

At the end of the evaluation period, the beta site team members were interviewed and surveyed to learn how well the space supported their work efforts. Based on these findings, the Cheskin report provides a number of recommendations for designing a team workspace and helping its occupants to use it effectively.

Delineate boundaries
Even in team spaces where open access to coworkers is desired, people need a sense of their own space. "Boundaries are very important to inhabitants—there is a strong need to define space, to understand 'where I end and someone else begins.' "[19] Screens and furniture should be positioned to help give team members a sense of ownership of their own space and some ability to control access to that space.

Ensure that team members can see each other
Visual access contributes greatly to the ability to collaborate in a team space. Team members should be able to see each other either directly, by turning around, or by backing up in their chairs.

Locate collaborative space in a corner or off to the side
The Cheskin team found that their open and centrally located space was often treated as public space. People outside the team felt free to comment on conversations within the group, intrude on work, and even borrow items from individual workstations. Limiting "outsider" access to team space by locating the space away from the center of the building, where there is heavy traffic on several sides, reduces distractions and provides a sense of team ownership.

Supplement with readily accessible, private, soundproof work areas
These are crucial to allow for work that requires concentration, private phone conversations, and meetings on sensitive topics. These spaces work best if they include networked computer workstations or if team members have laptops they can bring with them.

Provide furniture that team members can rearrange themselves
Furniture that can be easily moved allows the team to reconfigure the space as necessary and contributes to their sense of ownership and control within the space.

Use wireless technology
If team members aren't tethered by wires and cords they are freer to work collaboratively.

Ensure that the type and quality of team workstations are on equal footing with surrounding workstations
In an office where most people work in private offices, an open-plan team space can be perceived as a change in relative status.

Provide residents of open team spaces with ways to signal when they are unavailable
Cheskin provided team members with small signs that used humor to convey that occupants are busy and shouldn't be disturbed.

The Cheskin report concludes that "a company that adopts the kind of collaboration space as installed at Cheskin needs to be prepared to overcome employees' initial hesitancy to be so visible (vulnerable), as well as their mindset that a space cannot be changed or rearranged."[20]

To put employees at ease about using their new space, the report suggests that senior management set about modeling the collaborative behavior they hope to encourage. Observing high-level people using the space will help team members overcome their own inhibitions about new ways of working, assuring them that they will be regarded as productive contributors even though their workspace and behaviors may appear more casual and interactive than those of the "heads-down" work model that formerly prevailed.

The report also suggests initially rearranging a newly installed collaborative setting every week or two to convey to employees that the space is meant to be reconfigured to adapt to the needs of the group.[21] As workplaces are designed to encourage collaborative behaviors, and people learn to use these spaces and rearrange them to better support joint efforts, we can expect teamwork to become less of a struggle and more beneficial for both organizations and employees.

Notes

1 Mims, Sue, Senior Research Program Manager, Herman Miller, Inc., personal interview, February 18, 1997.

2 Donnellon, Anne, Team Talk (Harvard Business School Press, Boston, 1996), p.23.

3 Donnellon, p.6.

4 Schrage, Michael, No More Teams! Mastering the Dynamics of Creative Collaboration (Doubleday, New York, 1995), p.145.

5 Schrage, pp.32-33.

6 Ancona, Deborah, and David Caldwell, "Information Technology and Work Groups: The Case of New Product Teams," Intellectual Teamwork (Lawrence Erlbaum Associates, Hillsdale, NJ, 1990), p.177.

7 Johansen, Robert, et al., Leading Business Teams: How Teams Can Use Technology and Group Process Tools to Enhance Performance (Addison Wesley, Reading, MA, 1991), p.24.

8 Johansen, et al., pp.28-29.

9 Mims, 1997.

10 Becker, Franklin, and Fritz Steele, Workplace by Design: Mapping the High-Performance Workscape (Jossey-Bass, San Francisco, 1995), p.78.

11 Ryberg, Jon, "Emerging Work Patterns: Facility Planning for New Team Communications," September 24, 1996, p.3.

12 Becker and Steele, p.76.

13 Csikszentmihalyi, Mihaly, Creativity (HarperCollins, New York, 1996), pp.145-146.

14 Becker and Steele, pp.82-83.

15 Schrage, pp.151-156.

16 Mims, 1997.

17 Csikszentmihalyi, pp.145-146.

18 Cheskin, "Collaboration in Practice," Internal Report, April 2001, p. 13.

19 Cheskin, p.25.

20 Cheskin, p.43.

21 Cheskin, p. 44