How to master the new art of teaming
by Amy C. Edmondson

Teamwork On the Fly

If you watched the Beijing 2008 Olympic Games, you probably marveled at the Water Cube: that magnificent 340,000-square-foot box framed in steel and covered with semitransparent, eco-efficient blue bubbles. Formally named the Beijing National Aquatics Center, the Water Cube hosted swimming and diving events, could hold 17,000 spectators, won prestigious engineering and design awards, and cost an estimated 10.2 billion yuan. The structure was the joint effort of global design and engineering company Arup, PTW Architects, the China State Construction Engineering Corporation (CSCEC), China Construction Design International, and dozens of contractors and consultants. The goal was clear: Build an iconic structure to reflect Chinese culture, integrate with the site, and minimize energy...
consumption—on time and within budget. But how to do all that was less clear.

Ultimately, Tristram Carfrae, an Arup structural engineer based in Sydney, corralled dozens of people from 20 disciplines and four countries to win the competition and deliver the building. This required more than traditional project management. Success depended on bridging dramatically different national, organizational, and occupational cultures to collaborate in fluid groupings that emerged and dissolved in response to needs that were identified as the work progressed.

The Water Cube was an unusual endeavor, but the strategy employed to complete it—a strategy I call *teaming*—epitomizes the new era of business. Teaming is teamwork on the fly: a pickup basketball game rather than plays run by a team that has trained as a unit for years. It’s a way to gather experts in temporary groups to solve problems they’re encountering for the first and perhaps only time. Think of clinicians in an emergency room, who convene quickly to solve a specific patient problem and then move on to address other cases with different colleagues, compared with a surgical team that performs the same procedure under highly controlled conditions day after day. When companies need to accomplish something that hasn’t been done before, and might not be done again, traditional team structures aren’t practical. It’s just not possible to identify the right skills and knowledge in advance and to trust that circumstances will not change. Under those conditions, a leader’s emphasis has to shift from composing and managing teams to inspiring and enabling teaming.

Stable teams of people who have learned over time to work well together can be powerful tools. But given the speed of change, the intensity of market competition, and the unpredictability of customers’ needs today, there often isn’t enough time to build that kind of team. Instead, organizations increasingly must bring together not only their own far-flung employees from various disciplines and divisions but also external specialists and stakeholders, only to disband them when they’ve achieved their goal or when a new opportunity arises. More and more people in nearly every industry and type of company are now working on multiple teams that vary in duration, have a constantly shifting membership, and pursue moving targets. Product design, patient care, strategy development, pharmaceutical research, and rescue operations are just a few of the domains in which teaming is essential.

This evolution of teamwork presents serious challenges. In fact, it can lead to chaos. But employees and organizations that learn how to team well—by embracing several project management and team leadership principles—can reap important benefits. Teaming helps individuals acquire knowledge, skills, and networks. It lets companies accelerate the delivery of current products and services while responding quickly to new opportunities. Teaming is a way to get work done while figuring out how to do it better; it’s executing and learning at the same time.

To build the Water Cube for the Beijing Olympics, dozens of people from 20 disciplines and four countries collaborated in fluid groupings.
From Teams to Teaming

The stable project teams we grew up with still work beautifully in many contexts. By pulling together the right people with the right combination of skills and training and giving them time to build trust, companies can accomplish big things. For instance, traditional teams at Simmons Bedding Company in the early 2000s achieved a major turnaround by driving waste out of operations, energizing sales, and building better relationships with dealers. In those teams, membership was clearly defined, each group knew which part of the operation it was responsible for, and no one had to do fundamentally new types of work. These stable teams left a trail of positive indicators, including savings of $21 million in operational costs without layoffs in the first year alone; increased sales and customer satisfaction; and dramatically improved employee morale. But Simmons had what many companies today lack: reasonably stable customer preferences, purely domestic operations, and no significant boundaries that had to be crossed to get the job done.

Situations that call for teaming are, by contrast, complex and uncertain, full of unexpected events that require rapid changes in course. No two projects are alike, so people must get up to speed quickly on brand-new topics, again and again. Because solutions can come from anywhere, team members do, too. As a result, teaming requires people to cross boundaries, which can be risky. Experts from different functions—operating with their own jargon, norms, and knowledge—often clash. People who aren’t from the same division or organization can have competing values and priorities. When junior and senior staff members from different divisions are paired, reporting structures and hierarchies often silence dissent. On global teams, time zone differences and electronic correspondence can give rise to miscommunication and logistical snafus. And because the work relationships are temporary, investing the time to grow accustomed to new colleagues’ work styles, strengths, and weaknesses isn’t possible.

Disagreements were plentiful in designing the Water Cube, given the need for intense collaboration across boundaries. Early on, two architecture firms—one Chinese and one Australian—each developed a design concept. One was a wave-shaped structure, and the other was an eroded rectangular form. A participant recalled tension between what felt like two camps. Another added, “It was like two design processes were going on at the same time. One team was working secretly on its idea, and the other architects were doing their own thing.”

Consider also a geographically distributed product development team I studied in a high-tech materials company. Working to develop a custom polymer for a Japanese manufacturer’s new-product launch, the group nearly broke down over conflicting cultural norms about customer relationships. One team member, a U.S.-based marketing expert, wanted data on the manufacturer’s market strategy to assess the longer-term opportunity for the polymer; she was deeply frustrated by a Japanese team member’s failure to fulfill her request. In turn, the Japanese team member, an engineer, thought the U.S. marketer was pushy and unsupportive. She knew that the customer had not yet established a strategy for the product and that demanding more information at this stage in the nascent relationship would cause the customer to “lose face.”

At the same company, another team of seven experts spread across five facilities on three continents was trying to develop a different polymer on an aggressive timetable. In spite of its combined knowledge, the group reached a dead end in an effort to source a specialized compound. One member eventually found a colleague from outside the formal team who could produce it. In technologically and scientifically complex projects like this one, teaming occurs not just across the boundaries of teams but also across the vast expanse of the organization. To “team” well, employees and organizations must embrace principles of project management—such as scoping out the project, structuring the group, and sorting tasks by level of interdependence—and of team leadership, such as emphasizing purpose, building psychological safety, and embracing failure and conflict.

Teaming is a way to get work done while figuring out how to do it better.
Spotlight on The Secrets of Great Teams

The Rewards of Teaming

The most challenging attributes of teaming can also yield big organizational and individual benefits.

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<th>CHALLENGES</th>
<th>BENEFITS</th>
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<td>Conflict can arise among people with differing values, norms, jargon, and expertise.</td>
<td><strong>ORGANIZATIONAL</strong> Greater alignment across divisions&lt;br&gt;More shared experience among colleagues&lt;br&gt;Ability to meet changing customer needs &lt;br&gt;Ability to manage unexpected events</td>
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<td>Time zone differences and electronic communication present logistical hurdles.</td>
<td><strong>ORGANIZATIONAL</strong> Better diffusion of the company’s culture&lt;br&gt;Greater camaraderie across the company&lt;br&gt;Ability to import ideas from one context to another</td>
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<td>People may not have time to build trust and mutual understanding.</td>
<td><strong>ORGANIZATIONAL</strong> Fluid situations require constant communication and coordination.</td>
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<td>Individuals must get up to speed on brand-new topics quickly, again and again.</td>
<td><strong>INDIVIDUAL</strong> Deeper understanding of different cultures and of the organization’s operations&lt;br&gt;Interpersonal skills&lt;br&gt;Extensive network of collaborators&lt;br&gt;Ability to import ideas from one context to another</td>
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<tr>
<td>Fluid situations require constant communication and coordination.</td>
<td><strong>ORGANIZATIONAL</strong> Multiple functions must work together&lt;br&gt;People are geographically dispersed&lt;br&gt;Relationships are temporary&lt;br&gt;No two projects are alike&lt;br&gt;The work can be uncertain and chaotic</td>
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When a team is already assembled, scoping includes figuring out what additional resources are needed, as occurred in the second polymer team, or which team members can be freed up over time to join other groups. Successful scoping articulates the best possible current definition of the work and acknowledges that the definition will evolve along with the project.

**Structuring.** The second step is to offer some structure—figurative scaffolding—to help the team function effectively. In building, a scaffold is a light, temporary structure that supports the process of construction. For improvisational, interdependent work carried out by a shifting mix of participants, some structuring can help the group by establishing boundaries and targets. Scaffolding in a teaming situation could include a list of team members that contains pertinent biographical and professional information; a shared radio frequency, chat room, or intranet; visits to teammates’ facilities; or temporary shared office space. The use of “shirts” and “skins” to designate sides in a pickup basketball game is a kind of scaffold, as is a quick briefing at the launch of a rescue mission that assigns, say, groups of four people, each with a different role, to head in three different directions. The objective of structuring is to make it easier for teaming partners to coordinate and communicate—face-to-face or virtually.

Melissa Valentine, a doctoral candidate at Harvard University, and I recently looked at the use of figurative scaffolds in emergency rooms, where fast-paced teaming has life-or-death consequences. In this setting, physicians, nurses, and technicians with constantly varying schedules depend on one another to make good patient care decisions and execute them flawlessly in real time. More often than not, people scheduled on the same shift do not have long-standing work relationships and may not even know one another’s names. Valentine and I found several hospitals that were experimenting with a system to make ad hoc collaboration easier by dividing ERs into subsections (“pods”) incorporating a preset mix of roles (such as an attending physician, three nurses, a resident, and an intern) into which clinicians slide when they come to work. As a result, the teaming arrangement for each shift is established early on, which reduces coordination time, boosts accountability, improves operational efficiency, and shortens patient waits.

Temporary colocation is a common type of scaffold for high-priority, short-term projects in corporate settings. Motorola used this for one of the most successful product launches in history: the RAZR mobile phone. Battling fierce global competition in 2003, the company set out to create the thinnest phone ever in record time. Roger Jellicoe, an electrical engineer, led the project, in which 20 engineers and other experts from various groups and locations temporarily worked side by side in an otherwise unremarkable facility an hour from Chicago. The resulting product, introduced in 2004, was a stunning market success: More than 110 million RAZRs were sold in the first four years.

**Sorting.** The third step is the conscious prioritizing of tasks according to the degree of interdependence among individuals. As the organizational theorist James Thompson noted a half century ago, organizations exist to combine people’s efforts. Combining, or interdependence, can take three forms: pooled, sequential, or reciprocal. Pooled interdependence was the very essence of the industrial era—breaking work down into small tasks that could be done and monitored individually, without input from others. To the extent that such work exists in current projects, there’s flexibility in when and where it gets done. But most tasks now require some degree of interaction among individuals or subgroups.

Sequential interdependence characterizes tasks that need input (information, material, or both) from someone else. The assembly line is the classic example: Unless the guy upstream does his part, I cannot do mine. Teaming situations are full of these tasks; they must be scheduled carefully to avoid delays. Effective teaming streamlines handoffs between sequential tasks to avoid wasted time and miscommunication. Too often, people focus on their own part of the work and assume that if others do likewise, that will be sufficient for good performance.

The management of tasks involving reciprocal interdependence—work that calls for back-and-forth communication and mutual adjustment—is most critical to successful teaming. Because it’s often difficult for people in cross-functional, fluid groups to reach consensus, these tasks tend to become bottlenecks. They should therefore be prioritized. It’s crucial that leaders specify points when individuals or subgroups must gather—literally or virtually—to coordinate upcoming decisions and resources or to analyze and solve problems.

One factor that distinguished the design and construction of the Water Cube from most large-scale
Conflict among collaborators can feel like a failure, but differences in perspective are a core reason for teamwork in the first place, and resolving them effectively creates opportunities.
Building psychological safety. In fast-paced, cross-disciplinary, cross-border teaming situations, it’s not necessarily easy for people to rapidly share relevant information about their ideas and expertise. Some people worry about what others will think of them. Some fear that they will be less valuable if they give away what they know. Others are reluctant to show off. Even receiving knowledge can be difficult if it feels like an admission of weakness.

Because these vital interpersonal exchanges don’t always happen spontaneously, leaders must facilitate them by creating a climate of psychological safety in which it’s expected that people will speak up and disagree. A basic way to create such a climate is to model the behaviors on which teaming depends: asking thoughtful questions, acknowledging ignorance about a topic or area of expertise, and conveying awareness of one’s own fallibility. Leaders who act this way make it safer for everyone else to do so. To establish a psychologically safe environment for the rescue operation in Chile, Sougarret shielded everyone involved from the media, asked questions and listened carefully to people regardless of rank, and demonstrated deep interest in new ideas about how to save the miners. In the Water Cube project, Carfrae created what team members referred to as a “safe design environment” by reinforcing the need to experiment with wild ideas.

Embracing failure. Teaming necessarily leads to failures, even on the way to extraordinary successes. These failures provide essential information that guides the next steps, creating an imperative to learn from them.

In teaming situations, leaders must ensure that all participants get over their natural desire to avoid the embarrassment and loss of confidence associated with making mistakes. The RAZR team confronted failure when, despite long working hours, it missed its ambitious deadline and the associated holiday sales. Fully supported by senior management, the team launched a few months later, and the phone’s sales still surpassed expectations. The first polymer concepts have won the competition? We can’t answer that, but the new, shared solution—the Water Cube—was spectacular. Project leaders facilitated this successful outcome by assigning those rare specialists who had deep familiarity with both Chinese and Western culture to spend time in each other’s firms helping to bridge differences in language, norms, practices, and expectations.

Challenges Bring Benefits
Having studied the evolution of teamwork for 20 years, I believe that teaming is not just something individuals and companies have to do now but something they should want to do now, because it’s an important driver of personal and organizational development.

When managed effectively, teaming can generate not only amazing short-term results, as illustrated by the RAZR and the Water Cube, but also long-term dividends. (See the exhibit “The Rewards of Successful Teaming.”

**THE BEHAVIORS OF SUCCESSFUL TEAMING**

**Speaking Up**
Communicating honestly and directly with others by asking questions, acknowledging errors, raising issues, and explaining ideas.

**Experimenting**
Taking an iterative approach to action that recognizes the novelty and uncertainty inherent in interactions between individuals and in the possibilities and plans they develop.

**Reflecting**
Observing, questioning, and discussing processes and outcomes on a consistent basis—daily, weekly, monthly—that reflects the rhythm of the work.

**Listening Intently**
Working hard to understand the knowledge, expertise, ideas, and opinions of others.

**Integrating**
Synthesizing different facts and points of view to create new possibilities.

**Putting conflict to work.** When teaming occurs across diverse cultures, priorities, or values, progress-thwarting conflicts are common—even when leaders have done all the right things. To move forward, all parties must be pushed to consider the degree to which their positions reflect not just facts but also personal values and biases, to explain how they have arrived at their views, and to express interest in one another’s analytic journeys. In this way, people can put conflict to good use.

As Chris Argyris wrote in the HBR article “Teaching Smart People How to Learn” (May 1991), learning from conflict requires us to balance our natural tendency toward advocacy (explaining, communicating, teaching) with a less spontaneous behavior: inquiry (expressions of curiosity followed by genuine listening). A useful discipline for leaders is to force moments of reflection, asking themselves and their peers, “Is this the only way to see the situation? What might I be missing?” Such exploration—even in the face of deadlines—is critical to successful teaming. In fact, in my research and consulting I’ve found that “taking the time” to do this actually takes less time than allowing conflicts to follow their natural course.

Conflict can feel like a failure. It can be frustrating not to see eye-to-eye with collaborators, but differences of perspective are a core reason for teamwork in the first place, and resolving them effectively gives rise to new opportunities. Instead of parting ways when they disagreed about the design for the Olympic aquatics center, the Chinese and Australian designers came up with a brand-new concept that excited both sides. Would either of their original design concepts have won the competition? We can’t answer that, but the new, shared solution—the Water Cube—was spectacular. Project leaders facilitated this successful outcome by assigning those rare specialists who had deep familiarity with both Chinese and Western culture to spend time in each other’s firms helping to bridge differences in language, norms, practices, and expectations.

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Organizations that team well are nimble and innovative. They execute while they’re learning on multiple fronts.

The multinational food company Group Danone believes so strongly in the power of teaming that the company has institutionalized it in the form of Networking Attitude, a program initiated by the executives Franck Mougin and Benedikt Benenati. It encourages ad hoc projects involving employees spread across hundreds of business units that previously operated independently, with little or no cross-pollination. Using a mix of face-to-face “knowledge marketplaces” and electronically mediated discussions, managers with an interest in a particular issue, brand, or problem can find partners with whom to share practices and launch new initiatives. An internal report featured stories of 33 practices transferred across sites, from which the company expects new teams and projects to bubble up. One initiative involved a dessert Danone Brazil helped Danone France launch in under three months in response to a competitor’s move; it became a €20 million business. The company now has more than 60 new “networks”—porous communities of teaming colleagues—around the globe. Networking Attitude was designed to produce business successes, and it did. But, just as important, it shifted a culture of localized, hierarchical decision making to one of horizontal collaboration.

"Let’s come back later. It looks like he’s still buffering."

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