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How to Set the Stage for Creative Collaboration
Scott Doorley & Scott Witthoft

With a Foreword by David Kelley



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How to Set the Stage for Creative Collaboration

Scott Doorley & Scott Witthoft

with a foreword by David Kelley ————

Space matters. We read our physical environment like we read a human face.

Consciously or not, we feel and internalize what the space tells us about how to work. When you walk into most offices, the space tells you that it's meant for a group of people to work alone. Closed-off desks sprout off of lonely hallways, and in a few obligatory conference rooms a huge table ensures that people are safely separated from one another. Most work spaces were designed according to an industrial labor model, from a time when our work was tethered to big machines and our status was rooted in the size of our office space.

When I started IDEO with friends in 1978, I knew we had to work differently. We were engineers and still wore ties, but we sat in a circle on the floor for meetings. It made everyone feel equal and allowed us a certain kind of openness with each other. Since then, at IDEO and the d.school, space has been a foundation for the expression of our cultural values. We value innovation as a team sport; it needs "we" spaces more than conventional "I" spaces.

Collaboration and creation aren't bound to designated areas; they evolve throughout a space, absorbing different people, places, and perspectives.

Space and its impact on behavior have been important to me from those earliest days, through IDEO and my long association with Steelcase. At the d.school, it's been a critical element in creating a different kind of educational environment, one that nourishes creative confidence in our students. One of our first challenges was to equalize the respective status of students and faculty. When you walk into one of our classes, it's almost impossible to tell who's teaching and who's learning. Innovation thrives on this kind of equality. With a boss or a professor standing at the head of the room, it feels like a "sage on stage"—people are reluctant to share their ideas ("What if the boss doesn't like it?"). Reconfiguring the physical relationship is a powerful signal that participation is truly welcome. The result is that you get better ideas out in the open, where they can grow. But

there's not just one ideal design for a collaborative space. The people using it should be able to transform it themselves, move things around, and create what they need for the work they're doing at the moment.

Our students have responded to this in ways that have surpassed our biggest hopes. They come from very different backgrounds and very different places on campus and experience their deepest collaborations here. When our alumni—from school administrators to entrepreneurs—start their own organizations, they build their spaces around these same values.

Regardless of whether it's a classroom or the offices of a billion-dollar company, space is something to think of as an instrument for innovation and collaboration. It's not an initial, given condition, something that should be accepted as is. Space is a valuable tool that can help you create deep and meaningful collaborations in your work and life.

When we started the d.school, we were stuck with a double-wide trailer no one else wanted, the team leading our space design efforts had little prior expertise in the field, and we were told we would have to move every 12 months for years before our first official space would be available.

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These apparently unfortunate initial conditions are not obvious when you walk into our newly renovated building at the heart of the Stanford campus. In hindsight, the path we were forced to take appears close to inspired.

The yearly moves turned out to be a profound forcing function for learning, not just about space, but for prototyping and evolving our entire organization. And having a team lead the way that seemingly had no business designing spaces set the stage for unexpected approaches to emerge. We weren't looking for a groovy office. We were looking to create learning experiences for our students, make it safe for them to fail, and provoke an ecosystem as complex as Stanford to change. The members of our team had experience that was perfectly suited to this challenge.

We have had the opportunity to be a bit more radical than others might feel is safe in their workplace. And we have been able to test our rapidly evolving ideas with real people every day—with the thousands of students who have

come to the d.school to learn how to be better innovators, and with their teachers and project partners, too.

At first, we used space to support the activities of our teams, as a signal that the d.school was a different kind of place, and as a way to embody our values. We put team spaces and couches in classrooms to facilitate project work and allow for moments of debriefing. We removed carpet to expose concrete floors to make it clear that the d.school is a work space, not an office space. And we put desks near the entrance so that people are the first thing you see when you walk in, reinforcing that one of our principal values is human-centeredness.

Along the way, we learned that we have to prototype our way into any new space; to continuously iterate, adapt, and evolve our spaces after we move in; and to think of space primarily as a way to change behavior, not as a facilities project or a showpiece for our brand. We want our teams to act in more empathetic ways, so we make our spaces more human, with more places to debrief, reflect, and connect. We want our teams to work collaboratively instead of individually, so we have generous collaboration spaces and "bare essential" individual spaces. We want our teams to get up and try stuff, not sit around and talk in long meetings, so we make seating uncomfortable and the tables too small. Supplies, tools, and workbenches are more apparently available than conference phones and

conference tables. We want leadership to move around to the person who has the relevant expertise at the time, not just to the person in charge, so we create huddle rooms without explicit status associated. There's no head of the table or front of the classroom.

We want our students and teams to be mindful of space and to take responsibility for setting up the environments that will amplify their work. So we set the expectation that each person is a steward of the space, that they need to care for it. At the same time, if it's not working, they change it or, better yet, hack it.

This book is an attempt to capture what the d.school adventure has taught us along the way and is a tool to help you to use space to develop your unique culture. I hope our story is an encouragement to you, suggesting that big things often have small beginnings, that radical change usually starts with brave but little steps, and that when people feel safe to try something new, spectacular things can happen. Good luck as you make space in your life, your teams, and your organization to innovate!

instructions

make space is a tool for using space to shape the culture and habits of a creative community. Building a space is tough, but shaping culture is an absurd act of daring. It's like assembling a 10,000 piece puzzle. On a grass field. During a hurricane. And the puzzle itself is a photo of a grass field. At 1:1 scale. Address this conundrum with action. Begin to deliberately alter your environment and you will reveal what enhances collaboration and what doesn't, what boosts creativity and what doesn't. Reconfiguring, prototyping, and building are the equivalent of starting a puzzle with the corners: a simple approach that illuminates a structure to attach more complex issues. The most difficult part of any of these actions is simply getting started, this book is filled with ways to start transforming your space. Many can be accomplished in hours, some in minutes.

make space has five different types of content: Tools, Situations, Design Template, Space Studies, and Insights. Individual entries from each are shuffled throughout the book and are described in more detail over there. We designed this book so that you would put it down—so that you can and will experiment.

Read it long enough to get inspired, then put it aside and get to work. Pick it up when you need another boost, then put it down again and get back to work.

Each entry and the sum of their collisions can help you quickly fine-tune every decision you make—from the shape & scale of the furniture you use to the music you play in the space—to inspire new ways of working and interacting.



tools

Make the useful things that fill up a space—furniture, storage options, materials, etc.

Tools range from DIY "hacks" that may take a matter of hours, to examples of CNC milled furniture you'll likely need assistance in building. If you are a maker at heart or just can't wait to try out some stuff, these will get you going. The rolling whiteboard Z-Rack (page 16) is a popular project that is not too difficult to construct. Each Tool spread features build instructions, tips, and sourcing information.

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- 18 Foam Cubes
- 26 HACK: Showerboard Dry-Erase Surface
- 28 Periodic Table
- 58 Whiteboard Sliders
- 60 HACK: Casters in Unexpected Places
- 68 Flip Stool
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- 84 Hanging Screen
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- 94 Vinyl Cutter
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- 152 Aesthetic Panels
- 160 HACK: Incandescents and Dimmers
- 170 Flip-Top Table
- 172 Transit Trolley
- 180 Bleacher Blocks
- 190 Writeable Surfaces Everywhere
- 192 Simple Dynamic ID Wall Displays
- 200 Short Boards
- 210 Prototyping Cart
- 212 HACK: Instant Boundaries from Floor Treatments
- 220 Storage Towers
- 230 Grid System
- 232 Jacks
- 240 Connectors
- 242 Quick Component Tables



situations

Quick, repeatable configurations or patterns, usually at the scale of a room.

Some Situations take as little effort as simply rearranging existing furniture in a few minutes or even seconds; others require some consideration and construction. For example, "Around the Campfire" (page 32) is an easy pattern that has instant impact. The Situations featured here offer a starting point for shaping your space—create your own variations for best effect.

- 20 Instant / Shared Studio
- 32 Around the Campfire
- 34 Photo Booth
- 62 Prototyping Room
- 74 Concept Car
- 86 Peanut Gallery
- 98 Cul-de-Sac
- 100 Anchors
- 112 Studio Classroom
- 122 Project Rooms
- 132 Hiding Place
- 144 Adjustable Flare / Focus Spaces
- 154 Huddle Rooms

- 164 Theater in the Round
- 174 Storage Gallery
- 182 The White Room
- 194 Open Office Seating
- 204 Meeting Place
- 214 Open Kitchen
- 224 The Coffee Shop234 Modular Multiples
- 246 Defaults



design template

A comprehensive breakdown of the elements at play in a space, or the game behind the game.

This book is about space only insomuch as it affects people. The design template deciphers how the sense of a place and the properties of the things within it spark creative and collaborative attitudes and actions. The template is based on the "Attitudes" in our particular culture (page 51) that may match or oppose those in yours. In any case it is still a great place to start the groundwork for intentionally playing with space.

- 38 Introduction
- 40 Places
- 43 Properties
- 47 Actions
- 51 Attitudes



space studies

First-person dispatches from the front lines of space design.

Interspersed throughout make space are real-life case studies and candid essays from practicing designers, teachers, artists, entrepreneurs, managers, and researchers who have put a number of these concepts to good use. Read these to understand how people are tackling issues similar to those you face. They offer a wealth of insights within their narratives. Check out how ITP, New York University's cutting-edge digital media program, encourages students to evolve the space to suit their needs with giant "erector sets" (page 226).

- 12 Making Space for Change
- 54 TED: The Environment Designed
- 78 Reimagining Space with Rapid Fabrication
- 104 The d.school Sandbox
- 124 Palomar 5: Exploring the Space between Work and Life
- 146 Cutting into Corporate Culture

- Designing Space for Innovation: Learning Inside andOutside the I-Lab
- 186 Building a Runway for Entrepreneurs
- 206 Experimental Kitchen
- 226 Reprogrammable Architecture

Instructions



insights

Kernels of understanding we've discovered through our "trials and errors."

Some are hunches that seem to hold true, others are well-known tenets that we've successfully put to use. There is no substitute for doing it yourself, but we hope you'll be able to take advantage of these Insights with a little less of the heavy lifting we endured in discovering them. We've found playing with the principles in the "Design for Primates" Insight (page 23) to be very fruitful.

- 22 Context Is Content
- 23 Design for Primates
- 24 Design with Multiple Situations in Mind
- 25 A Little Prep Goes a Long Way
- 30 Start with What You Have
- 31 Building Your Own Space Is a Big Deal
- 36 Follow the Hacks: Innovation Is Everywhere
- 37 Expose Raw Materials
- Seek Inspiration from Unexpected Locations

- 65 Separate Needs from Solutions
- 66 Define Your Intent
- 72 Separate Idea Generation from Selection
- 73 Don't Forget to Prototype
- 76 Leave Room to Evolve
- 88 Make a Soundtrack
- 89 Build in Little Rituals
- 90 Special Touches Create a Sense of Belonging
- 96 Make Technology Radically Accessible, But Don't Use It Often
- 97 Pick Your Spending Spots
- 102 Enter on Action
- 103 Provide Room to Think
- 114 Work Big Early
- 115 Use Space to Level Status
- 116 Space Is Not Always the Solution
- 117 Build Empathy by Exploring All Angles
- 120 Small Changes Can Have a Profound Impact
- 121 Use Soft Boundaries to Partition Open Spaces
- 134 Design Strong Points & Counterpoints
- 135 Leave a Room Clean or Messy?
- 136 Help People Cope with Change
- 142 Corners Provide a Sense of Place
- 143 Keep Supplies & Tools Visible for Inspiration & Instruction
- 156 Make Your Partner Look Good
- 157 Make Thinking Tangible
- 158 Use Space to Nudge Culture, Not to Shove It
- 159 Beware of Whiz-Bang!
- 162 Use Seats to Set a Time Limit
- 163 Make Space with a Small Team

- 176 Recognize Your Emotional Arc during a Project
- 177 Walls vs. Open Space
- 178 Apply Convention, Defy Convention
- 179 Don't Blow the Whole Budget
- 184 Horizontal Surfaces Attract Clutter
- 185 Technology in Your Pocket
- 196 The Open Office Floor Plan Has a Shadow
- 197 The Responsibility-Adjustability Slide Rule
- 198 Bold Is Better than Bland
- 199 Powers of Ten
- 202 Provide Quick Perches in Active Spaces
- 203 Patina Gives Permission
- 216 Get There a Little Early, Leave a Little Late
- 217 Use Limits to Inspire Creativity
- 218 Storage Should Be at Least 30 Percent of Your Space
- 219 The Cookie Rule
- 222 Use Objects to Create Experiences
- 223 Headphones Help Focus
- 236 Platform vs. Application
- 237 Steal from the Black Box Theater
- 238 Design for the Beginning, Middle, & End
- 244 Provide Permission: Say "Yes" Mostly
- 245 Flooring Shapes Creative Activities
- 248 The Escalator Test
- 249 It's about People



Making Space for Change

by Scott Doorley and Scott Witthoft



Space Studies_Making Space for Change

The d.school is everywhere at Stanford. Our students come from all disciplines and take what they've learned back to their respective departments and the map of our past locations on campus is almost as far-reaching as our current impact. Since the founding of our first physical teaching space, the entire d.school has moved four times in as many years. That's a lot of moving, even for a dynamic organization focused on building adaptable innovators.

With each move, we were forced to occupy and modify spaces we would not have instinctively chosen. In responding to the scale and character of each building, we've recognized that a tool for designing creative spaces is to create smart parameters that themselves stimulate mindful modification. So began our love of improvisation.

Birch Modular: Be Not Precious

Double-wide trailer on the outskirts of campus

Birch—a twenty-year-old "temporary" trailer—was such a mess that the d.school's executive director, George Kembel, feared we'd have to return our funding if our principal donor saw the place. But Birch's obscure location and shabby condition signaled permission to experiment. And that's exactly what we did. Carpets were torn out, walls were repeatedly demolished and rebuilt, and we drilled into everything—including the floors—with abandon. Birch is where we found our tone: experiment wildly and consider nothing precious.

top: Birch Modular during demolition & construction.

bottom: Birch in action with spaces for staff & students.



Sweet Hall, 2nd Floor: Change Everything

On-campus office building

Sweet Hall was filled with offices, so we tore everything out of the entire second floor. With nothing left but the concrete floor, we turned the whole space into a roller rink of sorts by putting everything on wheels. With couches, tables, and walls completely mobile, we reconfigured everything at least every few weeks, sometimes daily. These rolling assets allowed us to do incredible things like prototype a full-scale design building for elementary school kids on a Thursday and run a group of Fortune 500 executives through a workshop that same weekend. The fun of this flexibility taught us limits, though, as even our closest collaborators felt disoriented when landmarks like the copy machine migrated overnight.

> Building 524 before the flood, but after the fluids lab. The building prior to d.school modification.

Building 524: Experiment with Special Spaces

100-year-old loft building in the center of campus

Sweet Hall was a fluid work space. Building 524 was literally a fluid dynamics laboratory, filled with flumes and water tanks, and a very particular dank smell. We experimented at 524 with making distinct micro-environments by overhauling ten former PhD offices into collaboration concepts—ranging from plush lounges to an all-whiteboard room. In having these options, teams could tune their activities by choosing a particular space.

Sweet Hall during class. Teams sit together inthe-round before switching into an activity.



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