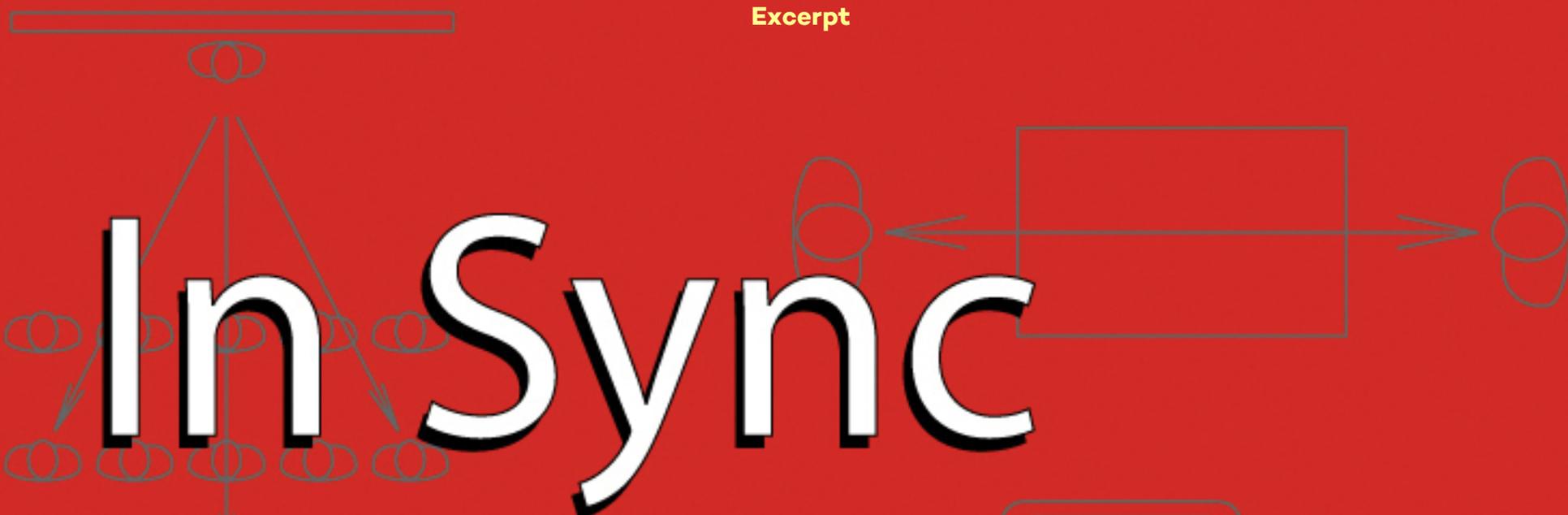


Excerpt

In Sync



Environmental Behavior Research
and the Design of Learning Spaces



Lennie Scott-Webber



Society for College and University Planning

Excerpt

About the Author:



With 25 plus years as an interior designer, researcher, international speaker, educator, and academic administrator, “Dr. Lennie” works as a specialist in the design and planning of environments for sharing knowledge as President and CEO of In_Sync. Her philosophy incorporates the integration of research for informing design resolutions. The design focus is on environments for knowledge sharing—higher education and corporate learning centers. As an environment behaviorist her research has centered on knowledge sharing scenarios relative to adult learners. Her former roles include: Chair of The School of Interior Design at Ryerson University; the Director of Applications Research for Vecta a Steelcase Design Partnership Company; faculty member at Virginia Tech; and owning and operating her own full service interior design firms in both Canada and the United States. This book, *In Sync: Environment Behavior Research and the Design of Learning Spaces*, exemplifies her belief that research should inform design. As a researcher, she has over 70 publications to her credit, is an Associate Editor of *Planning for Higher Education* as published by the Society for College and University Planning, and is a frequent guest speaker at national and international forums.

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In Sync: Environmental Behavior Research and the Design of Learning Spaces

Lennie Scott-Webber

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339 East Liberty Street, Suite 300
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phone 734.998.7832
fax 734.998.6532
email info@scup.org
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Chapter 1

Introduction

Valuable empirical research pertinent to designers and planners of the built environment (anything built by humans) sits on shelves in the ivory halls of academe. This fact became glaring apparent to me when I was a mature graduate student. The primary reason is that the researcher has not taken the next step in the process—providing direction for applications. As a designer, I don't just rely on best practices, but look for sources that corroborate my decisions. As a researcher, I follow a similar path and find other studies supporting my investigation. Knowledge builds upon knowledge, information upon information, and informed solutions provide credibility to the decision-making process. Designers and researchers follow a similar path. However, it is much easier for the researcher to use empirically based information due to the availability of these scientifically developed studies and the use of a common language (statistics and research methodology) for understanding the information presented. Since much of the research pertaining to issues of the built environment has stopped at the empirical stage and because the language is not familiar, designers do not have access to easily translated information which may be

incredibly useful in the planning and predesign stages. This book is my attempt to bring to leaders of design and planning teams some of the classical environment/behavior research and current research findings IN SYNC with formulas for application (planning archetypes), thereby taking empirical research to that next step—making the information useable.

The focus here is on synchronizing information from two phenomena: (1) the environment's impact on behavior and (2) the situations we find ourselves in when we need to share information (knowledge sharing). Many factors not addressed here contribute to how the environment impacts behavior, including the elements and principles of design (e.g., light, color, texture), furnishings, finishes, ergonomics, culture, etc. Other important components of the physical environment, such as information technology, acoustics, aesthetics, seating, and temperature, are also not addressed here (for further information read ASID, 2001)^{1, 2}. We will look very simply, yet very strategically, at form and the manipulation of space relative to particular intended behaviors in specific knowledge-sharing scenarios.

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Where do we share knowledge? The answer is, simply, anywhere and everywhere—in residential and commercial settings, indoors and outdoors. Yet this answer is too all encompassing and hard to get a handle on. Although the tenets provided here may work in a variety of settings, we will concentrate on environments whose mission is to advance and enhance the sharing of knowledge—corporations and higher education facilities. Since 1995, my own personal research has been dedicated to the pursuit of understanding and then articulating what designers and planners need to know in order to provide settings appropriate for intended behaviors. Many books and articles focus on the macro or architectural environment and exterior conditions of these settings. Presentations are often on "pretty pictures". Rarely do we read about the reasoning/logic/theory behind the design solution. We will address that reasoning for the micro scale, or interior design of these settings where people actually "live," or work, learn, and play.

What behaviors do these settings affect? Five intended behaviors have been identified supporting knowledge-sharing environments. They are:

- Environments for Delivering Knowledge (EDK);

- Environments for Applying Knowledge (EAK);
- Environments for Creating Knowledge (ECK);
- Environments for Communicating Knowledge (ECmK); and
- Environments for Decision Making (EDM).

Throughout the book, I have provided explanations, suggested protocols, archetypal information, and planning application ideas. My hope is that designers and planners alike will be able to utilize this text and

Valuable research pertinent to design decisions sits on shelves in the ivory halls of academe.

the information it presents as a guideline for the predesign and planning stages and as a quality control check in the design development phase to ensure that design decisions are not compromised and ultimately to avoid a potential negative effect on the bottom line of these "businesses". A disconnect between the design of the setting and the intended activities can lead to a reduction in the knowledge workers' productivity.

As we know, much has changed. Today it is not business "as usual" in corporate arenas, organizations,

or educational academies. Each struggles to keep in step with the "dance of change"³ brought about by the effort to keep organizations moving forward and the shift from an outdated industrial model to one fitting our Knowledge Age (an age where knowledge is communicated through information technology and telecommunications). Many authors have offered suggestions for altering strategic approaches, business tactics, and personnel alignments^{3,4,5,6}. Yet none makes the case for changing the built environment to support these emerging behavioral functions. However, work environments (*work* in this text refers to any place where people are engaged in a sustained activity over time) have the potential to be learning environments where each worker is involved in interrelated and collaborative opportunities. Many corporations and higher educational institutions have built-in expectations for workers and that may mean an expectation for him or her to engage in life-long/perpetual learning activities throughout his or her career⁷. In higher education, the mission is to impart knowledge. So, why is it important for designers, planners, and management who are involved in projects for higher education and corporate America's community of learners to plan spaces differently? Because, depending on the situation,

knowledge is shared differently. It is desirable then to capitalize on these situations with a match between the behavioral theories imbedded within each situation and an application supportive of each, thus synchronizing theory and planning activities.

Designers and planners have professional responsibilities for the health, safety, and welfare of the constituents who utilize these settings. It's easy to remember to build to code, use guidelines for universal and barrier-free design, and think through sustainability issues. However, we need to be reminded that the tenets of human behavior (primal actions and reactions inherent in each of us) must be included in the decision-making process so that it specifically addresses a person's well being. This book will explore ideas and theories from social anthropologists and provide archetypal attributes supporting planning processes. To begin with, some background is required for garnering an awareness of why change in business strategy is necessary and to provide illustrations of the accompanying challenges.

Seely-Brown and Solomon-Gray⁸ see organizations as "webs of participation"³ (p. 49). They suggest that when you change "the participation/*behavior* you change the organization"³ (p. 49). These webs are often described

as communities of practice^{8,3,4}. Communities of practice exist at every level of an organization, in corporate structures, academic settings, and the like. These communities are comprised of people who must rely on one another to execute their work. Evidence suggests that groups of people affiliate due to a sense of common purpose and the advantage of knowing that others bring different knowledge perspectives to any given situation³. Seely-Brown and Solomon-Gray argue further that these networks, or communities, are "the critical building blocks of a knowledge-based company"^(p. 49). Many authors have presented organizational plans suggesting that people in leadership roles should develop new strategies⁹ for maximizing performance for a Knowledge Age that will positively affect business results: from an emphasis on individual performance to team performance.

Norris⁵ indicates that as "a global, knowledge-driven economy is emerging"^(p. i), society as we know it is undergoing a fundamental change driven by two pervasive factors: information technology and telecommunications. As this new millennium "heralds the arrival of an age of communication, knowledge, and learning, made possible by"^(p. 1) these advances, "we may label this phenomenon the Knowledge Age . . . This knowledge driven economy has one

coin—knowledge, not information. Insight, synthesis, and judgment are the real sources of value . . . Communicating is the way of the New Economy. Hoarding information is out. Sharing and leveraging knowledge is in. The New Economy spans every political and organizational jurisdiction. Knowledge, financial capital, and other assets flow easily across borders"^(p. 1). No organization is immune to this phenomenon. As working relationships change

***Understanding of the environment/
behavior relationship is needed to
align business strategies with
design planning.***

to meet this new global necessity, so too should the designed environment adapt to support these emerging realities.

Winston Churchill, in an address to Parliament, said, "We shape our buildings; thereafter they shape us"^{8 (p. ix)}. Space matters! Designers and planners, as well as leaders of organizations, must recognize that the built environment affects behavior^{8, 9}. Would we rather continue adapting to the built space or have the space adapt for us? Identifying and planning for intended situational behaviors may provide additional support

for implementing workplace strategies. Thus, appropriate and knowledgeable design planning is the key.

Design planning is viewed as a response to a perceived need (e.g., business strategy or educational thrust)¹⁰. Understanding that need is critical to the development of a successful built solution. Needs are determined in strategic planning sessions. However, it is the designer/planner's and/or the environment/behavior specialist's responsibility to contribute knowledge of the impact of the built environment; it should be an over-arching consideration. Knowledge of, and designing for, intended behaviors facilitates an increase in successful design solutions supporting Knowledge Age requirements. Evidence supports this truth. The research initiative, co-sponsored by The American Society of Interior Designers (ASID), Ecophon, Haworth and Vista Films, indicated that "well-designed workplaces utilize solutions that integrate employees' functional needs with comfortable and pleasant surroundings." In other words, "employees who feel the physical environment supports their work and is IN SYNC with the company's goals and image are more likely to be satisfied in their jobs, to work longer hours and to stay with their current employer"¹¹ (p. 12). Also, this study confirmed that often the design of the office

environment has not "kept pace with companies' efforts to reorganize their personnel in order to encourage greater teamwork, communication and collaboration" (p. 12). Thus, understanding of the environment/behavior relationship is needed to align business strategies with design planning.

The large body of environment/behavior research affirms the importance of the relationship between human behavior and the physical environment^{12,13,14,15,16,17,19}, enables the production of environments supporting intended behaviors, and defines major components of these behaviors. Knowledge of environment/behavior relationships and planning workplace strategies is useful for leaders, planners, and designers alike. But what is considered an environment?

An environment is described as anything and everything that surrounds an individual¹². This idea employs the term "physical environment" to include both built and natural at both macro and micro levels. We will use this definition as a starting point and employ the principles of environmental behavior to focus on the relationship between human behavior and the building's physical characteristics (i.e., specific settings within a building)^{2,20,18}. The collective research

from environment behaviorists argues that the physical environment affects human behavior. This wisdom has significantly advanced the understanding of human behavior, and provides explanations for how the environment impacts that behavior.

It is argued in this book that understanding this co-joined effect enables designers and planners to create solutions supporting intended behaviors. Furthermore, there are cultural, environmental, and behavioral remnants from the Agrarian Age (pre-Industrial Revolution) and Industrial Age (1750–1990s) settings particularly associated with learning environments, that may affect solution development for Knowledge Age settings, especially in adult learning areas of corporate and academic arenas. Organizations, institutions, and designers should recognize the impact of design and planning decisions on the overall strategic vision and the importance of incorporating environment/behavioral tenets into solution development. Specifically, the following chapters will explore:

- The historical social anthropology, or environment behavior research, as it relates to the built environment—particularly issues of territoriality, situational behavior, and personal space;

- The planning remnants left from the Agrarian/Industrial Age models and what changes may be necessary as we move forward into the Knowledge Age;
- The theories that describe how we learn;
- An overview of knowledge-sharing attributes for learning environments; and
- A set of archetypal principles with spatial application ideas for consideration in the design and planning of Knowledge Age settings.

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