

Placemaking and Performance

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Placemaking and Performance: Toward Healthy, Productive Workplace Environments

Professionals are judged by their productivity, which typical office jobs inhibit. Typical office environments induce sedentary, stressed and ineffective employees. Workers flourish when they have opportunities to behave more naturally and collaboratively. In a survey of 2000 employees, Hughes (2007) reported that nine out of ten workers believed that workspace quality affects the attitude of employees; good workplaces improve productivity. Workspace quality can influence workers' health, performance and wellbeing.

Employees, employers and architects who design workplaces are interdependent, but a disconnect divides them. Many employees know what they need to thrive, but many employers are primarily concerned with short-term profit, and most architects are encouraged to design within strict constraints to win bids. Intentional and informed design is a long-term investment that can reap innumerable rewards; according to Hughes: "In the end, maximum employee productivity is a commodity no employer can afford to be without" (2007). Workplace environment affects health (mental, physical, emotional and social) and success (by influencing productivity). Floor plan, lighting, temperature, noise levels, and ventilation are crucial. Biophilic design and the provision of spaces meant for movement and reflection are examples of features that can contribute to workplace success. Effective place-making and communication can promote the welfare and performance of office workers.

Literature Review

Placemaking literature

Biophilia is the human tendency to associate with other forms of nature, such as plants. Design that promotes biophilic experiences, such as incorporating more natural sunlight, beautifying surrounding vegetation, and including potted plants in offices, can reduce stress,

improve cognitive function, and enhance mood and creativity. These and other outcomes can improve health and wellbeing, as well as productivity (Browning, 2018).

Contemplation and Collaboration Literature

Wolfgang Lukas, founder of the Contemplative Scientific Collaboration initiative, described collaboration as “abundant in nature and indispensable in human culture.” At the International Conference of Mindfulness in 2019, Lukas asserted that insufficient collaboration impairs research. Competitive environments and an apparent scarcity of resources, manpower, expertise and visibility deter collaboration. When provided with the proper environment and resources, employees are more likely to flourish both contemplatively and collaboratively (Lukas, 2017).

Maia Duerr recommends designing physical spaces for contemplation, meditation, and community bonding in her piece *Creating the Contemplative Organization: Lessons from the Field*. Duerr (2004) uses employees at the company Sounds True as examples. This company offers group meditations in a designated meditation room. One woman working in the customer service department used this meditation room to prepare for a stressful meeting. She said that it “helped her to remain calm and to remember everything she needed to say.” Such rooms are valuable even if rarely used. She asserts that “simply providing a space that’s available for reflection shows caring on the part of the company leadership.” In addition to rooms solely dedicated to meditation or quiet time, she recommends spaces where contemplation and collaboration can spontaneously emerge. Duerr describes the use of an “altar,” where employees can share photos of family, friends, loved ones, or hobbies. This idea could be translated to a large bulletin or white board, perhaps with daily prompts or questions that workers could reflect on publicly, building a sense of community and promoting the sharing of symbols of what is

important in their life, both in and outside of the workplace. Sounds True also provides an office gym, which employees welcome. One employee stated: “Sounds True supports people by allowing us to have the space for the gym. It’s not just about spiritual products and meditation, but the bigger picture of taking care of yourself in all ways. I think the gym is an extension of that” (Duerr, 2004).

In a study of banks, Hameed et al. (2009) found that a quiet promoting floor plan enables communication, and a quality lighting system boosts productivity and performance by reducing fatigue and eyestrain, distractions and job-centric stress.

Employees’ Views on Environmental Conditions

Workplace studies have shown that employees prefer specific workspace features that tend to promote their overall wellbeing and productivity. “About 86% of productivity problems reside in the work environment of organizations” (Taiwo, 2010). The American Society of Interior Designers (1999) conducted a study that revealed that the physical workplace design is one of the top three factors that affect performance and job satisfaction. In a survey of 2,000 office employees in the USA, Gensler (2006) found that 90 percent of the respondents believed better interior design and layout result in better general employee performance.

Leaman (1995) adopted a survey method to establish if employees who were dissatisfied with their indoor environment were also less productive in their work. He concluded that “people who are unhappy with temperature, air quality, lighting and noise conditions in their offices are more likely to say that this affects their productivity at work.” Majekodunmi (2012) concurred, finding that proper ventilation and optimal room temperature increased productivity and reduced stress in employees. In fact, “the controllability of system for thermal comfort and lighting improved productivity of workers between 0.2 and 3 percent” (Moloney, 2011). In hot

environments, it is common for employees to become irritable and less efficient (El-Zeiny, 2012).

Employees perform optimally in an environment devoid of irrelevant noise. The type of noise present may be irrelevant; previous research by Banbury and Berry (2005) found that office noise, either with or without speech, significantly impaired memory performance for prose and mental arithmetic tasks. This noise interference is a potential issue with an open floor plan office design. Noise control features such as an acoustically designed cellular office layout and the use of soundproof material in conference rooms can be beneficial. Bruce (2008) found that the reduction in workplace noise reduced physical symptoms of stress by up to 27%, and the accuracy of data-entry workers improved by 10%.

Office layout can also have an impact on employee's physical and mental health (Danielsson & Bodin, 2008). "Overall, the cell office and flex office were associated with better self-reported health. Shared room offices, and small and medium-sized open plan offices were found to be inferior office types with respect to general health, and small and large open plan offices were inferior with respect to physical and psychological problems." The American Society of Interior Designers (2012) revealed that 30% of employees believed access to be critical to their workplace success. "They relate access to the proximity of things they need, including access to spaces that accommodate the tasks they need to accomplish, access to office equipment and access to people." Employees also identified privacy as important to their ability to work productively.

Incorporation of biophilic design in the workplace can have benefits. "There is a link between flowers and plants, as well as other aspects of nature, and employees' performance" (El-Zeiny, 2012). Ulrich (2003) found that "when plants and flowers were added to the work

environment, subjects demonstrated more innovative thinking and created innovative solutions to office problems.”

El-Zeiny (2012) conducted a questionnaire-based study to determine the effect of nine indicators of workplace interior design on employee’s subjective performance. The nine indicators were: furniture, noise, temperature, lighting, spatial arrangement, color, outside view and presence of plants and flowers. El-Zeiny concluded that furniture is the most contributing factor that affects the performance of employees; non-ergonomic office furniture can negatively impact productivity. A study conducted on employees of an insurance company concluded that ergonomic furniture increased performance by 10 to 15 percent (Ray & Maiti, 2017).

Song (2002) conducted a study examining the importance of workplace friendship on employee productivity and found that an organization’s productivity may increase when friendships among employees are encouraged. These friendships are only possible in a comfortable working environment with spaces to collaborate freely, such as the altar mentioned by Duerr (2004).

Employers’ Views on Environmental Conditions and the Importance of Redirecting Investment from Short to Long-term

Employers are primarily financially motivated when constructing and operating a workplace environment. Valencia (2008) conducted a survey comparing employee and manager motivation for success in the workplace. The data showed that the primary motivation technique for managers was money (50%) followed by training (22%) and recognition (22%) and criticism (6%). Conversely, the factors employees perceived as most motivating and influential for success were discipline (43%), recognition (24%) followed by money (19%), promotion (10%) and criticism (5%).

Many employers, when faced with a decline in productivity, implement an incentive program to reward increased productivity with some extrinsic motivator. However, Valencia (2008) asserts that if increased performance is the goal, “management will be better served by studying the organization as a system,” including environmental factors that could be prohibiting success. While both employees and employers agree that motivation is significant in influencing performance, their perception of successful motivation methods differ. “The organization’s overall efficiency will decline by unmotivated employees. Managers may even need to hire additional employees to complete tasks that could be done by the existing force” (Majekodunmi, 2012). Thus, it is crucial for employers to consider the long-term monetary consequences of not honoring employees’ needs. Also, while employees prefer cell or flexible office floor plans, employers favor an open floor plan because it is cheaper to construct and more flexible to reconfigure.

LED Lighting Companies are even advertising their products by claiming that they boost office productivity. For example, Superior Lighting included the following statement on their website: “...people have wanted to know more about the positive effects of LED lighting. Many studies have been conducted to find out how much LED lighting impacts the productivity and alertness of people at work and in school. Studies have even been performed on soldiers in the US Army to see how different lighting affects their productivity—soldiers show slower response times on cognitive tasks measuring spatial and verbal memory with fluorescent lighting instead of LED lighting” (LED Office Lighting, 2018). This company is a proponent of “color temperature and how it can positively affect the productivity of people while they’re at work,” recommending specific color temperatures for offices. Some recognize the need for an optimal working environment, but many employers are still responsible for subpar conditions.

While individual voices may not be significantly influential, many employees understand the power of cohesiveness. This is why unions such as CWA (Communications Workers of America) and AFSCME (American Federation of State, County and Municipal Employees) have over 2 million members across hundreds of different occupations of both private and public sector employment. AFSCME Resolution No.12 states: “Unions all across America are under attack by politicians and business people who desire to undermine American workers' goals of family wage jobs, fair and safe working conditions, and job security, whereas it should be the goal of all unions everywhere to improve the working conditions of their members and to help pave the way for improved wages and working conditions for all Americans.” One of AFSCME’s main issues is “working people deserve the same freedoms as corporate CEOs and millionaires.” These freedoms extend to physical and emotional comfort in the workplace environment. There is a discrepancy between employee and employer working conditions. Although employers such as “corporate CEOs and millionaires” may consider their own comfort and productivity to be paramount, they must consider the domino effect their employees’ freedoms have on their own. It is imperative to understand that validating their employees’ needs and concerns can be a step to increased productivity and company security.

Architects’ Influence Over Office Environment

Interior architects can have influence over design elements that affect workspace quality, but it is challenging for certain design objectives to be achieved in today’s offices.

In typical office environments, the interior architect is responsible for noise levels and acoustical design throughout the space. The use of sound absorbing materials on floors and suspended ceilings can dampen down the overall ambient sound level and make it less intelligible (Banbury & Berry, 2005). Ideally, an acoustical consultant would be employed and

work with the project architect and the interior architect to design for optimal sound control. Frequently, however, the finances are not available for an acoustical consultant. Perhaps more frequently, “acoustics is an afterthought” (Rayfield, 1994). It is more arduous than ever for architects to implement particular design elements in today’s offices: an environment “characterized by the extensive use of open-planning concepts, the need for flexibility or interchangeability in the use of space, and the common use of sophisticated teleconferencing and audiovisual equipment.”

Architects also have influence over the layout of offices. The most governing architectural feature is spatial organization. Thus, they should be educated on the relationship between office type, health status and job satisfaction. Danielsson & Bodin (2008) compared seven different office types defined by architectural and functional features: cell office, shared room office, small open plan office, medium-sized open plan office, large open plan office, flex office, and combi office. Health status and job satisfaction among occupants of differing office types varied significantly. “Lowest health status was found in medium-sized and small open plan offices. Best health was among employees in cell offices and flex offices. Workers in these types of offices and in shared room offices also rated the highest job satisfaction. Lowest job satisfaction was in combi offices, followed by medium-sized open plan offices.”

Interior architects also have influence over design elements such as color, lighting, wall covering materials and window treatments. Color can be used synergistically with form, scale and texture to create a desired response. Architects may “select a work-surface color that will reduce glare significantly,” or increase the perceived brightness of a room (Rayfield, 1994). Further, a study that analyzed the effects of color on performance found that cool colors are less arousing and distracting than warm colors (El-Zeiny, 2012). Thus, a person’s ability to screen

out distractions and increase productivity may be influenced by interior color schemes. Interior architects must also make choices regarding lighting. Lighting controls are typically offered in a toggle-switch (on/off setting) and a dimming system. A toggle-switch is the more economical option, but it is also more limiting. While a dimming system is more expensive to install, it “allows users to control voltage and light levels,” making dimming systems preferable for flexibility purposes (Rayfield, 1994). Boyce et al (2003) reported that “people with dimming control report higher ratings of lighting quality, overall environmental satisfaction, and self-reported productivity.” Additionally, while a flat-finish paint is used most typically as the wall treatment for an office environment, an architect may choose to use eggshell enamel as it “does not highlight drywall imperfections” and is “perceived as an aesthetic upgrade over paint.” Venetian and vertical blinds are the most popular window treatment in offices. Blinds offer “a range of transparency and shading options to the occupant,” while promoting a “clean, uncluttered appearance and are relatively easy and inexpensive to maintain.” Rayfield (1994) asserts that this variety of systems and materials supplies interior architects with “an incredible tool with which to design an environment responsive to the needs of the organization, and providing a safe, human and inviting place to work.”

Employees’ Views on Communication

Certain design elements can improve communication throughout an office space. Effective communication with coworkers and employers can foster employee well-being and productivity.

Noise has a negative influence on communication, as spoken conversation becomes progressively more difficult as noise levels increase. Majekodunmi (2012) found that “frustration levels increase while productivity decreases in relation to persistence and loudness of noise.”

Majekodunmi (2012) also studied the influence of workplace communication on workers welfare, performance and productivity. He asked 350 employees of government parastatals in Ondo State to rank the importance of specific workplace communication methods on their productivity. The meaningful recognition for work well done proved to be most significant. “Many of respondents (79.0%) agree that giving them recognition for a job well done motivated them for greater productivity and increased performance.” The effective flow of essential information from senior leadership to staff ranked second, since “such communication systems stimulate subordinates/employees to feel wanted and recognized by the superior/management.” Regularly scheduled staff meetings also proved to be significant. These meetings allow workers to have the freedom to exchange and express their ideas. “Collective decisions are taken and being involved in dialogue motivates them for good performance and increased productivity.”

Quilan (2001) found that effective communication throughout the workplace makes a company more likely to avoid complications with completing daily procedures. Effective workplace communication “generates a stronger morale and a more positive attitude towards work. When employees communicate effectively with each other, productivity will increase because effective communication means less complaints and more work getting done.”

Makin (2006) claims that communication can make a workplace more pleasant and result in less anxiety among co-workers which allows for a “positive attitude towards work and increased productivity.” Fleming and Larder (1999) agree, stating that effective workplace communication “removes confusion and frees up wasted time that would have been otherwise spent on explanation or argument.”

Many employees join unions in an effort to communicate to employers. Members of AFSCME assert “having a voice on the job means better pay, better health care, a more secure

retirement and so much more. It means having a say in safety, staffing and other important issues” (Union Difference).

While communication is crucial for employee success, it must not interfere with their privacy. A relation exists between reduced privacy and low job satisfaction in open workplaces (de Croon et al., 2005). Organizations should create a structured communication system to avoid undesired consequences from increased communication.

Employers’ Views on Communication

Employers strive for increased worker productivity, but some do not understand the impact of their productivity demands. “Most researches on workplace environment and productivity have been concentrated on profit-oriented organizations and not much focus have been placed on social service organizations” (Majekodunmi, 2012).

Brenner (2004) asserted that “the ability of employees within an organization to share knowledge throughout the system depends on the conditions of their work environment.” However, his survey also found that “corporate executives from various industries revealed many organizations do not fully leverage their physical work environment to enable increase collaboration, innovation and improve work effectiveness.”

In an example from 2016, Wells Fargo fired 5,300 employees who opened 2 million authorized credit card and deposit accounts under pressure to meet productivity quotas enforced by the bank, causing many to unionize. One employee, Christina McAlvey (2010) stated “one of the reasons I wanted to unionize was because it’s a way for us to have a louder voice. If we have everyone at the table, we have a better chance to tell management what we want and why we want and that makes this a better place to bank.” McAlvey and over 100 other employees at a

Tom Steyer-founded bank have unionized with Communications Workers of America (CWA), becoming the first in the financial industry to win collective bargaining rights in over 40 years.

Majekodunmi (2012) revealed that communication plays an instrumental role in the success of any workplace program. Effective communication can aid companies in tailoring policies and programs to meet employee needs. Taylerson (2012) confirmed that when employers meet the needs of their employees, morale is boosted amongst both parties and employees are “psychologically and emotionally stable to perform effectively and efficiently at the workplace, thereby increasing the productivity of the organization.” Further, an improved morale among employees results in an increased loyalty to the organization. The director of operations of IBM’s research division, Craig Paepre, understands this. He claims, "a psychologically healthy workplace is the result of comprehensive employee programs which provide a supportive, collaborative environment for innovation and business success" (Best Practice Honoree).

Dunne (2011) found that when employers adopt an open, effective communication practice amongst their employees, employees are “more informed and naturally more trusting of their colleagues,” promoting increased collaboration and productivity. Will Ruch, CEO and managing partner of Versant has experienced success through these tactics. He stated: “we have worked to create a culture that supports the nature and goals of our business. As importantly, we communicate our culture to associates, clients and prospects through many channels every day. This helps us align people with the goals of our business, and has contributed to our success with employee satisfaction and with company growth and profits” (Employee Involvement). Ed Everett, the city manager of Redwood City, CA agrees: “many of our organizational values focus on employees, with a goal of maximizing quality service to our community. This award

illustrates our level of commitment to providing our employees with a healthy workplace, both physically and mentally.”

Steelscape, a Kalama, WA-based manufacturing company, invites current employees to collaborate with the hiring process. Steelscape believes in self-directed work teams and that having a team select its own additions increases the team members’ feelings of ownership in the company. Steelscape claims that their approach motivates teams to hire the best available candidates, ensuring the team can function optimally under all circumstances. This employee-centric hiring process has proven successful. “New employees have been such a good fit that Steelscape’s employee turnover rate is 1.6 percent, far below the national industry average” (Best Practice Honoree). And, Steelscape’s teams work together competently and safely. The National Coil Coaters’ Association recognized Steelscape as the number one company in safety performance in 2003. Further, they boast an OSHA recordable rate of only 2.3 incidents per 200,000 work hours.

Conclusion

Despite value of a biophilic workplace, the transition to such environment is difficult. Intentionally designed workplaces can help workers flourish, but the metrics of such design are unclear. As confirmed by Haynes (2008), there is currently no universally accepted definition of office comfort, and there is a “clear lack of agreement as to how office comfort should be measured,” despite evidence supporting the claim that office comfort can influence productivity.

Introducing radical design strategies into the workplace may cause conflicts, as changes (particularly those that result in increased contemplation) reveal underlying issues and conflicts. If interpersonal relationships become uncomfortable or upsetting, further contemplation is needed to address these issues. However, Duerr (2004) offers some words of

encouragement, claiming that by addressing these conflicts, employees can build trust and collaboration that would not otherwise have been possible. Employees should advocate with management to create a workplace environment conducive to productivity involving a good communication network that will attract, retain, and motivate its workforce for healthy living and improved productivity.

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