

Continuity in Architecture: Enlightenment through an Immersive Studio Experience for Design Students at Fallingwater

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Introduction

Enlightenment can be defined in many ways. In the case for this research, enlightenment is an awareness that can be defined as the sacred learning experience between student as teacher, environment as teacher, and faculty as mentor. Design as a process develops an initial idea into a solution. The idea is often advanced through creative thinking. In the realm of the built environment, this process is not always linear. Each task calls for a distinct idealization of the situation, the client, and the future use of the object or building. This realization is grounded when the designer's professional knowledge, life experiences, ethical and aesthetic sensibilities, mind and body, eye and hand, as well as persona eventually merge.¹

Design educators are challenged to cultivate an atmosphere of design thinking in which the students are encouraged through the design process to develop creative solutions which address real world issues and have realistic applications. The Reggio Emilia approach developed by pedagogist Loris Malaguzzi used symbolic and creative approaches for everyday life. Renowned architect, Frank Lloyd Wright, understood the value of design education thus established the Taliesin Fellowship. Wright's teaching encouraged original work and opposed ready-made solutions. He believed the interior should influence the exterior and that building should grow organically from the land as a tree rises from the soil.²

In a time when most architects resorted to traditional European design influences, Wright rejected these conventions and looked to China and Japan where houses were frequently built in natural settings next to waterfalls as places from which priests or scholars communed with the spirits that were thought to live in wild places.³ Fallingwater eloquently illustrates this concept. Built over a waterfall, the country home designed for the Kaufman family, Fallingwater served as a retreat for the prosperous business man and his family as well as those who worked for him at his department store in Pittsburgh. Escaping the stressful city life, Fallingwater offered needed respite for the Kaufman's.

Located near Bear Run Nature Reserve, Fallingwater continues to draw many visitors each year to marvel at this work of art eloquently situated in nature. In the spirit of the Taliesin Fellowship, the Fallingwater Foundation continues to educate design students through a Studio in Residence program. This presentation uncovers the outcomes of experiential learning in an immersive studio at Fallingwater.

¹ Pallasmaa, Juhani. "Embodied and Existential Wisdom in Architecture: The Thinking Hand." *Body & Society* 23, no. 1 (2017): 96-111.

² Maddex, Diane., and Wright, Frank Lloyd. *Frank Lloyd Wright: Inside and out / Diane Maddex*. London: Pavilion, 2001.

³ Kaufmann, Edgar. *Fallingwater, a Frank Lloyd Wright Country House / Edgar Kaufmann, Jr. Introduction by Mark Girouard*. New York: Abbeville Press, 1986.

Research Method

As an Institutional Review Board (IRB) approved research project, the investigators used a mixed method approach. Experiential Learning Theory considers experience as a central role in human development and learning and whereby knowledge results from a transformation of experiences.⁴ When entertaining this topic, the epistemological question considered was how knowledge is acquired? Two themes emerged: 1) a priori: knowledge that is gained independently of experience and; 2) posteriori: knowledge that is gained by experience. In the phenomenology of the lived experience, it was determined this studio would be an immersive experiential learning undertaking in which students and faculty would live, learn, explore, and work together for a duration of eight days. As a construct for this course, projects were developed which celebrated the site location and considered the natural environment and human behavior. Prior to the immersive studio, the students were presented with a survey which gauged their understanding of biophilic design patterns. After completion of the immersive studio, students were presented with a second survey which gauged their understanding of biophilic design patterns upon what was learned through the experience.

The research questions explored were:

RQ1: Does learning in an immersive setting enhance students understanding and empathy for others?

RQ2: Does exploring nature and the natural setting of Fallingwater impact the student's understanding of biophilic design?

Students involved in this studio were at different levels in their academic career, from three different design disciplines, and come from diverse backgrounds. The professors also come from different backgrounds and experiences. Research involving undergraduate students found informal interaction among peers is shown to heighten academic engagement and social assimilation and increases persistence in their studies.⁵ Evidence indicates that when relationships are educationally connected rather than solely social, they enable enhanced learning outcomes for students.⁶

Instructional Methods

Through a series of activities such as daily hikes, exploration of the house, sketching exercises, and end of the day group discussions, centered around biophilic design patterns, students were presented with a lighting design challenge. (Figs. 1-3)

Lighting can be a very powerful design medium. The assignment, the design of a lantern, required students look at light in a different way and consider its place in the surroundings to best celebrate, clarify, or enhance a special moment. The location chosen for this project allowed the group opportunities to engage with the building and site during different times of the day and days of the week. This enabled the opportunity to experience lighting on many levels.

⁴Kolb, Alice, and Kolb, David. "Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education." *Academy of Management Learning & Education* 4, no. 2 (2005): 193-212.

⁵Ethington, Corinna. "Influences of the Normative Environment of Peer Groups on Community College Students' Perceptions of Growth and Development." *Research in Higher Education* 41, no. 6 (2000): 703-22.; Tinto, Vincent. "Classrooms as Communities: Exploring the Educational Character of Student Persistence." *The Journal of Higher Education* 68, no. 6 (1997): 599-623.

⁶Lundberg, Carol A. "The Influence of Time-Limitations, Faculty, and Peer Relationships on Adult Student Learning: A Causal Model." *The Journal of Higher Education* 74, no. 6 (2003): 665-88.

The professors, serving as facilitators, encouraged students to develop their projects through such avenues as exploration, experimentation, and prototyping. Students had access to tools, equipment, and materials in which to realize their designs. Because the students had limited access to the building and site in which the lantern would be installed, they carefully documented the conditions to accommodate their design. Emphasis was placed on the process and not necessarily the final product. This allowed the students to really engage in the process and learn from their failures. They were encouraged to take risks as this would push their creativity. Each student presented their installed projects and highlighted the challenges and successes along the way. (Figs. 4-5)

Outcomes

The outcomes support the research questions in that an immersive setting enhances student understanding and empathy for others. Throughout the week, students were observed working together and sharing personal experience and expertise to advance each other's body of knowledge. Friendships and working relationships were developed which has transcended to the work they are now doing back on campus. Students have a better understanding of the value and various design disciplines contributions to the overall built environment. The information gained from this studio is impactful because of the various experiences. Other outcomes, which were serendipitous, were the learning and understanding of personal boundaries. When a large group of people are living together and sharing in the everyday activities of cooking and cleaning, respect for others and their personal space is very important to the overall wellbeing of the group.

Research question two is supported though the evidence in the surveys and through the various activities and projects presented to the students during the week. Exposure to nature and forced to "unplug" from social media for the week presented students with opportunities to fully engage and be present without the distractions typically experienced in the traditional setting. The understanding of biophilic design patterns emerged as students were able to identify those elements in the work of Wright and their own interpretations revealed in project presentations.

Future implications

The students who participated in this studio stressed the positive impact it had on their education. Continued research following this cohort through their academic and professional careers will aid in determining the long term impact the immersive studio has on the designer.

Furthermore, we will be collecting data for pedagogical development gained from subsequent offerings in different locations but with similar course structure. As we look to the future of design education, can the immersive studio experience offer outcomes which are richer than that of the traditional model?



Fig. 1- Silent Hike/ Site as Teacher, photo by author



Fig. 2- First View of Fallingwater from Silent Hike/ Site as Teacher, photo by author



Fig. 3- Evening Group Reflection/ Student as Teacher, photo by author



Fig. 4- Site as Teacher, photo by author



Fig. 5- Process as Learning, photo by author