

# Nature-Based Design Theory

*Hamsa E. Abdeen*  
(Savannah College of Art and Design, Atlanta)

**Abstract:** We as a human being spent most of our time inside buildings that separate us from the outside nature. We practice most of our activities inside buildings as homes, schools, malls, coffee shops, and hospitals. Have you ever wondered why you so feel sleepy and exhausted in class that has four walls from the ceiling to the floor? This paper will answer your question by explaining the nature-based design theory that improves the environment of the classroom. Also, the paper provides some design considerations and ideas that help incorporate the design theory in the interior space.

**Keywords:** Design, interior design, classroom, natural-based design theory, nature, biophilic design, sustainable design.



## INTRODUCTION

The nature-based design theory is not about building sustainable places it is more than reducing less energy and toxic materials. The nature-based design philosophy is about creating an interior that connects the human senses with the outdoor nature. An ideal definition of the nature-based design theory is "Bringing the outside inside." According to research conducted by Herman Miller, "You can create a sustainable building that totally meets the LEED criteria while ignoring the great human need for contact with nature," they said, "It is more powerful to combine both if you can do that" (HERMANMILLER, 2013). Incorporate nature into the interior has a health and economic benefits for users since nature helps improve health and reduce stress and that would increase the users' productivity in workplaces or classrooms.

## THE DESIGN ELEMENTS OF THE THEORY

According to the Healthcare Design Magazine, to design a space with nature in your mind, you need to consider three elements: Natural analogues, nature in the space, and the nature of the space (Lamin-Art Inc.). To explain more about natural analogues, they are an indirect way to bring life in into space such as a painting of a tree, furniture that mimic the shape of flowers or leaves, and using organic materials like woods and marble. Next, Bringing nature in the space means that incorporate water, plants, animals, and natural light into the setting. Last, the nature of space refers to various spatial forms includes plan designs, and building shapes. For instance, an open floor plan.

Next, the paper presents an example of how to design a classroom that consider the theory of the Natural-Based design. Many studies stated that this theory could have positive impact of the students' productivity, concentration, and health sate.

## CLASSROOM INTERIOR DESIGN

It is very important create a healthy environment for student in classroom because they tend to practice functions that need focus and energy. First, start with offering natural light. In classroom, daylight is important it improves student productivity and it also has positive impacts on the student health and wellbeing (James R. Benya, 2001, p. 1). When providing sunlight in the classroom, we should consider that one direct light source could create glare, so to reduce glare we need to provide more than one direct source. Furthermore, having so much sunlight could raise the temperature in the room and that in return could lead to consuming more energy to operate the air conditions. To reduce the solar heat in the interior space, we need create exterior shading to have both daylight and a view the outdoor nature that connects student to the nature. In result, we can have healthy environments, healthy students, and sustainable building. Also, windows can offer a strong connection with nature it keeps students connected with the outside, which helps them to relax and focus. To have more organic elements in the interior, the designer can mimic any natural icon. For instance, interior designer may mimic the shape of the tree branches to create bookshelves. Since our brains can response to this natural shape, simulating the organic shapes of the branch is an indirect way to bring nature into the classroom. In addition, choosing natural materials like wood that has a warm color and visible wood grain in floor and desks will encourage the feeling of biophilic reaction when being surround by nature materials. To bring real life element, designer may add some plants in the classroom. These direct connections to nature produce the greatest biophilic sense to student.

## CONCLUSION

Creating an interior that connects nature with the users' senses was included in different theories such as biophilic design, organic design, biomimicry design, and sustainable design. Nature is a critical need in our daily life and that what all theory try to approve. Many different types of research indicated that nature plays a huge role in healing the human physical and psychological states. As human beings, we spent most of our time on buildings, so as an interior designer, it is our responsibility to create spaces that support every individual's wellbeing. For this reason, I believe it is important to consider the theory of the nature-based design in any interior projects.

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