TEACHING CREATIVE THINKING THROUGH ARCHITECTURAL DESIGN

EFFECTIVE APPROACHES TO TEACHING ABOUT THE BUILT ENVIRONMENT

A natural science museum design using circle geometry as a key element of design development.

Students used colored pencils to enhance their building concepts.

OBJECTIVES

- Create an architectural design starting with one geometric element: a square, a circle, a curved line, or a diagonal line.
- Transform 2D drawings into 3D structures.

ESSENTIAL QUESTION

How can artists and designers impact the built environment?

MATERIALS AND RESOURCES

- White drawing paper
- Pencils and colored pencils
- Foam core board
- Scissors
- Masking tape

NATIONAL VISUAL ART STANDARD

Create: Demonstrate openness in trying new ideas, materials, methods, and approaches in making works of art and design.

NEXT GENERATION SCIENCE STANDARD: ENGINEERING DESIGN

Define a design problem that can be solved through the development of an object, tool, process, or system and includes multiple criteria and constraints.

Kijeong Jeon and Teresa L. Cotner

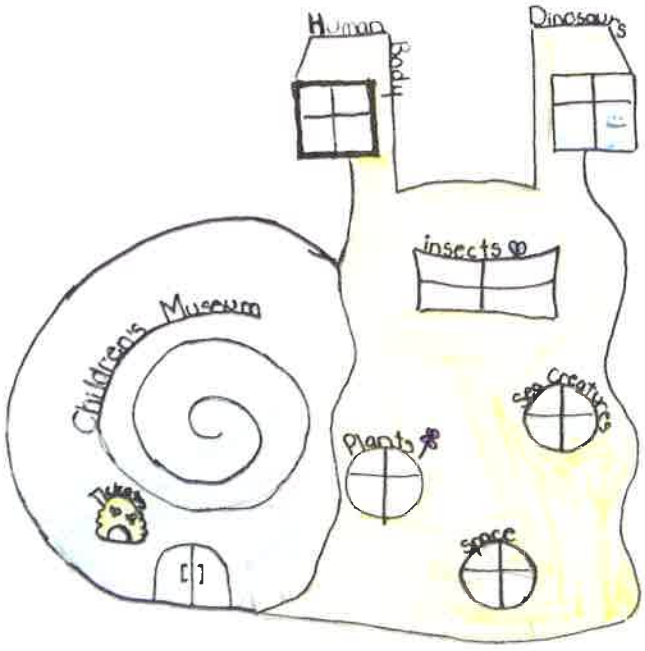
Art and art education are open to broader definitions in the twenty-first century. It is time that we seriously think about including built environment design in K–12 art education. The term "built environment" includes interior design, architecture, landscape architecture, and urban planning. Because we are increasingly exposed to built environment design in our everyday lives, it is critical that it becomes a part of children's education.

During a summer architectural design course for fifth-, sixth-, and seventh-grade students, we came up with an approach to developing students' awareness of built environment design in their daily lives and developing their creative thinking abilities.

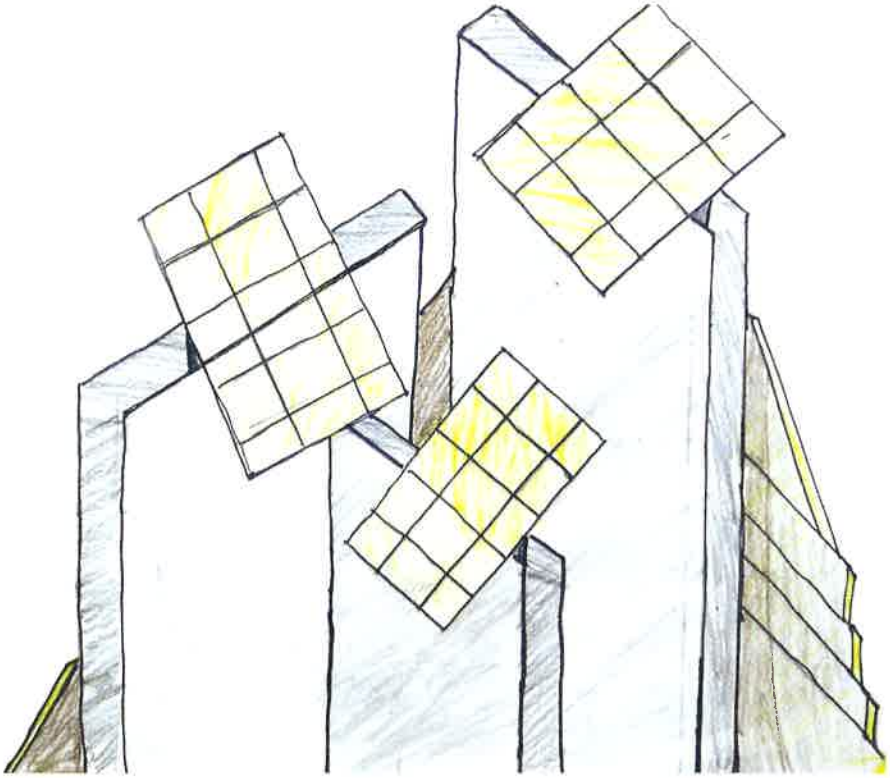
Initial Exercises

The first class began with an exercise that is typically practiced in college classes. Students were given a blank page and asked to draw creative ideas for buildings. Though students' drawings showed creative expression of personal experience, in terms of creative architectural design, they were mostly drawings of conventional, local architecture.

In an attempt to show students that architecture does not have to be like what they are used to seeing, students were shown examples of innovative architectural designs by I. M. Pei, Frank Gehry, and San-



A children's museum building design using square geometry as an element of design development.



tiago Calatrava. Unfortunately, their response was to copy what they saw. These lessons failed to help students apply their creative abilities to architectural design.

Trying a Different Approach

After a sleepless night, we came up with a new approach. Each student was given a sheet of paper that was blank, except for one geometric element: a square, a circle, a curved line, or a diagonal line.

Students were directed to incorporate the geometric element as a part of the creative architectural design of a building where they might go to listen to music (theatre, opera house, concert hall, etc.). This was a success! The majority of students came up with much more creative designs.

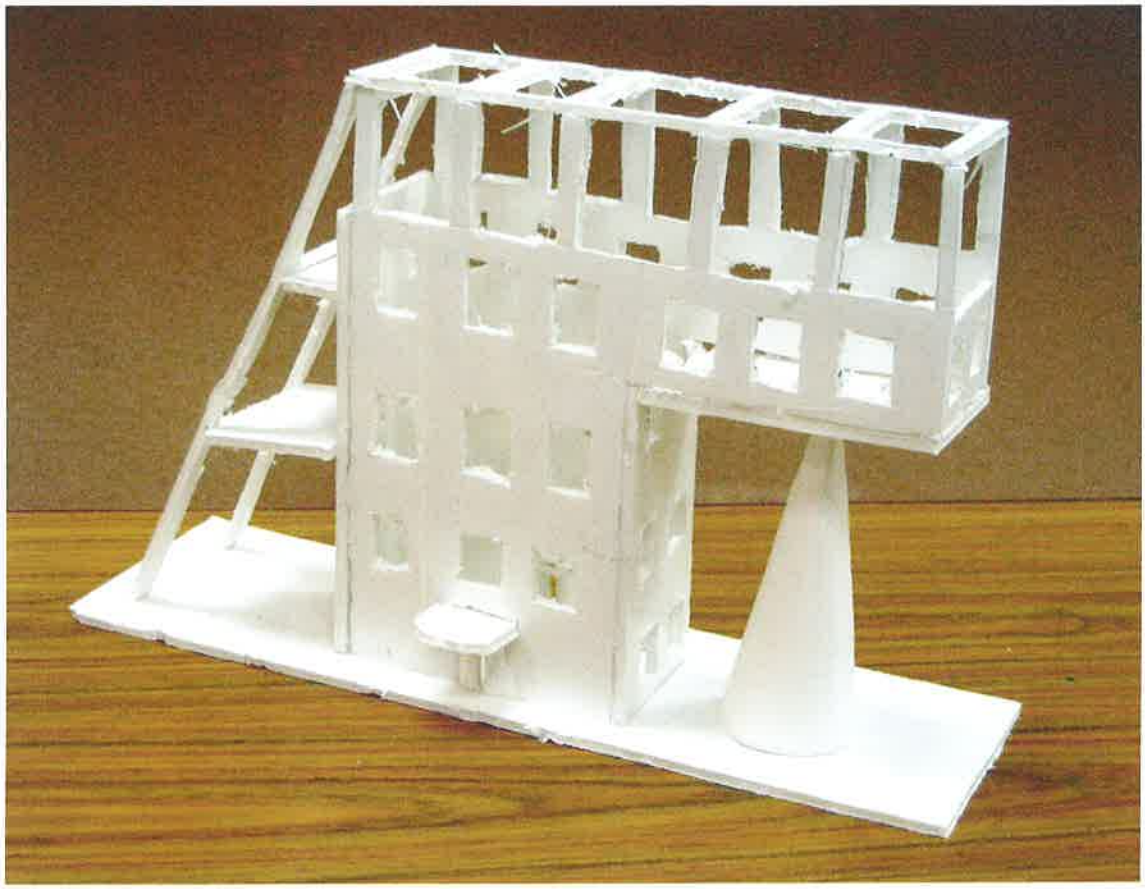
Each student made at least one design from each of the four geometric element choices and continued to produce creative architectural designs. They used color pencils to enhance their design concepts.

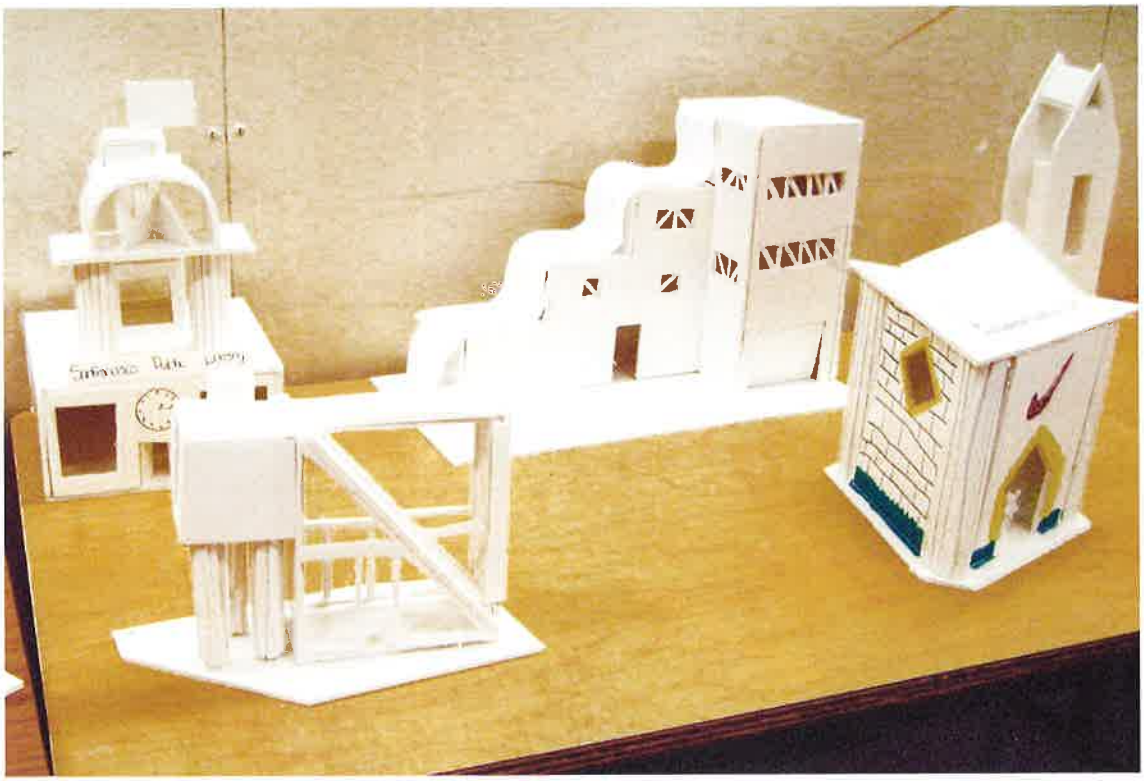
Considering All Angles

By the end of the three-week course, students had developed their drawings into three-dimensional models using foam core board. Working with three-dimensional media, students began to consider volumetric aspects of visual art, which led them to evaluate their designs from new perspectives.

Instead of choosing conventional forms, students sought more creative directions for their visual compositions. We faced an unexpected challenge and, as a result, developed an approach to teaching architectural design that nurtured creative thinking and critical evaluation in architectural design. Given the importance of the impact of the built environment in our everyday lives, these lessons can be of great value to teachers and students K–12 and beyond.

Kijeong Jeon is professor of interior architecture, Department of Art and Art History, and Teresa L. Cotner is professor of art education at California State University in Chico, California.





Three-dimensional building models designed and built by students using foam core board.