



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
1983 Volume I: Elements of Architecture

Space and Body in Architecture

Curriculum Unit 83.01.08
by Nancy Wyskiel

The following curriculum unit was written for a sixth grade class with a time span of approximately six weeks. The unit contains activities to show the students the significance of how the human body is related to architecture. Architecture is a visual art but it is also important for the students to learn how to experience it. The students I teach live in an urban environment so I will frequently refer to city architecture.

It should be stressed to the students that architecture is not mere building but the entire thought process behind the design. I want the students to relate their body experiences to the spatial feelings and thoughts that they have in their homes, with a special emphasis given to their bedroom and the arrangement of individual space.

The over-all focus of the unit therefore will be on personal space which can be identified on the exterior and interior of the homes where the students reside. The students will compare their home with human spatial characteristics to begin to get a feel for the relationship between their body-space and architectural space. The next step is to have the students measure the actual physical space in their homes. In order to do this the students will take body measurements or self-made rulers and measure the dimensions of their house. The dimensions will be used in the process of making an accurate floor plan and using the correct symbols in it. From this point the students should have an understanding of their home space and the human relationship with it. (Refer to the specific lesson plan and activities for practice in learning about floor plans.)

The concentration is now directed at their own bedrooms and proposals for a fantasy bedroom. I chose a fantasy bedroom because the students are not in a financial position to make alterations, although they are able to constructively use their imaginations. The students can imagine anything they want. Changes in their bedroom will include play with colors, textures, patterns, dream scapes, and collages according to the individual idea or feeling.

Architecture is a visual art in which we experience three dimensional space. The art of a building is foremost concerned with form and with dividing and articulating space. A building should express their uniqueness and bring order and relation to its surrounding environment. A house occupies a space but with occupants and time it will become a place. The visual beauty includes lines, shapes, and color. Color is used to accentuate its form and the material it is made from, as well as distinguishing its divisions of space. Rooms which are shaped differently with different materials reflect different qualities. We express feelings from an architectural form or a specific aspect of architecture. The external features of architecture communicate feelings and moods from

one place to another. Our emotional feelings toward where we live can be incorporated in our architecture interacting with the environment.

The awareness of our bodies can be related to the place where we live. There is a comparison of our bodies to our home through the dimensions of front, back, attic, basement, fireplace, and mantle. The entrance to the house, or front door, is the most important because that is where the exchanges from the internal world and the outside world take place. The back is used for trash removal or to hide objects from the street. The center of family activity, or heart, is the fireplace which radiates warmth and affection. If a house does not have a fireplace there is a special central area where family gatherings and important photographs or memorabilia are displayed on a mantle or other important place. The attic and basement of a house are a source of privacy where imagination and fantasy can run rampant. These are places away from the hearth where individuality and nonconformity can blossom. Many children escape to these places to “dress up” with clothes in an old trunk or act according to their whims, desires, and imagination. Windows in a house are important because they are like our eyes outreaching to the external world. There should be a relaxed interchange between the inside and outside world in which we live.

People may design individuality by the way in which they enclose a space with openings in a wall. The way the wall is organized will determine whether it is a boundary or a barrier. There are different levels of privacy a person may desire with people they live with or with the outside environment. Privacy with the external environment is more difficult for urban dwellers because often the main intruders are people causing distractions with cars, and noise, rather than the distractions of nature and climate.

The land or lawn on which the house is located is important to the quality of life to the inhabitants. For poor families this is unfortunate because many don't have a choice. The amount of land around the house can be compared to the personal space or distance we like to keep around our bodies to protect our identity. Therefore, any infringement on our lawn is taken as a personal affront with good reasons. The intrusion of our privacy is the most threatening because that is the base and security of our lives. (The students could do a writing exercise to express the similarities and differences between their own particular lawn and personal space.)

Fences in the urban environment should not be viewed as exclusions except in a high crime situation, but as a guide for our bodies. They define the space through which we have traveled. Fences provide a boundary and protection for inhabitants within it. Also, aesthetically, they add form, color, and texture to the urban environment.

Another boundary which forms a transition from street to yard to house is a porch. A porch can act as a mediator between the yard and house. Porches are an extension of personal living space out into the social environment. It is a transitional area for friends and strangers to communicate with the people living in the house without actually having to enter the privacy of a home. In the city porches offer a social setting as well as relief from the heat and access to a cool breeze.

Urban apartments or projects should have transitional spaces so that people in neighboring units can watch the outside activities. It doesn't cost that much more to build apartments of this type with an atmosphere of a traditional single family house. Buildings like this have a lower street crime rate from robberies and muggings. Also, people with common interests should live in a common place so there would be less life style conflicts. There should be a good relationship between the interior and exterior of the house so that an easy transition can be made between private and public life. Unfortunately developers and contractors use cost as their first priority. Our society is often profit oriented instead of building to suit human needs and qualities.

For students to gain an understanding of rooms and space through physical contact they should know the importance of a floor plan. Every structural detail of a house can be drawn to scale on a floor plan with correct proportions from one room to another. Many floor plans, or blue prints, are in the ratio of 1 to 48. That is, for every foot, or twelve inches, of the building a quarter of an inch is written on the floor plan. There is a separate plan for each level. A floor plan is similar to a map of a city because they both show details, location, and size. The lines on a floor plan are drawn accurately with drafting tools, but for our purposes we will use a ruler. A floor plan locates different parts of a house such as a door, window, sink, and stairs. (There is a sample of a floor plan attached to the end of the unit.)

Besides the actual floor plans, it is important to realize that architects also draw elevations. These drawings are done to scale. Other detailed information that an architect might draw include decorative effects and chimney features to name a few. If the building is very expensive or unique, models of the building are also built to scale.

Before the students can use the art medias that I've mentioned previously they need to have a little background and practice with each. The students should do all of the activities on the activity page.

Colors : In order to be effective with colors some basic facts with experiments and explanations would be helpful. I suggest tempera paints on a heavy drawing paper to avoid ripples in the paper. This type of paint can be thinned with water and the brushes washed out with water. The primary colors to begin with are blue, yellow, and red. Black and white should also be used to help with mixing colors and showing contrasts. When different amounts of the primary colors are mixed together they make a wide variety of other colors. The secondary colors of green, purple, and orange are made by mixing two primary colors together. Complementary colors are opposite and do not go together harmoniously such as orange and blue. If you mixed complementary colors together you would get different shades of gray or by using the exact amount of each would produce black. The value of a particular color changes when adding additional white or black paint to it. The color changes from very light to very dark depending on the amount of paint added.

Also, there are warm and cool colors. Warm colors suggest fire, warmth, and the bright sun. In contrast cool colors reflect the feeling of shade, ice, and clear skies.

In the case of a student painting a fantasy bedroom he should know some rules of perception so that the objects in his room will appear in the intended space. Objects that are close by should be brighter and have more distinct lines than those in the background. When something is farther away it appears smaller or higher as well as possibly overlapping with another object. The further away parallel lines are the closer they seem to get to each other.

After these color ideas are understood the students can experiment with painting their emotions such as using the colors that make them happy. Different colors can be used to express what is felt inside. The students can imagine or dream about their fantasy room by first making a picture in their mind and then painting it. They should decide what their main interests are and how to use the colors to create it. Large sheets of paper should be used in order to avoid small and stiff paintings.

Textures : Texture is the way a surface feels and appears whether it is soft or rough. Cotton has a very soft texture while alligator scales have a rough texture. Textures can appear differently on a surface, for example, depending on the color or pattern. Wallpaper or ceilings with different textures can give the room a different type of feeling.

Collages : Collages are fun for students because they are a lively form of art which can express particular feelings. A collage is a picture where the student chooses different materials that will go together. Collages can be made with magazines, newspapers, shells, cloth, metals or any variety of scrap materials. A collage is not any random composition but an arrangement of existing objects into an idea or feeling. Using the same principles as a collage an architect can take pre-made parts of a building and arrange them into an interesting apartment or house.

Patterns : Patterns are the repetition of the same design over and over again to create a feeling. Students should play with sample patterns such as repeating triangles and the variety of ways they fit together or repeating circles to make a geometric design. A fun pattern to make and color is a repeating diamond pattern where cubes and stars fit together harmoniously.

Shapes and Forms : Shapes and forms can suggest different moods. They can suggest many things such as strength, power, nervousness, or sloppiness. Some of the basic shapes are circles, triangles, squares, and rectangles.

As a culminating activity the students should think about what architecture is and how space, color, texture, patterns, etc. are all important to it and fantasize about a dream room. (There are more specific details in Lesson Plan III.) The students should draw a precise floor plan to develop skills but then a less detailed drawing incorporating a type of collage work with color should be made. Many dreams and feelings are not clearly defined, therefore as long as the final product conveys a feeling with a descriptive narrative of the room a judgment of the student work is possible.

Objectives

The students will be able to:

1. appreciate the architecture they live with and feel.
2. relate their individual dwelling to human characteristics.
3. appreciate space and dimension in their homes, especially their rooms.
4. learn how to use a ruler for measurement.
5. describe how to use their body as a ruler.
6. illustrate a floor plan using the correct symbols.
7. illustrate their fantasy or dream bedroom through using patterns, collages, colors, and textures.
8. write a descriptive narrative of a dream bedroom.

Activities

1. Draw a picture of the outside of their home and label the human characteristics it has
2. Make a cardboard ruler to use in measuring the interior of their homes
3. Draw a floor plan of the home in which each student lives
4. Draw a floor plan of their bedroom with a written description of color, wallpaper, possible textures (ceiling and floor), and patterns
5. Illustrate a color wheel with primary and secondary colors
6. Paint a sample of one color value going from very light to very dark
7. Experiment with mixing colors and keeping a record of each mixture
8. Paint a simple picture with the primary colors to show the color intensity
9. Draw a couple of simple objects with distinct lines using the rules of perception
10. Use brown wrapping paper in sheets as long as their own bodies in order to paint/color themselves
11. Experiment with crayons to make pictures which appear to have different textures
12. Make different collages out of newspapers, magazines, or mixed media
13. Have students design a wallpaper they would like in their rooms using patterns
14. Play with making patterns out of geometric shapes such as triangles, circles, squares, or diamonds
15. Make a particular pattern and shade in different areas of the room
16. Label the floor plan of a dream bedroom
17. Make a collage to express the feelings you would have in a dream bedroom
18. Write a descriptive narrative of what might be included in a dream bedroom

Lesson Plans

Lesson I

Objective:

Students will be able to draw the outline of their home and yard and associate at least five things in their picture with human characteristics.

Lesson Outline:

1. Explain to students the way the human body is related to architecture through examples of their home. Include the windows, chimney, fences, porch, entrance, fireplace, etc. in the explanation.
2. Take a walking tour of the neighborhood and discuss the way different houses suggest human qualities.
3. Send the students home with the assignment-of taking a “good” look at the exterior of their house.
4. Have the students draw the exterior of their house and label the human qualities.
5. Illustrate an open box type drawing of the interior of their homes and label the human qualities.

Lesson II

Objective:

Students will be able to read and make a floor plan of their home.

Lesson Outline:

1. Explain to students what a floor plan is and show a sample.
2. Using the key to explain what each symbol represents discuss the importance of each to the person who will build or built the house.
3. Review how to measure with a ruler and measurements in general.
4. Teach the concept of proportions used in floor plans. (1/48 or 1/4” is equal to 1’ in actual length)
5. Direct students to go home and get the measurements (length x width) of their home using body measurements and cardboard rulers if standard measuring devices are unavailable.
6. Use the measurements and make a floor plan of their actual home.

Lesson III

Objective:

Students will draw a floor plan of their dream bedroom and illustrate patterns, collages, or drawings depicting what they would like included in it.

Lesson Outline:

1. Review what floor plans are and what they are used for.
2. Discuss what a fantasy bedroom may include.
3. Have the students think about what they personally feel would be ideal to have in their rooms and include such things as furniture or accessories. Draw or construct the theme in various media.
4. Pick a geometric shape and have students design a wallpaper pattern for their rooms.
5. Make a list of elements included in an ideal bedroom.
6. Utilize the list to draw a fantasy bedroom or use the collage method.
7. Make a floor plan of the bedroom.

(figure available in print form)

This is a sample floor plan including the location of windows, doors, walls, stairs, bathtub, washbasin, toilet, and chimney, as well as the dimensions of the house.

Annotated Bibliography for Teachers and Students

Bardi, P.M. *Architecture* . London: Collins Pub. Franklin Watts, Inc., 1972. (Excellent basic introduction to architecture, very readable)

Barr, Donald. *The How and Why Wonder Book of Building* . New York: Grosset and Dunlap, 1964. (Children's, good book describing different architectural achievements of the past)

Benenson, Lawrence A. *How a House is Built* . New York: Criterion Books, Inc., 1964. (Children's, excellent book on how an architect plans a house)

Bloomer, Kent C. and Moore, Charles W. *Body , Memory , and Architecture* . New Haven: Yale University Press, 1977. (Excellent

introductory text with many illustrations)

Borja, Corinne and Robert. *Making Collages* . Chicago: Albert Whitman and Co., 1972. (Excellent book using collage as a lively art form)

Brown, Elizabeth Mills. *New Haven : A Guide to Architecture and Urban Design* . New Haven: Yale University Press, 1976. (Excellent descriptions and illustrations of the different important architectural styles in New Haven)

Burrows, Roger. *Creative Designs to Color* or No. 1. Los Angeles: Price/ Stern/ Sloan Pub., Inc., 1982. (Many examples of patterns and how they change when different sections are shaded in)

Gellner, Sherry. *Sunset Ideas for Remodeling Your Home* . California: Lane Books, 1973. (Good Floor plan examples and ideas for changing space in the home area)

Greenbie, Barrie B. *Spaces* . New Haven: Yale University Press, 1981. (Excellent book describing and illustrating how space is arranged in the human environment)

Rasmussen, Steen Eiler. *Experiencing Architecture* . Mass.: MIT Press, 1962. (Excellent book explaining how architecture brings order and relation into human surroundings)

Scully, Vincent Jr. *Masters of World Architecture , Frank Lloyd Wright* . New York: George Braziller, Inc., 1960. (Excellent examples of architecture in rhythmic patterns with human nature)

Seidelman, James E. and Mintonye, Grace. *Creating with Paint* New York: Crowell-Collier Press, 1967. (Children's, many good ideas for expressing feelings using paint)

Weiss, Harvey. *Paint , Brush , and Palette* . New York: Young Scott Books, 1966. (Children's, basic color theory and techniques to use with color)

Weiss, Harvey. *Working with Cardboard and Paper* . Massachusetts: Addison-Wesley, 1978. (Children's, shows students how to make interesting and beautiful creations from ordinary materials)

<https://teachersinstitute.yale.edu>

©2019 by the Yale-New Haven Teachers Institute, Yale University

For terms of use visit <https://teachersinstitute.yale.edu/terms>