

Architecture in the Southwest; how we relate to it and how it affects us

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Overview for unit as a whole:

Southwest architecture is an integral part of our lives and should be studied by the students so they can gain an appreciation for the designs of buildings that they live in and are affected by. Southwest architecture can be used as an overview for many subjects. It can be tied in to history, literature, math, science, carpentry, CAD, etc. It is a diverse study that can be adapted for almost any subject. A teacher can talk about the shapes of the buildings, the materials that make up the buildings, what was happening historically when the buildings were being built, or what was being written at the time the buildings were being built. Many of the buildings in Albuquerque contain some aspect of Southwest architecture, and a class study would enhance the students' ability to realize why many of these building designs are still being used after hundreds of years.

Each of these lessons will build on upon the other. Drawing bubbles and balloon races will free the students to look openly around themselves. The teacher will continue to talk about light, shade, and shadow as each lesson continues. The teacher will use the areas of his interest to explore and enhance each continuing curriculum. If you are a history buff (not that you necessarily teach history, just you have an outside interest in it) you will help the students better understand the history and about the dates involved. Interest them. If it is math explore the circles, triangles, squares, rectangles, etc. Weave your interests and abilities in to each lesson. The possibilities are endless.

Introduction

The 10th grade students will understand how architecture affects their lives and how they can learn from buildings and environments and will apply this knowledge to communication skills. The students may work alone or in groups, but all students need to turn in the visual verbal journal for their own personal grade. The studio design model of learning will be utilized in this curriculum.

The design studio is a model in which the students learn in the manner in which architects and designers learn. It uses a studio format in which aspects of lab work and workshop are used and creative problem solving generated. The teacher is a mentor who orchestrates and facilitates learning through creative problem solving.

Each lesson plan will vary in length and each teacher will spend as much time as is necessary to get the concept across. Time spent will depend on the teacher and the students ability.

Goal

The students will be encouraged to explore their environment and see how they can affect it. The students will explore every aspect of buildings and see how they are put together, how each part builds on the next part then to explore how it works in their lives. The students will learn about the effect of architecture on their lives.

Objective

Finally, they will use the information they have gathered and create a building of their own, in the style of the elements of SW Architecture. They will study the way buildings are designed, how that design affects them, colors used, how that affects them, lighting and its effects, room size, furniture, etc. They will go on to design their own buildings with each of these items explored and use visual-spatial skills in drawing and modeling buildings. They will research the above mentioned items, write about them, and give presentations explaining their findings and later their choices.

Review Literature

The students will look up and read books, see slides, videos, explore the internet, talk to architects, and go on walking tours. (see lesson 2)

Approach

The students will begin the unit and build a vocabulary with a lecture/slide presentation/video clips as a motivation for the study of SW architecture. We will explore and do research in the library and on the internet. When the research about the history of the buildings (pueblos, hispanic, anglo-american and modern houses) has been done, we will go on a field trip, a walking, sketching, photographing, and documentation tour.

We will return to the library and research construction, materials used, and energy sources in designing buildings. I will invite a few speakers in to talk to the class and we will watch a few videos on building design.

We will finally go back to the library and research interior design, investigate how space is used, and how to use it effectively. We will look at and discuss various aspect of furniture and use of space, heating, and light materials, etc.

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In the studio model, the class revolves around a defined objective, solving a problem for a client (real world application), using knowledge from multiple disciplines. Solutions both verbal and visual are used (drawing, model building, tracing), and as a result the students gain experience speaking before groups, justifying decisions made, and giving and receiving constructive criticism. The most important part of the studio presentation is the use of large drawings and models, graphics, visible from a distance of 15 feet (Taylor, Lecture 1999).

A visual-verbal journal will be turned in at the end of the process (see appendix for how to make a visual-verbal journal) for each student. The journal will contain drawings, sketches, bubble diagrams of activities leading up to their final project. It will also contain verbal description of processes they went through to achieve the drawings.

Benefit/ Results

The students will learn about research, how to do architectural drawings, exploring, putting knowledge to use, writing, and giving presentations. They will gain an extensive knowledge

about architects, design, and seeing a project through from beginning to end. Students will gain an appreciation for the work put into buildings and will enhance their vocabulary. There are also two behaviors being fostered in a studio design model. The students are being self-expressive; and they are learning to appreciate architecture and learning to make critical aesthetic judgments.



Motivation (mine):

I want my students to see how buildings, space, light, color, furniture, and design affect them and how having knowledge about it explains some of the mystery. How all projects (houses, schools, papers) start with a broad base and work up to a final completion point.

Evaluation

Evaluation will be based on written work, presentations, vocabulary, speeches, research skills, visual/verbal portfolio assessment, and applying what they have learned. There will also be a final 3D project which they (either as a group or alone depending how they worked) will model and explain.

Portfolio assessment should contain a rubric of some or all of the following items. The student should demonstrate clearly the idea through graphic visual means. The student should show a variety of experimentation and a number of approaches. The student will create a narration and visualization of the stages of development of an idea or product. The student should show evidence of an eye for detail and overall aesthetics. Finally, the student should have the ability to construct in 3-dimension (Taylor, 1996 Architecture and Children).

Lesson 1: Visual vocabulary

Goal

To help students observe, think, and express ideas visually in preparation to study southwest architecture. The following lesson is to allow students to explore drawing. Schools today have cut many art programs and this lesson should allow students to loosen up.

Objective

Students will make a series of contour and schematic drawings to be displayed and then write about the experience.

Materials

- Drawing paper
- Two colored markers per student
- Balloons
- Mechanical toy
- Non-mechanical toy

Bubble liquid and wand
Lined paper and pen

Skills and Concepts

Math
Geometry
Science
Art
Creative problem solving
Observation Skill
Visual communication
Spatial relationships

Architectural Vocabulary:

Schematic drawing-A visual way to present an idea of something such as space, shape, areas of activity, or patterns of movement, sound, light.

Diagram-A linear representation of something

Bubble diagram-"Bubble" outlines which represent spatial relationships.

Negative space-The space outside an object in a drawing.

Positive form-An object depicted in a drawing.

Geometric forms-Two dimensional (flat) and three dimensional (solid) forms.

Client

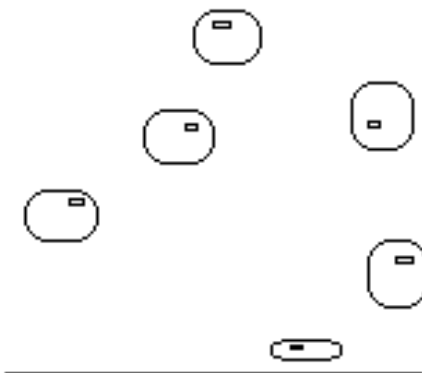
An artist asks the class to present a show of visual stories based on drawings of time, movement, change, and sound. The artist wants the student architects to discover that everyone has a special way of expressing what they see through their drawings. The visual stories will be called THE LIFE OF A BUBBLE, THE GREAT BALLOON RACE, THE TOY DIAGRAM, and THE GRAPHIC SOUND.

Architectural program

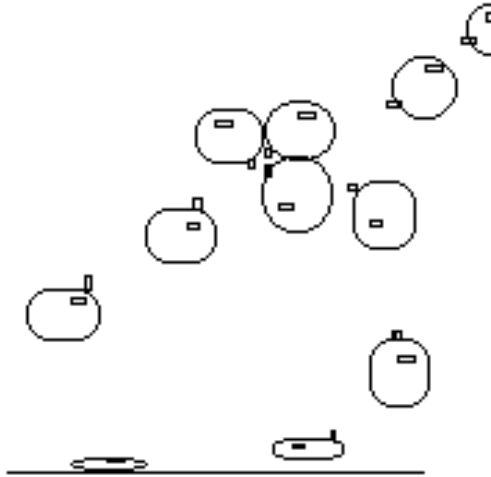
The students will prepare 2 12" x 18" sheets of paper for their drawings by folding them in half. The sections should be labeled THE LIFE OF A BUBBLE, THE GREAT BALLOON RACE, THE TOY DIAGRAM, and THE GRAPHIC SOUND.

1. The life of a bubble:

Explain to the students that you are about to blow several large bubbles, ask them to watch closely. Advise them that after observing the fourth or fifth bubble, they should begin drawing the birth, life and death of a bubble in the area labeled THE LIFE OF A BUBBLE. By the end of the tenth bubble all of the students should have completed the first drawing exercise.



2. The great balloon race:



Blow up three different colored balloons and hold them together with one hand so that when released, the balloons start their race from one starting point. Have the students watch all three balloons as they fly around the room and then have them draw the way each balloon flew through the air. This is a retrospective movement drawing showing how each balloon flew through space. Label this drawing THE GREAT BALLOON RACE.

3. The toy diagram:

Find a wind up toy. Ask them to watch it work and illustrate how it moves and how they believe the mechanism makes the toy move. Ask them to illustrate in graphic form their knowledge of how it works. Encourage them to use arrows to show how it moves and write notes to explain concepts such as gravity, motion and direction, up, down, retracting, and springing. They should label this drawing THE TOY DIAGRAM. (This can also be done with a non-mechanical toy: slinky)

4. The sound graphic:

Find a simple instrument which makes a sound that moves from one pitch to another (kazoo, jew's harp, a slide whistle). Demonstrate the sound made by the musical instrument. Repeat



several times in

exactly the same rhythm or manner. Have the students draw a graphic representation of what they have just heard. Tell them to imagine that they are creating a sign that will be placed on a door to warn people that this sound is in this room. The students should create the sound graphic with visual images only. They should not use words. (You could also play a piece of a song on a CD player- an up beat symphony works well). This drawing should be labeled THE GRAPHIC SOUND.

Each drawing should be signed and dated.

Evaluation

When the students have finished drawing their visual stories of the life of the bubble, the great balloon race, the toy diagram, and the sound graphic the drawings should be displayed. Make sure that each drawing touches the next drawing so they cover the display wall like wall paper in a modular pattern. Evaluate these drawings from the standpoint of how well they

express the concepts of time, movement, change, and sound through the use of schematic drawing. Encourage students to do more drawings in a similar fashion. Try to facilitate the ideas of schematic drawing and visual thinking. This exercise should show students that drawings can illustrate concepts and that people can express the same concept in different ways. (Taylor, Anne Architecture and Children, 1996)

Lesson 2: History Slides Light, Shade, and Shadow

Goal:

To enable students to see the history of a building by looking at it and seeing what is there. To show students how to break a building up by looking at light, shade and shadow. The students will listen to a lecture while watching slides and will draw in their visual journal. They will also begin to connect their newly learned vocabulary with some of the words used in context. The will use throughout the rest of the assignments. As the teacher presents slide they will talk about light, shade, and shadow.

Materials:

Black medium felt tip pen
Visual-Verbal journal, or blank white paper

Skills and Concepts:

History
Geometry
Art
Deductive reasoning
Spatial relationships
Dimensional analysis
Classifying
Problem solving
Listening and interpreting

Architectural vocabulary:

Flat Roofs	Masonry
Stone or adobe walls	Pit house
Roof top terraces	Plaza
Modular square rooms	Pueblo
Mediterranean courtyard houses-Flat-roofed	courtyard houses
Gabled roof	Viga
Single pitch	Banco
Shed-roofed front porches	Canale
Arch	Colonial
Flying buttress	Fogon
Truss	Jerga
Adobe	Placita
Anasazi	Portal
Jacal	Shepherd's bed
Kiva	Zaguan

Latilla
Corbel
Portico

Beam
Lintel

Slide/lecture:

Anasazi AD 700-AD 1275

Pueblo Indians 1300-present

Traditional Pueblo Villages built from about 1000 to 1945

BACKGROUND:

This way of building began about 1,000 years ago just as the development of agriculture made permanent settlements possible. Anasazi and Pueblo Indians built villages like this :

Ground level doors before 1880 were uncommon. Ladders led from the ground up to the first roof tops and on to higher terraces. The construction of everyone's house built together into a single large building reflected the strong community social life. Beginning about 1900, most of these massed, multi-story Pueblo villages began to break apart into one story forms, and separate new dwellings, as more and more people went away to Indian schools for education and returned with a strong sense of individual identity. Classic multi-story Pueblo villages are now found only at Taos, Tesuque, Acoma, Hopi, and a few other pueblos.

Hispanic houses built from about 1600 to 1940

1598-1605 Juan De Onate

1608 New Mexico made a royal province of Spain

1608-1610 Pedro De Peralta established capitol at Santa Fe

1692-1693 De Vargas reconquers New Mexico

1821 William Becknell Santa Fe trail opened

1850 Treaty of Guadalupe NM designated a territory

1876 RR in NM

1878-1881 Lincoln County War

1876 Geronimo captured

1898 Rough Riders Spanish American War

1912 New Mexico statehood

1916 Pancho Villa raid on Columbus NM, Willa Cather Death comes to the Archbishop

1923-1924 oil discovered on Navajo Reservation

Hispanic houses Spanish Colonists brought the Mediterranean tradition of flat-roofed, courtyard houses to central Mexico. In New Mexico, on the far northern, Spanish Colonial frontier, full courtyard houses were not often realized, but that was the ideal form that families hoped to build over time.

Rectangular rooms, each with an exterior door, formed the basic module. A family might begin

with a single, self-sufficient room. As they grew and prospered, additional rooms were added long single file plans. After three or four rooms were built, a corner was typically turned to form an L-shaped plan. If the house grew larger, a U-shaped form, and finally, a full courtyard plan might be realized. The majority of houses, however, were two to five rooms.

Before 1880, even in very large houses, one large room, known as the *sala*, a living hall, typically functioned as the multi-purpose focus of family life. Here the extended family slept, entertained guests, prepared food and ate. After 1880, as the modern practice of devoting separate rooms to specialized functions spread, the individual modules became bedrooms, a living room, a kitchen and so forth.

Anglo-American Houses:

A. Hall-and-Parlor floor plan built from 1870-1900

See above dates for history

The most basic Anglo-American folk house form is a rectangular structure with the door in the long side, and a gable roof with its ends facing the narrow sides. The simplest example is the mythic one-room log cabin in the wilderness clearing. A two room version was more common in the eastern English colonies, and was the primary form brought by early Anglo migrants to New Mexico. This Hall-and-Parlor plan was built as a homestead house, and as modest worker's cottages in early railroad neighborhoods. These are usually built of lumber frames covered by wooden siding or stucco.

B. Center Hallway Floor Plan built from 1865-1920

See above dates for history

This formal house with its balanced, symmetrical facade and hallway down the middle can be traced from the Italian Renaissance through the English Renaissance to the two-story Georgian mansions of the late Colonial and early Federal periods on the eastern seaboard. It provided a separate room for each different function. The addition of an internal hallway insured the separation of functions by ending circulation through individual rooms. The U.S. Army and a few individuals introduced this plan to New Mexico in the 1850's, but its widespread popularity here followed the construction of numerous examples at army forts across the Southwest during late 1860's and early 1870's.

The floor plan is symmetrical with a hallway down the middle and equal sized rooms on either side. The hall can be as much as 12 feet wide, to accommodate some furniture and serve as a formal receiving area. Typically, functions were arranged with private bedrooms on one side, and public rooms such as the parlor/living room and kitchen on the other.

Presentation:

Client:

A client is buying a house and would like a history of the surrounding houses. The student should go on a neighborhood scavenger hunt and describe the surrounding houses. Find a local area and have the students visit. Some of the questions answered should be:

1) How many examples are there of Pueblo villages (apartments), Hispanic houses, Anglo-American A Plan and B Plan?

- 2) When were the houses developed? (City planning office will help here)
- 3) During what years was the block developed?
- 4) What elements unify the block?
- 5) What elements give it variety?
- 6) What was the predominant cultural group when the neighborhood was developed?
- 7) What was their most prized possession?
- 8) What are the most common modifications and additions made to the houses since they were built? (lecture and notes, Wilson, C Summer 1999)

Lesson 3

Plans And Perspectives

Goal:

To help students develop visual and spatial thinking skills and techniques.

Objective:

The students will develop architectural plans and a model for a mouse house.

Materials:

Black medium felt tip pen

White glue, tape

Drawing Paper

Tracing Paper

Cardboard

Scissors,

X-Acto knife

Skills And Concepts

Math

Geometry

Art

Using tools

Visual/verbal communication

Recognizing 2D and 3D

Measuring

Using ratio and scale

Problem solving

Measurement

Habitat study

Architectural Vocabulary:

Bubble diagram Closed curved forms or bubbles which represent spaces and spatial relationships

Elevation drawing A drawing of the front view of an object such as a house front.

Horizon line In perspective drawing, an imaginary line at eye level

Model A three-dimensional representation of an object

Plan view A view of a site or building from above

Perspective drawing Drawing that shows depth by means of lines that converge; a technique of

depicting volumes and spatial relationships on a flat surface.

Vanishing point In perspective drawing, a point toward which a series of parallel lines seem to converge

Section drawing A flat two-dimensional representation of the inside of a building showing the internal parts (Sometimes called an X-ray drawing in children's art.)

Presentation:

Client:

Your client, a mouse, needs a house. It should have a kitchen, bedroom, hall-way, bathroom and a cheese storage room. It should all be arranged around a living room.

Architectural program:

Objective:

The students will use schematic drawings to develop a design, starting with a bubble diagram, proceeding to a floor plan, elevation, perspective and model.

Bubble Diagram:

Schematic Drawings:

1. Bubble diagram:

Have the students draw a bubble to represent each space needed by the mouse: a kitchen, cheese storage room, bedroom, bathroom, and living room. Each bubble represents a space and has a label. Have them arrange the bubbles in various ways until they find their best arrangement. They can use architect's tracing paper, called "flimsy" to trace and keep a record of their trial arrangements. Tracings enable them to keep ideas. Then they can compare the various arrangements and choose the best one.

2. Floor Plan:

A plan view converts the bubble diagram to a form which begins to resemble a building. Explain to the students that a floor plan is a view of a room or house which is seen as if the roof has been removed and someone is above the building looking straight down on the rooms. It is a bird's-eye view. Give the students a copy of the appendix page, Drawing A Floor Plan. Have the students look at the features of the plan view of this poster in order to see how architects draw walls, doors, door swings, and windows. Translate the bubble diagram for the mouse house into a floor plan.

3. Elevation Drawing:

Elevation drawings are two dimensional drawings that show the outside walls of a building. Have the students draw a front elevation of their mouse house design. The front elevation would be the side of the house which contains the front door. Show the students how the front elevation is drawn by tracing lines up from the corners of the floor plan. Explain that elevation drawings are based on the information found in the floor plans. The students should use an architect's scale to determine the height of the walls, roof, doors, and where windows are placed. Elevation drawings also show the pattern or texture on the walls. (A section drawing of the mouse house is not called for on the poster but as an option, you may have the students draw one to show the Interior view of a section of the house. Ask them to imagine that they have X-ray vision and draw the walls and other parts of the inside of the house that they can see with

X-ray vision behind the elevation drawing they have made.)

4. Perspective Drawing (for older students):

Explain to the class that while elevation and section drawings look flat and diagrammatic, a perspective sketch will enable them to draw a house that is three dimensional looking, more like a photograph. On the chalkboard demonstrate these step-by-step instructions for perspective drawing:

(Step 1) For perspective drawing, start with the horizon line and two vanishing points. On the chalkboard draw a horizon line and vanishing points, A and B.

(Step 2) In the middle of the horizon line, draw a vertical line, C, which crosses the horizon line. This represents the corner of the building.

(Step 3) Draw lines from D, the bottom corner of the building, up to the vanishing points.

(Step 4) Draw lines from E, the top corner of the roof, down to the vanishing points. Now two side of the building can be seen. Have the students draw in the details following the rule (indicated in steps 3 and 4) of having the lines go toward the vanishing points. This includes the lines of the siding, bricks, and other details.

Optional advanced drawing exercise: Oblique Perspective:

This is a special drawing used by architects to help them see how a building looks and feels inside. To make an oblique perspective drawing, the student will need the floor plan and a sheet of tracing paper. Show the student how to tip the floor plan toward him/her at a 45' angle. Then the tracing paper is laid over the plan and vertical pencil lines are drawn from all the corners within the plan. In this way the walls are drawn as they would rise up from the floor plan. Once the pencil drawing is complete, have the students go over the lines with a felt tip marker to complete the oblique plan drawing.

Model construction:

There are several ways of constructing a model. The floor plan and elevation drawings are used as patterns for making models. Young students could simply decorate a shoe box with elevation drawings of their house. Another simple way to make a model is to have the student draw each side of the house next to another on a long piece of tagboard. Score the corners with a butter knife and fold them to form the walls. Older students can use the detailed instructions for materials, making patterns and constructing models on appendix page 85, "Model Making."

Evaluation:

Give each student time to present his or her mouse house plan and model to the class. Ask each student how the use of the bubble diagram and plan view helped him or her to achieve a creative design for the mouse house. Evaluate their progress in visual thinking and visual communication through schematic drawing.

The drawing techniques used in these activities will be used again and again in the exercises that follow on the other posters. The students will get more practice as they continue with the other sequences. Remind them, this is as much a way of thinking as a way of drawing. Positive reinforcement for visual thinking and creative problem solving is very important in the early stages of this new way of learning.

Related Activities: Designing a Fast Food Vegetarian Restaurant:

This gives students an opportunity to work with organic forms that are more like bubble diagrams. The client is an entrepreneur who has just come into your town. He wants the students to design a fast food vegetarian restaurant. The students should begin by making drawings of the outside of a green pepper and an orange, then cut them and make section drawings of them. The purpose of this is to start thinking about the internal organization of two different organic forms and to become more experimental as they organize the interior space for the many functions of a restaurant. In developing the architectural program, have the students brainstorm ideas about the spaces needed (eating and preparation areas, delivery space storage, restrooms, parking, etc.-spaces, only, not equipment.) They should make a bubble shape of each space, label it, cut it out, and experiment with arrangement of the spaces, rearranging the diagram as often as they like and changing the size, shape, spatial relationships, number of bubbles. Have them use tracing paper to trace the different arrangements that they try. Then they should draw a plan view possibly using a combination of geometric shapes and organic, curved shapes. The four steps of the final drawing can be placed on one large sheet of drawing paper folded into four sections. Section 1 should have the bubble diagram. Section 2 should have the plan view. Section 3 should show an elevation. Section 4 should show a perspective drawing. This drawing should be colored. (Taylor, Anne Architecture and Children, 1996)

Lesson 4: Colors And Textures:

Goal:

To help students gain an understanding and familiarity with color and textures, how they work and what they express when they are used in interior design.

Objective:

Students will make a color board for an interior design client.

Materials:

Many old magazines
Scissors
Crayons
Glue
Pencils
Newsprint
Tagboard
Colored fabric samples
Color swatches from a paint store
Mat board scraps from a picture framing shop
Masking tape
Crayola markers

Skills And Concepts:

Math
Language Arts
Art
Deductive reasoning

Spatial relationships
Dimensional analysis
Applying knowledge
Classifying
Geometry
Texture
Balance
Aesthetics

Architectural Vocabulary:

Interior designer A professional who designs the insides of buildings

Color board A color sample display made by an interior designer for the client

Color wheel A two dimensional model showing the full array of spectrum colors arranged in a circle

Color temperature A psychological impression of warmth or coolness given by colors

Cool colors, receding colors Blue and green are examples of cool, "receding" colors; they are associated with cool water and green trees

Warm colors, advancing colors Red and yellow are examples of warmer, "advancing" colors; they are associated with hot sun, red fire, flames

Hue The color quality of a spectrum color identified by its name

Spectrum The band of colors seen in a section of a rainbow

Intensity or saturation The brightness or dullness of a color

Value The lightness or darkness of a color

Neutral colors Black, white or gray; colors with no hue

Presentation:

The power of bubble gum pink

Explain to students that color can affect behavior. Here is an example to share: A color researcher found that if he put a large board with bubble gum pink in it in front of the eyes of weight lifters, they could not lift the weights. He also found that the color subdued angry prisoners. Now some prison rooms are painted bubble gum pink.

A color brainstorming session:

Students will look at twelve colors-the basic spectrum colors of red, orange, yellow, green, blue, purple and six others, if possible bluish gray, yellow green, pink, black, brown and turquoise. Have the students, as a group, consider one color at a time. As they look at each color, one at a time, encourage them to brainstorm, telling their spontaneous associations with each color. Have a recorder write on the blackboard the title of each color and list all reactions for a period of one minute per color. No response should be left out. At the end, go back to each list and have the group select five or more responses for each color and remove the others. Then have a recorder make a master list of the colors and the reactions to them. This will help students understand their own and others' reactions to colors.

Color survey:

Conduct a survey on color responses. Have the students ask people of varying ages, lifestyles and interests a standard set of questions. Sample questions might include some of the following:

What color is your favorite piece of clothing? What color would you choose for a car? What color would you like the rug to be your (room, classroom, office- whatever place the person spends most of every day)? What color of toothbrush would you choose? If you had a little tree house what color would you paint it?

Color representation exercise:

Give the students a list of words that have been used to describe colors. The list might include such words as hot, fresh, natural, feminine, rich, masculine, vibrant, loud, quiet, sophisticated, tranquil, avant garde, traditional. The student should make a colored illustration or example of each word. Depending on ability, this might vary from drawing the word in outline letters and coloring them to selecting sample color swatches from old magazines and pasting them next to the descriptive word. This is a valuable exercise for helping the students select colors that will satisfy their client's preferences.

Texture rubbings:

Have the students look for a surface with an interesting texture. They may find a surface to rub on the inside of a wall or a floor or perhaps outside on a walking tour of the neighborhood. To make a rubbing they tape down a piece of paper larger than the area to be rubbed. (Brown paper grocery bags have good tough paper for rubbings.) Give them thick crayons for rubbing and tell them to rub in one direction from the center to the edges of the paper and always away from the center to the edge. Encourage them to try several rubbings. Have them draw a picture of the object they rubbed or bring an example of it to class.

Texture word representation exercise:

In the following exercise, students will represent word meanings by visual symbols. Assign words from the list of texture words below. Have students fold a sheet of paper in half and write their word in the upper left hand corner of the folded paper. With a large felt tip marker, they should draw a symbol of the word in the upper half of the folded paper. On the lower half of the folded paper, they should create a repetitive pattern using the symbol they made on the upper half of paper. Keep assigning word exercises until all words have been illustrated by the class.

holes rough wrinkly fireworks uneven sharp waves in sand coarse
lumpy basket ware gritty slippery curly knotty slick bumpy bristly
glassy fat grainy glossy small prickly polished pointed/sharp pebbly
shiny soft/rounded thistle silken up and down thorny silky zig-zag
splintery sleek downy gravelly velvety barbed satiny spiny fleecy
tacky smoothsoft waxy hairy oily furry greasy spongy mossy
slimy
plush filmy gooey shaggy doughy delicate

Help the students to articulate the message they see in the visual symbols. Display the drawings: Ask the students questions such as: Which patterns are bold? Which are subtle? Which seem earthy? Which seem manmade? Which seem loud? Which seem quiet? Which are regular? Which are irregular? Does the word symbol make you think of the word it is illustrating?

Client:

A client wants guidance in choosing colors and textures for a new home and has selected you,

the student interior designer to help make good choices. (Note: The description and type of person the client is should be defined by each student.) The client needs a colored drawing and samples of the colors and textures to understand what you are recommending and will need to have you explain why you think these choices will be best for the client's new home.

Architectural program:

Photocopy the interior design room in the lower right hand corner of Poster 8.

It is like a color board drawing used by professional interior designers. Give each student two copies of the drawing. The students should first use the color board to design a room for themselves. They should select the colors and textures that they like. Then they should use them to color in the color board. Have each student write a brief self-description and an explanation of why this design is appropriate for them. Each student should then write a short description of his or her client. Does the client like loud, noisy colors or cool quiet colors? How does the client like to spend his or her spare time? Is the client young or old? Is the client interested in art or music- what kind? How will colors affect the space? Each student should make, or select from magazines, the color swatches chosen for his or her client. After moving the swatches around and looking at them in different combinations, they should choose colors and textures appropriate for their client's room. Not all colors on all objects have to be different. Many can be the same throughout the space. The student should color the color board drawing, arrange some swatches around the drawing in an orderly way, and be prepared to explain their choices to the client.

Evaluation:

Have each student give an imaginary client presentation of his or her project, thoughtfully explaining the reasoning they used in reaching their design solutions. The students should say why they like or dislike certain choices. Quite often when we buy something we may say we like it, but can't say why. We need to help children not only make choices about the material world, but help them articulate why these choices were made.

Related activities:

1. Repeat the word representation exercises using movement and then musical sounds to indicate word meanings. Represent the words using one movement or musical phrase create a repetitive pattern.
2. Visualize a geometric shape. Cut it out of paper and place it on a different background color. Now choose a word and demonstrate it using cut paper geometric forms and the two colors - (instability, motion, anchored, frantic, playful, resting, etc.) Try the exercise again using 5 strips of color.
3. Cut and fold colored and textured paper into 3 dimensional shapes and design a town. The texture can be obtained by using texture rubbings. (Taylor, Anne Architecture and Children, 1996)

Lesson 5: Preferences

Goal:

To help students evaluate the ambiance of certain environments, understand reasons for their preferences and to apply knowledge in designing a classroom.

Objective:

Students will design and build a model of a new classroom.

Materials:

Large drawing paper
Colored marker sets
Model building materials
Cardboard
Scissors
Glue
Masking tape
Construction paper

Skills And Concepts:

Math
Science
Art
Social Studies
Dimensional analysis
Spatial relationships
Geometric construction
Scale, ratio, proportion
Experimentation
Evaluation
Communication
Geometry
Problem solving
Cause, effect
Socialization
Space
Harmony
Aesthetics

Architectural Concepts And Vocabulary:

Aesthetics The philosophical principles of art and design

Ambiance The mood, character, quality, or atmosphere of a place, an environment, or surrounding

Bubble diagram Circles or "bubbles" which represent spaces and relationships

Elevation The front view of an object such as a house front

Model A miniature, built copy of something

Plan view A diagram of a site or building as seen from above

Scale Proportion of a plan or model in relation to the actual size of the object

Spatial relationship Relation of objects, people or spaces to one another

Presentation: My favorite place- a creative visualization

In order to create a new design, it helps to forget the way things are and open up one's imagination to all the possibilities it can invent. This creative visualization exercise will help

stimulate creative, imaginative suggestions that could be integrated into the design of the classroom of the future. Clear a large area in the room- enough space for the whole class to lie down on the floor. Students should have near them some large paper and a set of colored large felt tip markers. Have the students lie down on the floor with their eyes closed. If you can find a tape of ocean wave sounds, play it while reading the following very quietly:

"Close your eyes and relax your head. Make your neck loose. Now make your arms go limp like a doll. Now relax your trunk, relax your feet. Take some deep breaths and listen to the sounds of this room. Try to imagine yourself walking along a beach. The sun is warm on your body. The sand feels warm to your feet. The waves are crashing in on the shoreline. A sea gull cries. You are alone. You are the only person on the beach. You begin a walk and you walk along this beautiful beach. Listen to the waves crashing." (Pause) "All at once you see a dot on the horizon. You can't make out what it is. You keep walking. Soon you realize that the figure coming down the beach is you yourself. Yourself takes hold of your hand and crosses over a sand dune through time and space to the special place that you would like to be. Try to see this place in your mind; imagine the colors and textures and smells. Think about it for a minute and put yourself in this place. Now quietly begin to draw this place. Spend as much time as you need to draw a complete picture, showing all the objects and all the colors. Is your place outdoors or indoors? What does the sky or ceiling look like? Are there trees? Is there furniture? Is there water? Sunshine, light? What is on the ground? What is on the floor?"

Class discussion:

Display all the students' drawings and have them break into groups of four to talk about their special places. Have each group pick features of their special places which could be incorporated into a classroom of the future.

Client:

A classroom teacher is the client. She wants the students in your school to help her create the ideal classroom. She wants to know the students' likes and dislikes concerning their present classroom and wants them to design a new classroom using their best ideas. She wants the classroom of the future to be very different from the classroom of today. She believes students learn best when the classroom offers lots of hands-on materials and experiences and a studio workshop atmosphere.

Architectural program:

This is an involved design project that will last through several classroom periods.

Analysis of the classroom as it is now:

Floor plan:

Have the students measure and draw a plan view of the classroom and its furniture as it is now, using a scale of 1/4"=110".

Tally likes and dislikes:

Make a list of features of the classroom such as furniture, lights, windows, floor covering, and

so on. Have each student copy the list on a sheet of lined paper folded into four columns. Have them write features on the left "do like" and "don't like" in the next two columns and "tally" in the right column. Write the sum of "likes" for each feature in the "do like" column, the sum of "don't likes" in the "don't like" column. Subtract the "don't like" sum from the "do like" sum for to give each item a score. Record the score in the "tally" column. Then rank I the features from the most liked to the most disliked according to the scores.

Requirements of the new classroom:

The new classroom should be designed in such a way that many activities can harmoniously go on at once. The students and teacher do not have to have their own desks, and furniture can be organized in different ways to change the way or increase the ways the classroom can be used. They should all have individual cubby holes in which to store their papers and books, and portable toolboxes with handles in which to carry school supplies and other tools.

Ideas from the students:

The class as a group should make a list of teaching/learning areas which they would like to see in their classroom. Some zones might include the following:

Entryway	Portable student storage
Student cubby holes	Personal space zone
Soft area	Library and reference zone
Plants and living things	Sink and wet zone
Technological zone	Teacher zone with drop-down table
Tables and closets	Mini-museum display space
Writing surfaces	Open space
Access to outside (patio)	Super graphic
Banners	

Group design process:

Design teams:

After establishing the zones needed for a working classroom, the class should break into teams of four. The teacher assigns all the zones among the teams. Each team will make a list of items needed in their zones, design the ones and illustrate their designs with clearly labeled bubble diagrams. (See bubble diagram information in Entryways and Plans and Perspective lessons.)

Team presentation of bubble diagrams:

All teams should display their bubble diagrams. The designers of each presentation should explain their work and participate in a class discussion to determine which designs are the most successful. In the discussion, the class should decide upon four or five zones that will be included in the new classroom. When the presentations end each team accepts a zone to design.

Study model construction:

Each team will now make a study model to show its design concept for its zone. These models are not meant to be complete or done in fine detail. Study models are usually built in a short period of time (one hour is usually enough). Tell the students that these will be pinned on the wall when complete, so they should glue the parts down securely. Simple tools -and materials such as scissors, white glue, paste, drafting tape and construction paper will do nicely. Each

study model should be built to a scale of 1/4" = 1'0". Give each student a photocopy of the 1/4" = 1'0" scale (see Appendix 1). Scale model People, (see appendix 2), should be used for visual reference. the students to use their time wisely. After they begin working, You should announce the time left to complete the model every ten minutes. The students are encouraged to work quickly in order to develop fluid thinking and visual representation skills. Each model and the drawing that it was based on should be displayed on the wall. The classroom can be thought of as an architectural design studio, with students working cooperatively towards solutions. Cooperative learning occurs when students help one another solve problems creatively and see and listen to several points of view.

RELATED ACTIVITIES:

Redesign another environment for the future, such as a recreational center that serves different age groups.

Evaluation:

Display all bubble diagrams, plans and models made during the various steps of this project. Discuss the pros and cons of new ideas the students have incorporate in their designs for the classroom. Review a checklist of the client's specifications and have the students determine if the final design solutions meet his or her needs and dreams of a classroom for the future. (Taylor, Anne Architecture and Children, 1996)

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