Personal hobby themes expressed in ceramic boxes adapted to junior high school art instruction
by George Eric Martin

A professional paper submitted in partial fulfillment of the requirements for the degree of MASTER OF ARTS IN ART
Montana State University
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Abstract:
The paper traced the development of a clay box project from the conception of the idea in the instructor's mind to a finished product completed by the junior high school art student. This process included the following four steps: 1. Having junior high school art students create their own ceramic boxes devised from materials used with their personal hobbies after observing models created by the instructor.

2. Testing of the project idea by the instructor.

3. Using the clay box as a medium of artistic expression.

4. Adapting the materials used with personal hobbies to use in the clay box project.

From an enthusiasm for ham radio operations on the part of the instructor evolved a series of ceramic boxes which demonstrated the basic elements required in art: line, shape, color, and value. The techniques outlined were adapted by students at East Junior High School in Great Falls, Montana.
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Date July 23, 1980
PERSONAL HOBBY THEMES
EXPRESSED IN CERAMIC BOXES
ADAPTED TO JUNIOR HIGH SCHOOL ART INSTRUCTION
by
GEORGE ERIC MARTIN

A professional paper submitted in partial fulfillment of the requirements for the degree of
MASTER OF ARTS IN ART

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MONTANA STATE UNIVERSITY
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CHAPTER I

INTRODUCTION

The purpose of this paper was to explore the developmental process necessary for the creation of a finished work of art. The process focused on the joining of the medium of clay with radio as the subject to produce a series of ceramic boxes as an example for junior high school art students. The paper was written to allow the process defined herein to be adaptable to the instruction of art students at East Junior High School in Great Falls, Montana.

The project was worthwhile for junior high school art students for three reasons. First, increasing emphasis is being placed on leisure time activity; students have both time and money for exploring outside activities. Second, students are in need of guidance in completing art projects. Frequently, they fail to initiate an original idea. Characteristically, junior high school students adopt the bandwagon approach to avoid being different. At this age, students are often unsure of values and goals and are easily influenced by peers. Third, students at this level do not lack
enthusiasm; hence, if given an idea, they readily pursue the application of the idea to their own artistic endeavors.

The coordination of an art assignment and the student's hobby provides a unique experience. The junior high school art student is required to identify a hobby which enables him to consider the value of his own leisure time and personal interests. The project then takes on a personal direction; the student then views his hobby as usable or important to him. The task did not presume a "gift" to create; yet, it did call for coordination, the ability to use the mind, to reason cause and effect, and allow for varied levels of accomplishment. Since students were directed to their own hobbies, copying was eliminated. Among student hobbies were snow skiing, swimming, drawing and sketching, playing pool, roller skating, and ice skating. Throughout the assignment, each student was to create his own project and as a result of experiencing independence, he developed a trust in his own abilities.

Since the school was limited in equipment, materials, and resources, the ceramic box project represented an
attempt to restrict the cost of materials and equipment while providing a challenging problem.

BACKGROUND

The initial idea was a result of my interest in amateur radio. Hence, I sought to consider the development of a series of clay boxes using radio parts as elements in the design. Parts included circuit boards, knobs, transistors, resistors, switches, and symbols.

The finished products demonstrated several elements of design such as:

1) line
2) shape
3) color
4) value

In addition, the ceramic box series recognized similarities in seemingly unrelated areas. Thus, the student who chose to adapt the process selected an area of interest and applied it to clay design.
IMPORTANCE OF THE STUDY

The students involved in this project were challenged to recognize situations in which they could apply the materials used in their personal hobbies to the creation of an art project. For example, in Figure 11 on page 25, the student applied his interest in creating geometric designs as he prepared the ceramic box project pictured. In Figures 4 through 8, the author combined materials used in the hobby of amateur radio with visual ideas he had previously seen to create ceramic boxes as examples for student reference. Basically stated, the project was for the student to realize that he could look to his own personal hobby as a source of ideas and inspiration for creating art projects. Since junior high school art students frequently complain that they do not have any creative ideas from which to produce artistic expression, this project was aimed at helping them realize that the source was actually present within their own hobby interests.
Viewing former students' and other artists' work afforded the student valuable experience; however,

direct experience . . . sharpens your mental registering devices, and you "see more" in any art object . . . . Once you have a toe hold in this thing, from the first glimmer of understanding, interest can grow and grow.1

Hence, the artist was an inventor; mind and hand reacted upon material to produce a result.
CHAPTER II

EXPERIMENTAL PROCEDURES - RESOLUTION OF THE PROBLEM

Selection of subject and medium

In order to minimize costs, provide adequate challenge, and seek knowledge in the areas of commercial glaze on clay, I selected to design clay boxes. The boxes conformed to Smith's definition of design, the creation of a plan for the making of any object that is intended to have aesthetic merit and, if necessary, function properly. Design may be structural and often implies three-dimensional form.2

In addition, the hobby of amateur radio was included in terms of decorative design. That is, decorative design is not a thing in itself—it decorates something else. It requires space and a choice of line, form, color, and value, arranged in a pleasing and orderly manner.3

Equipment

Keeping in mind the minimum cost, the adaptability to junior high students' goals, tools were common household items with the exception of the actual radio parts. The reader must recall that each student would be adapting the process described herein to his own specific
area of interest; hence, the availability of radio parts was not a significant factor. Tools included a sheet rock knife, a razor blade, a ruler, fettling knife, brushes, nails, cookie cutters, tinker toys, and a soft sponge to smooth clay joints. A Kemper extruder was used to make coils for inside the slab connection. This technique is explained in the "physical process" section. In addition, I used coarse grit cloth and steel wool to sand square edges when clay became leather hard.

The glaze, applied by brush, was Duncan opaque Covercoat underglaze followed by two coats of Duncan ultra clear transparent glaze. Materials used for decoration were adhered with a Pritt glue stick.

Physical process

The basic construction of all five boxes, considered as examples in this paper, was uniform. The six four-inch square sides, used to form each box, were cut from clay which had been flattened carefully and impressed with radio parts. The pressing of radio parts into clay prior to cutting the clay guarded against distorting the clay sides. Using a template
facilitated the cutting process. The sculpting was done with a razor blade since using a fettling knife did not assure a clean cut. In order to allow for proper texture, the pieces were air dried from two to four hours.

After proper drying, the sides were assembled. The edges which were being joined were scored in order to help bond the clay; slurry was applied to reinforce the bond. Pressure was applied gently to finalize the joint. On the exterior, slurry was applied with a fettling knife to complete the bond. A coil which was made with a Kemper extruder aided slab connection; the coil which extended down one edge across the bottom and up the opposite edge stabilized the box. Figure 1 depicted the use of the coil.
Throughout the process, construction improved. For example, lids on the first three boxes were made stationary with four strips of clay secured to the lid slab. Figure 2 was an example of this technique.
Improvement was noted when a proportionally smaller slab of clay was added to the lid. The change improved visual appearance and desired physical weight to the lid. Figure 3 demonstrated the slab to slab technique.
The completed box was brushed with Duncan opaque Covercoat underglaze per manufacturer's directions and bisque fired to cone 06. One glaze was used for the entire project; hence, an effort to strive for uniformity and unity was noted.

Development of decoration

The purpose of the decoration was to distinguish parts of the radio while creating a unified whole. I focused on that which I knew, radio, and moved through
analogy; from familiar objects and electronic circuit patterns, evolved unique works of art. Decisions regarding size, shape, color, and finish were also necessary.

The system of beginning with a single simple unit, the box, and progressing through decoration, stimulated opportunity to discover variations in design. Five boxes which best demonstrated the art elements were selected for this paper. The boxes reflected the decisions, personal involvement, limitations, and consideration for the design: line, shape, color, and value.

Box 1 pictured in Figure 4 focused on line development. I created a harmonious design by extending a line around the entire box in the lower third of the box; hence, the law of thirds was recognized. Repetition of the line was used on all sides and on the top to create static tension between each part which resembled a capacitor in a radio. The rhythm, disciplined movement, guided the viewer's eye through a sequence indicative of the capacitor's function of regulating the flow of electricity. When using alternating current, the electrons flow into the capacitor; however, when the
current alternated, the electrons return. Hence, the pairs of lines were symbolic of the electrical pathways. Thus, rhythm evolved in two ways:

1) through line repetition.

2) through a line that continued around the box.

White color was used on the exterior to complement the interior. The white lines directed the eye into the box and back out in much the same way as the electricity traveled. The value element was recognized in the selection of warm colors, yellow/orange. The somewhat low saturation level allowed for comfortable contrast with the white.

The shape, a cube, was bold, straightforward, and rigid. The holes in the cube symbolized the receptacle for the capacitor and allowed for contrast in design. Symmetrical design and shape maintained balance. This balance was secure within the motion depicted by the flow of the lines. Thus, Box I was selected to demonstrate the effective use of line, rhythm, color, value, and symmetrical balance.
Box 2, shown in Figure 5, alluded to radio circuits. I was forced to organize a logical development with the subject in mind; hence, the similarity to radio circuit was contrived. The continuous lines represented wires while the rectangular, parallelogram, and circular imprints represented transistors and resistors. Box 2 exemplified asymmetrical balance, a sense of equilibrium maintained by arrangement of sets of forms of different size and shape. Each side of the cube was similar in design, but not exact.
The symmetrical balance was complemented by the variety of rectangles and circles as well as by the contrast of colors. The harmony represented in the design was compared to the harmony necessary in circuit designs to transmit a clear message. Harmony was further developed through the use of color arrangements of differences, blue, green, and yellow. In addition, emphasis was drawn to circular areas with black underglaze color. The color technique conformed to the Oswald Theory which based the color selections on a scientific study of visual sensations produced by color. Thus, Box 2 provided students with sound examples of art elements: line usage, asymmetrical balance, harmony through color.
Box 3 pictured in Figure 6 isolated electronic sub-chassis wiring as a subject. The artist explored the underside of a circuit board; therefore, the subject was in direct contrast to other designs which might be readily evident to the casual onlooker. In order to reinforce this contrast, black and white was selected. Since sub-chassis wiring must be clear and sharp to avoid short circuits, the artist symbolized with clean, sharp lines and circular shapes around the entire work. The circular areas represented soldered connections evident
on circuit boards. In summary, Box 3 demonstrated value contrasting using strictly black and white.

Box 4 pictured in Figure 7 provided the student with an example of a unified whole which was recognized after viewing each unique side. The unity was achieved through similarities in shape, size, and color of the design elements. For example, each side featured black knobs and resistors of similar shape, and size. The black elements were contrasted with hues of yellow to gold; hence contrast created emphasis as well as tension.
The design correlated radio operation: from knob to resistor compared directly to the concept of messages sent and received from beginning to end. That is, when the radio operator turned on or off a knob, current was regulated, the resistors were activated or deactivated, and the message circuit was completed. The lines in the design lead the viewer from the knob to its endpoint. Thus, Box 4 provided the student with a working example of functional design achieved through color contrast and terminating lines.
Finally, Box 5 pictured in Figure 8 concentrated on shape. Flat pieces of clay were layered to represent the heat sink shape in radio. In radio, the heat sink is used to transfer excess heat from transistors into the surrounding atmosphere. I emphasized even thicknesses of each layer in order to more accurately represent the radio part, to maintain harmony, and to unify the total shape. The repetition of layers developed a rhythm which symbolized heat energy waves in the heat sink. The viewer noted that the lid of the box repeated an actual heat sink shape on a different scale. The repetition of design reemphasized the shape.

The depth of the color caused the viewer to note a sensitivity to heat absorption. This use of color could be compared to the function of heat absorption in the heat sink. Thus, Box 5 focused on two primary art elements: shape and color.
Student designs

In order to test students' understanding of the concepts of color, shape, line, and value, as well as unity, balance, and emphasis, the writer required the following assignment: to analyze the box project in terms of development of clay design as outlined heretofore and to adapt the method and techniques to one's area of interest. Figures 9 and 10 were representative of work completed by students. Student A constructed
an interesting looking box, but it did not fall within the parameters of the problem given the class. For example, the work depicted in Figure 9 seemingly had no purpose, no subject, no unity. This student failed to coordinate an idea according to the definition of the project.

FIGURE 9
CERAMIC BOX CREATED BY STUDENT A

The latter, Student B, created a piece which is a colorful art project; however, he neglected the purpose or idea by not finishing the project. For example, the
ceramic box depicted in Figure 10 exhibited some skill because the physical form conformed to the assignment; however, the final product lacked thrust. No effort was directed toward creating design.

In presenting the project to the students before they began their art projects based on personal hobby ideas, the following five areas were discussed:

1. The student's work was to exhibit good construction with sharp edges.
2. A cube or a ceramic box with a lid which fit securely was to be created.
3. All sides of the box project were to be considered as areas to develop.
4. The lids were to reflect the theme of the box.
5. The design on the box was to reflect some area of the student's hobby.
6. If the art project became damaged during the construction process, the students were to repair this damage according to methods previously explained in class.

Although the ceramic box created by Student A shown in Figure 9 on page 21 did not meet the requirements of
the assignment because of the following three factors, it was an attractive project.

1. The student did not have any method of securing the lid which fit poorly.
2. The student did not create any square edges in any form.
3. The student's work did not represent any hobby interest.

The ceramic box shown in Figure 10 on Page 24 created by Student B could also be considered an attractive art project; however, this project did not meet the requirements set down in class because of the following reasons:

1. Two sides of the box were left blank.
2. The ceramic box did not show any relationship to a particular hobby interest.
3. The student did not repair cracked areas.

Several students examined the examples provided by the author; and then they initiated and executed their own ideas. Thus, the students were provided a need, an idea, and a box form. They were required to organize and construct their own design techniques.
Figure 11 provided the reader with an example of successful student work. The student selected geometric configurations for design creating unity through repetition of sides. A cube was used for this project instead of a box with a lid. The design caused the viewer to focus on the work as a whole. Hence, the student constructed a ceramic box which exhibited the use of line, shape, color, and value to achieve a unified art project.
FIGURE 11
SUCCESSFUL STUDENT PROJECT
CHAPTER III

SUMMARY AND CONCLUSIONS

The paper explored the developmental process necessary for the production of a finished art project in which the artist joined two seemingly unrelated topics: ceramic boxes and radio. The paper was designed to allow the process to be adaptable to the instruction of art students at East Junior High School in Great Falls, Montana.

Summary

I selected a basic geometric shape, a box or a cube, and a subject for design, radio. Considering the elements of design: line, shape, color, and value, I focused on decoration of the boxes moving through an analogy of real and contrived radio parts. The quality of the finished products reflected logical decisions regarding size, shape, color, and finish.

The East Junior High School student was summoned to recognize these qualities, identify a personal subject area of interest, and create a finished product. Since the assignment called for isolation of one's own area of interest, copying was minimized.
Conclusions

As evidenced in Figure 11, the junior high school student was able to adapt the process of joining geometric drawing and clay box construction as applied to art development. The student was summoned to singly identify elements of design; yet, he was able to entwine these concepts to produce a unique product. The assignment provided the student with a visual image of his work; it developed coordination, called for cause and effect reasoning in design selection, identified individuality, and allowed the student's level of accomplishment to be evaluated.
FOOTNOTES


3 Ibid., p. 13.


5 Alexander, op. cit., p. 25.


