The Content of Education Through the ARTS

General responsibility for the arts, according to this author, is a collective concern of all who are engaged in the education of children. Through clarifying and communicating their meanings, boys and girls achieve fuller intellectual and emotional maturity.

The teaching of art in the elementary schools is the function of classroom teachers assisted by special art teachers, supervisors or consultants. In the secondary schools, art is taught primarily by special art teachers. But the general responsibility for the role of the arts in the education of children is more widely shared. It is the collective concern of all who are engaged in the education of children. Shared responsibility is by no means unique to the teaching of art; indeed, it pervades teaching in all areas of school activity if these areas are to fulfill their role in general education. The teaching of art, like all teaching, develops within the frame of reference shared by an entire school staff about the educational needs of children and youth for growing up and living in a democratic society.

The content of education through the arts is conceived within the framework of the best available knowledge about the nature and scope of sound general education. The concept that education is valuable here and now is fundamental. Education is preparation for living in a very special sense.

At each stage, it encourages the child to grow and develop so that he will learn about others through a better understanding of himself. He learns to deal with the persistent problems of living as he encounters his challenging problems of today and tomorrow.

The young child must build a new image and role for himself when he leaves the security of his home and enters into new relationships with others in his school. The cataclysmic changes in body function and social role experienced by the adolescent bring forth persistent problems that are both critical and pressing. Young children and adolescents need to understand their relationships to the physical world; they need to understand their relationships to other people—their family, friends, community, nation and world.

Such understanding develops out of integrated knowledge, skill and insight. These enhance an individual's capacity to deal with the problems of living that challenge him. His capacity for solving problems is a product of his intellectual and emotional maturity.

All the sciences and all the arts, in
their varying ways, are instrumental in the development of intellectual and emotional maturity for dealing with the persistent problems of living. It is, therefore, the function of general education to lead children and youth toward achieving their fullest potentials through education in these areas. It is the obligation of each area of instruction to develop its unique qualities and to frame the content of its teaching program for its maximum contribution to the broad purposes of general education. General education is weakened to the degree that an area fails in this commitment, or to the degree that its potential contribution is not recognized and valued.

A basic aspect of an individual's maturity is his ability to communicate to others effectively and with sensitivity. His capacity to understand the meanings and the overtones of other people's communications is of equal importance. The things people say and the ideas they communicate embody emotional overtones through the way they shape combinations of words, sounds, movements and visual forms. The visual arts are a language for the expression of images that convey the quality of ideas and feelings.

**Shaping Ideas and Insights**

Education through the arts deals with aspects of visual communication. Children learn to use the language of the arts to express their ideas through visual images of their sensations, feelings and attitudes. These are coherently embodied into visual forms to communicate the essence of their ideas.

Work in the visual arts consists of shaping ideas and insights with visual materials for the purposes of clarifying and communicating their meanings. Communication through the arts is both public and private. A person paints, designs or builds visual forms in order to clarify and to express his ideas to himself, as well as to communicate them to others. When children express their ideas through the language of the visual arts, they grow sensitive to the meanings of the ideas they communicate to others.

Sensitivity to the process of communication through the arts is a basic requisite to healthy development toward intellectual and emotional maturity. A dearth of varied opportunities for such development leads to a lack of sensitivity. Ultimately, such a dearth leads to a degree of immaturity and insecurity. The content of sound education through the arts is derived from this broad frame of reference.

When children experience the arts, they express ideas that are important to them. They become deeply involved with the meaning of their experiences and identify themselves with these experiences to abstract ideas from them. They grow sensitive to ideas and become keenly aware of their meanings. They acquire knowledge and develop skill in handling the materials in which their ideas are to be embodied. They grow into a discipline that enables them to control ideas and materials in order to shape them aesthetically. They learn that their ideas convey meanings to others, and the degree

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to which they are able to shape their ideas governs the effectiveness of their communications to others. They acquire insight into themselves as creative beings who have things to say and who learn to say them sensitively, responsibly, coherently and meaningfully.

Because the arts deal with the embodiment of ideas, feelings and sensations into coherent visual form, the primary content of education through the arts is the creative process of handling ideas and materials to bring them into aesthetic relationships—coherent form. This process includes sensitive insight into particular aspects of an idea, the nature and limitations of the specific art material in which the idea is to be embodied, and the qualities and characteristics of aesthetic visual language form. Particular activities such as painting, designing or constructing are the instruments through which the process is experienced.

Although aspects of the process are identifiable, they are functionally inseparable. Ideas become clearer and acquire significance through the process of expression. A child, in the process of painting a picture about a significant event, is challenged by the visual image he has partially formed and seeks awareness of all he knows and values in the event. The materials through which he expresses his ideas have a character of their own and affect the nature and form of his ideas. When he paints a picture, builds a piece of pottery or designs a piece of jewelry, he is constantly aware of the reality and character of the materials he uses and incorporates their qualities in his work. Aesthetic quality is perceived in the inherent relationships within the form he constructs and the degree to which it is harmonious with the nature of his material and his idea. Insight and clarity are achieved and communicated through the form that expresses harmonious relationships between idea and material.

The nature of harmonious relationships in the arts, and the mode of expression through the arts lead children to exploration of their ideas beyond their literal meanings. They learn to seek the direct qualities of "visual imagery" to express their feelings and their emotional involvement with their ideas. In this process they grow increasingly able to understand themselves in relation to the experiences from which their ideas have been derived.

A teacher, who helps children learn through experience in the arts, encourages them to explore the ideas that are significant to them. Significant ideas involve feelings, sensations and attitudes that are derived from meaningful experience. When children are given the freedom to experiment and manipulate the materials of the visual arts, to test them, they can learn their qualities, potentialities and limitations. When they are given the freedom to select ideas that are meaningful to them, they grow sensitive to ideas and are able to express them. They are then encouraged to identify themselves with events in their experience, to relive them and so discover the qualitative aspects of their ideas.

In the creative process of visual expression, children bring their ideas and materials into reciprocal play. They seek to control and to shape their ma-
terials in order to form the appropriate visual images. They develop the skillful discipline of refining their ideas in terms of the limitations of their materials. In this way, they achieve new levels of sensitive insight.

To help children grow in their capacity to explore their ideas in order to embody them in aesthetic form a teacher also leads them into contact with materials from our artistic heritage. They not only learn how other artists have created visual images for the interpretation of ideas, but they also realize their responsibility to seek clarity and directness in their own expression.

Through such learning, children come to value the quality of feelings and ideas. They grow in their understanding of themselves and of others and so achieve higher levels of emotional and intellectual maturity. This process of learning leads them to value the intrinsic satisfactions from probing, working and “playing” with ideas. They realize the spiritual quality of deeply felt feelings and ideas. They come to understand that the content of education through the arts is the creative process through which significant personal experience is filtered to derive meaningful ideas for refined and clarified expression.

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Basic Learnings in MATHEMATICS

This article suggests “behavior” descriptions of the basic learnings in mathematics. It emphasizes the creativeness of this science and points out our need for developing a more mathematically literate public to insure scientific inquiry and for maintaining a mathematical potential for scientific production.

MATHEMATICS has been described as “the mirror of civilization” and as the “handmaiden of the sciences.” Both of these descriptive titles give basic characteristics of mathematics, because mathematics is a manifestation of man’s divine gift of “responsability.” As a mirror, mathematics describes man’s achievements in solving problems, and thus contains his creative responses to new vistas created by previously solved problems.

As a “handmaiden,” mathematics has provided the spade work for the progress of the basic sciences, for mathematics serves both as the core and as the vehicle for challenging the frontiers. Without an adequate comprehension of mathematics, a student in pursuit of the sciences is irrevocably stymied.

It appears most obvious that our civilization is now confronted with problems that involve an increasing