ABSTRACT

This study considers recent research in human development and behavior, synthesizes commonalities across the research sources, and draws implications for art education in the classroom from kindergarten through grade 12. The research findings in cognitive development of Jean Piaget and Jerome Bruner are examined, together with other sources concerned with perceptual development and the stages through which the growing child progresses. The aspects of creativity, including originality, fluency, and flexibility, are discussed, as well as aesthetic development and children's responses to visual stimuli and their drawing development from making simple marks on paper for the enjoyment of movement to the understanding of asymmetry and perspective. The implications of these stages for the art education curriculum are explored at various grade levels, and recommendations are made for appropriate strategies, with abundant stimuli provided for the beginning grades, effective aesthetic training beginning in the fourth grade, and emphasis on relevant, in-depth studies in the seventh and eighth grades, together with the development of attitudes and values. Finally, a model lesson for finger painting in the second grade is examined to illustrate the use of behavioral objectives in the art curriculum. (M88)
Anyone in teaching, and particularly those of us in art education know how vitally important motivation is. To appeal to a child's enthusiasms, and excite his imagination is to capture and hold his interest. Well, motivating a child is one thing, and motivating adults quite another. Still, we were hoping the principle would hold true which explains the title.

Interest in reading an article with a title like this seems to indicate an interest in either sex or art education. Not that one necessarily negates the other—but we are assuming that your interest is art education.

The purpose of this study is to consider recent research in human development and behavior, to synthesize commonalities across the research sources, and draw implications for art education in the classroom from Kindergarten through Grade 12.

This does not mean that this is a complete or only answer to curriculum development. It is an attempt to assess components of child behavior to serve as the basis for a curriculum in any given subject area. We questioned what implications this developmental research had for our field of art education. How indeed does this research apply to a practical classroom situation?
Research findings in cognitive development, or how a child thinks, are essential to an adequately sound art education program. Two men who have made significant contributions to this area of study are the Swiss psychologist Jean Piaget and Harvard's Jerome Bruner. Piaget's individual case studies were for some time considered of little value until the results of Bruner's group studies confirmed similar stages of development in children's thinking. Both men identified similar stages, giving them different names, however the divisions are in roughly the same places and the generalizations within are remarkably similar. A certain amount of overlapping of stages is inevitable and should be expected. We would like to draw a few generalizations common to both men's work.

Both Piaget and Bruner characterize children from birth to two years of age as responding to the world predominantly through their senses. Obviously we can let the patents handle this beginning stage.

During the second stage, the child is able to represent the world to himself by an image or spatial schema that is relatively independent of action. This involves the coordination and internalization of perceptual actions that have been on a concrete object--an object that really exists and one that the child knows. His concentration on the surface qualities of his environment and conservation of these properties through imagery seems to constitute a stage of growth that bridges the gap between the enactive stage and the language-saturated phase of later childhood. He begins to see more than one object at a time and can relate one to the other in space.

The third and last stage of development is the first time the child is able to deal with abstract and philosophical considerations. It is a symbolization period of development including design concepts and appreciative concepts. His intellectual activity is based upon the ability to
operate on hypothetical propositions rather than being constrained to what he has experienced or what is placed directly in front of him.

Both men tell us that the child we work with during the school years comes to us with a fairly coordinated mental image of the world, one that is non-flexible. He is self-centered and can cope only with the immediate. As the child matures physically and mentally so does his verbal and graphic language. He becomes dependent on a schematic interpretation and representation of his world. With an increase in visual awareness, he becomes confused in discriminating between what he knows and what he sees.

Some, but not all children eventually pass to the stage where they can think philosophically and abstractly. For the most part, then, in the elementary school we are dealing with that student who responds best to that which is immediate or concrete. In the junior high school we find students who are fluctuating between the concrete stage and the formal stage. One day they may operate one way, the next day the other, depending on a multitude of variables such as the problem itself, the student's readiness for handling the problem, his emotional makeup, and other psychological and sociological factors. In the high school, then, we find ourselves dealing with three types of students: one still responding to the concrete, one dealing with abstraction and symbolism, and one still fluctuating between the two.

Perceptual development deals with the process of information handling. We've chosen three sources that present some common ideas as well as their own specific areas of emphasis.

We begin with Frostig because she is concerned with the young child. She found that the child develops his motor skills from birth to age two, his speaking skills from two to four and his perceptual skills from four
to seven. Since the child is in school from age five to seven, the development of these perceptual skills becomes of primary importance in the classroom.

She describes the five general areas of perception that need to be emphasized as 1. coordination of vision with bodily movements, which is usually accomplished through the physical education program 2. seeing an object in relation to its background 3. seeing an object as possessing different colors, sizes and shapes due to the position of the object, the light and shade cast on the object and the distance of the object from the observer 4. seeing the relationship of an object to the observer and 5. seeing the position of two objects in relation to each other as well as to the observer.

According to Frostig, these four areas of perceptual development are best presented through art experiences and she emphasizes the importance of working with them in the four critical years of perceptual development, from ages four to seven.

Witkin's studies have yielded information for determining the direction that growth in perception takes. His theory is that the young child is field-dependent, dependent on visual cues, or what he sees. As he matures, he becomes more field-independent. While still using visual cues in a more efficient way, he now responds through all his senses: touch, smell, hearing, in addition to bodily cues which were not used at all in the field-dependent stage. There is also a movement from global to analytic perception, with the young child perceiving globally, in terms of wholes, and the young adolescent beginning to perceive analytically or in terms of complexity.

This idea is extended to a certain degree with Arnheim's findings.
who indicates that growth in student perception is characterized by the development of the ability to handle more complex information. He recognizes something innate in a child's visual perception and contends that there is everything to be gained by helping the child develop his perceptual skills. The child's actual seeing process is not that much different from that of an adult. He does, however, rely on a visual basis rather than a conceptual basis for expression, and lacks the technical skill developed by the adult. Arnheim proposes that we see in wholes most of the time, noting only as much detail as is necessary, or as our learning and experience have prepared us to see.

He further indicates that the young child perceives globally, homogeneously ordering what he sees. As he becomes more and more aware of outside stimuli, he begins to differentiate between global perception and individual cases. At this time a pictorial counterpart is invented for what is seen. Uncertainty of intuitive perceptual judgements causes the child to make the move from homogeneous visual ordering to that of coordinated ordering, arranging what is seen in order of importance.

By the time the student reaches fifth or sixth grade, he is moving in the direction of seeing things true to the optical. He sees the complexity of forms. The whole is conceived as one complex. He becomes involved in a hierarchical ordering of visual stimuli, exhibits a more controlled playing with the elements of design, and on the whole can be described as reaching a rather abstract realm of handling visual information. Again it must be stressed that all children will not reach this more abstract stage of thinking at the same time. Many will still need concrete stimuli to aid them in information handling.

Studies conducted by Paul Mussen in the area of psycho-motor activity
give us needed information on muscular activity. His research tells us that the very young child or infant has little or no control over his motor activity. He grasps, squirms, pulls, twists and kicks. During the first two years of his life a rapid amount of growth takes place, especially in the upper parts of his body.

From two to six years of age growth becomes more gradual, with muscle growth accounting for 75% of the gain in weight of the five and six year old. This increase in strength becomes important in selecting art activities that will be challenging to children at this level.

Between the ages of six to ten growth accounts mainly for a lengthening of the limbs. This lengthening combined with maturation, practice, and learning seems to improve motor coordination. Increase in muscle growth gives the child the strength and motivation to pursue all kinds of challenging skills. Environmental and cultural factors seem to influence the direction taken for further manipulative development. For instance, boys are encouraged to attempt challenges involving the use of strength and large bodily movements, while girls are encouraged to pursue skills involving very controlled finger dexterity such as sewing or knitting.

After eleven years of age there is a growth spurt and with puberty comes a rapid increase in glandular change. The physique indirectly affects the development of personality characteristics, attitudes and emotions. The emotions often fluctuate from hour to hour and day to day. The happy-go-lucky child of Monday is often the sad, dejected child of Tuesday. Good motor skills are developed at this time, however the self-consciousness of the adolescent period has a direct effect on overall coordination. Tripping over chairs, spilling containers of liquid and
knocking things over become everyday occurrences. As students draw closer to full physiological maturity, an accompanying increase in sex drive can cause some major adjustment problems, a statement any high school teacher can surely attest to. The students' social world broadens. He can maintain friendships and acquaintances, and in so doing develop and broaden his attitudes, customs and value systems.

When we refer to aspects of creativity we usually mean originality, fluency and flexibility—and rather than talking about teaching creativity, what we usually mean is providing opportunities for creative growth. Much research has been done in the field of creativity, and for our purposes we have chosen Torrance's work to serve as our guide. Torrance found that at the primary level children need creative motivation by teachers and respond to such motivation much more than do children in the intermediate grades. In the first three grades originality seems to be much greater under unevaluated conditions. In all grades other than fourth and fifth creative responses seem highest in competitive situations. Torrance found that fourth graders tend to show a slump in creative behavior, yet are usually very flexible and very original when not being evaluated. They have little originality under competition. Their creative delineation is much more complex than at an earlier age, due to their increase in perceptual awareness. In grades five and six it was found that students respond more favorably to creative peer evaluation than to critical peer evaluation. In fifth grade the group evaluation is not really critical to the creative tasks and usually depends on the task being done.

Although seventh graders are less inclined toward creative behavior, by eighth grade creativity is enhanced by using all the senses rather than just the visual sense. This is partially due to their ability to
abstract and make use of symbolism. Near the end of the high school period there seems to be a slight slump or leveling off of creative development. This slump appears to be due to an increased need for peer approval, identification with peers of the same sex and conformity to peer norms. According to Torrance, evidence suggests the possibility of reviving creativity at any age with proper conditions. The problem, he states, is that many who have not had creative training have lost the urge for creative expression as well as developing a stability in their responses to the outside world.

Aesthetic development is currently receiving much attention, however almost no research has been done yielding specific information regarding this development.

We've used Irvin Child's work as our limited source of research information. Child discovered that when children were asked to respond to visual stimuli by making judgments they way they thought artists would make the judgments, as well as to respond with personal preferences, kindergarteners' responses in judgment as compared to preference were about equal. In other words, they thought the experts would respond in judgment the same as they would respond in their own likes or dislikes.

Generally speaking, in all grades there was systematic disagreement with the experts, though by high school the responses were a bit improved due to the variable of chance.

Child found fourth grade or age nine the lowest level for effective aesthetic training. This is very important to us since this finding implies that this fourth grade is the first time we can effectively begin aesthetic training in our programs. Grades 1 - 6 could see little difference between their own preference agreement with experts, while
the upper grades 6 - 12 could make some distinction between personal liking and making an aesthetic judgment.

By seventh grade there seems to be a rise in student agreement with expert judgment. This rise continues till grade 12, especially with the girls, and according to Child, is due to the students' increase in independence as well as their increase in tolerance of complexity. A significant fact for art teachers is that Child did discover that with training all grades from 5 on showed substantial shifts toward agreement with experts.

Drawing development has been widely studied. Moch's research indicates only a very general concept of art growth as a series of developmental stages can be used. Past experience, environment, and many other variables do not follow an age pattern. Harris and Lark-Horowitz have found through their studies, that there are 3 rather general and overlapping, yet significant stages of drawing development that a child passes through. Lowenfeld found more stages but for simplification sake his findings will be incorporated in more general terms.

The first stage consists of making marks on paper for the simple enjoyment of kinesthetic movement. Lowenfeld calls this the scribbling stage. These originate as random markings, then develop into circular movements which lead to floating scribbles indicating a rotary sense of space. Further development exhibits vertical and horizontal markings, standing markings, the primal cross, walking or zigzag markings, all indicating some orientation in space. Harris believes that some fundamental figure-ground relationships operate in perception coincidentally with the earliest patterning of these motor activities. Lark-Horowitz identifies some characteristics of this development. An indication of transparency
is relatively rare in the child under 5 years of age. During this age, the same shape is frequently used to indicate more than one object. The naming of the objects usually comes after the drawing. There is no conception of proportion or composition. Although the child might verbally indicate some relationship to space or depth, it is not evident in the scribbles. He doesn't even notice the relationship of light to dark. He uses color for the sake of using color, preferring multi-coloredness of 4 or more colors. His drawings are full of movement, indicating much motor action.

During the schematic or reproduction stage, the child attempts to depict reality as he sees it. As the child matures conceptually so does his drawing. Motor behavior guides the production of the preschooler, but after entering school, the child's drawing reflects his cognitive skills. He draws only partially what he sees, influenced more by the concrete features of objects and his memory than by abstract properties. Culture directs the kind of realism the child attempts in so far as an effort is made to reproduce nature or to make use of cultural symbols in the artwork.

As the child matures, so do the characteristics of his artwork. Transparency occurs frequently as a tendency to show as much as possible of an object whether the parts are actually visible or not. There is an increase in the development of a graphic vocabulary as a means to an end rather than as a goal. Proportion is incorrect. The child ignores observations and experiences he feels incapable of handling and substitutes them with ideas and feelings. Composition remains unorganized in the lower elementary grades with objects scattered as separate entities. Later they are put in single or multiple "stand lines," achieving a sort
of spatial order. The child responds to a central theme, arranging the
details in relation to the whole. There is a striving for clarity in an
attempt to fit his representations into a grid as a means of clarification.

Spatially, the child begins to grasp certain relationships about con-
crete things. Piaget calls this the concept of topological space. Spec-
ifically, this means he's gaining an understanding of proximity, how close
objects are to each other: that each object is different from others or
separated, that objects can appear in a kind of succession or order, that
things can be seen as surrounded by something else which is enclosure,
and that something such as a line can be seen as a continuous on-going
entity, or as having continuity. Some difficulties with conjunctions of
dissimilar lines, circles and angles, and proportion and perspective still
occur. The child usually omits any indication of light and shade. First
choices of color are based on their being pretty, the favorite, easily
available, or unusual. At about 6 years of age, color begins to be used
to represent the actual color of an object. It relates to reality. Al-
though drawings appear to be stiff, movement is suggested through the bend-
ing of limbs.

Gradually he moves from a linear ordering of objects to the concrete
operations stage. His reliance shifts from this topological emphasis to
the use of Euclidean spatial relationships. Some children begin to coor-
dinate perspective, becoming more efficient at analyzing their world in
a visual manner, while others still cling to the less efficient global
manner of perception.

The major concern for the child during the illusionary or true-to-
appearance stage is the use of graphic elements to produce aesthetically
pleasing effects as well as to communicate conceptually to others. There
is a decrease in graphic vocabulary and an increase in correct proportion. Wherever proportion has not been completely mastered, details are ignored or glossed over. There is a concern for the arrangement or layout of the work. Before 12 years of age, arrangement is very symmetrical. After 12 years, attempts at asymmetry are made. Overlapping is used as a means of clarity and perspective becomes quite good. There is more interest and understanding of light and shade. Movement is seldom indicated by suggestion. Instead, the child attempts to realistically capture the fleeting movement or appearance of things.

This stage is characterized by a variation of the true local color. There is more discrimination in the choice of colors as well as more modification of hues and values. A gradual restriction of colors from 2 or 3 sometimes develops to a monochromatic choice. Contrary to the vivid color preferences of the younger child, the older one prefers more subdued colors.

Although the child goes through 3 main stages of drawing development, the school years during which we work with him find him primarily in the second or schematic stage with fewer than half of the 15 year olds ever getting to the third stage. Their art experiences therefore must be concrete, meaningful, and interesting. Interest preferences are indicated in the art products. The rural child, for example, usually shows a greater preference for landscape. He shows an admiration for the natural environment and links it to his own meaningful human associations.

The implications for art education that can be drawn from the research are many and can be made quite specific to meet the needs of a given school system. For our purposes a few very general implications that could be applies to almost any school situation will be given.
In the primary and middle grades, the child's understanding of learning experiences take place most of the time in the regular classroom. It is important to enable the child to more easily make this transition from the classroom learning environment to that of the art room. It might help if we provided something concrete and important to the child for him to identify with such as a special place to work, his own display area or some specific objectives stating what he is supposed to be doing. Because of his increase in awareness of outside stimuli, the art room must also provide an abundance of stimuli as well as the opportunity to explore it.

As the students increase in social awareness, opportunity for group work is needed: small groups, large groups, whole class projects. The opportunity to work alone and sometimes away from the involvement of other classmates becomes very important due to the fluctuating emotions of the child evident especially during adolescence. With their problem solving abilities increasing, a variety of stimuli from which the student can personally choose, can provide opportunity for each individual to become quite involved in his own personal interests.

Our second area of implications is that of projects. As the child begins to interpret his world in concrete symbols, meaningful projects need to be based on that with which he is familiar and considers of value. Drawing, painting, and modeling will probably be of interest to him. His work is usually imitative and reproductive rather than imaginative. Although he is intensely interested in the real, concrete objects, he usually does not look directly at them while he draws, therefore his drawings almost always seem to be simplified versions. With the child knowing a great deal at this stage and confusing this with what he sees... many projects dealing with visual awareness become important.
The fourth grade child, for example, is beginning to be able to see objects from a single point of view, therefore he ought to be given practice in this kind of seeing. He might, for example, be asked to observe and draw simple 3-dimensional objects as they are moved from side to side. Ways of helping him to portray space such as overlapping and working with planned color changes could be introduced. Dealing with differentiating colors, contours, textures, and shapes also aid in developing his visual awareness.

He is concerned with his self and his immediate physical environment, two areas that can be extended through many types of projects. Finding natural or man-made objects for observation of details, classifying the details, discussing the findings, and making related drawings, are just examples.

Beginning work in aesthetics could also be started here, since this is the lowest level for effective aesthetic training. In fact, discussion of one's own and others' art works in terms of similarities and differences in the usage of the elements of design becomes very important.

As the child progresses to seventh and eighth grade, we find students who are shifting into, or are well into the formal operations period. In order to meet the needs of the students, two different approaches to projects must be taken. We have just discussed some possibilities for those still dealing with the concrete. To avoid making the students uncomfortable with the two approaches being taken, both must be clothed with as much of a feeling of relevancy and currency as can be devised. The students are concerned with the here and now rather than the yesterday so projects must be relevant to the art of now. In depth studies rather than dabbling with unimportant things become necessary for some students.
Communicating conceptually and realistically through advertising school functions, making posters and films, constructing architectural solutions, delving into ceramics, jewelry, or printmaking are just some of the possibilities that might be of interest.

The two different approaches to projects needed at the junior high level are still necessary at the high school level, although there is usually a larger group of students ready for full involvement in formal operations. Suitable projects must be evolved for those still clinging to concrete operations, such as mentioned before, with challenging conditions being provided to assist them in moving on to the later stage of formal operations.

Projects for those in this later stage should emphasize art and its place in our world today—calling attention to today's problems and devising possible solutions. These students are concerned with thought and find such projects as city planning and the making of paintings and drawings with social content very stimulating.

Our third area includes that of media. The gain in physical strength and motor coordination lends itself to working with materials on a larger scale as well as working with materials necessitating this physical strength such as large paintings, wood working, murals, ceramics, weaving and printmaking. As the ability to differentiate between the whole and the parts progresses, a more analytical approach to found objects can be used by attempting more detailed drawings. Motor coordination develops through practice, so art activities should provide a wide variety of 2 and 3 dimensional materials for the student to explore, as well as to gain some proficiency with the tools and processes used such as hammering, sawing, painting, sewing, cutting and tearing.
The student's intellectual and motor development allow him to approach media on a more in depth level. The ability to think more abstractly allows for more transfer from concrete to abstract experiences, for example, from realistic drawings of an object to abstract interpretations of the same object, in black and white, in color, or perhaps 3-D interpretations of the object.

Working in depth with materials he's familiar with as well as those he may find of interest including jewelry, photography, textiles, filmmaking or ceramics become valuable when the student can pick an area of his own for further exploration.

Our last area of implications deals with that of developing attitudes and values. This is of great importance to us today...especially with the current emphasis on bringing about a more humane school environment. Bruner suggests that we increase "the inherent interest of the materials taught, giving the student a sense of discovery, translating what we say into thought forms appropriate to the child. What this amounts to is developing in the child an interest in what he is learning and with it an appropriate set of attitudes and values about intellectual activities in general."

When the child enters school, the art teacher's first job is to determine his level of attitude development toward art and then proceed from that point. Presenting much concrete meaningful experience from the child's environment will help those in the concrete operations stage to become more aware of various stimuli. Responding to this awareness through successful experience with media and evaluation discussions could increase openness to just receiving art information as well as a willingness to respond to these art experiences. The teacher's attitude and interest is so
important here, not only because of what she says, but how she says it, and the expression on her face at the time. Somehow a lukewarm response to a child's enthusiastic creation and a greater concern for 'iled paint will never convey to Johnny that his work really has any value.

The child's ability to think abstractly indicates a readiness for exploration of attitudes and values on a more objective and philosophical basis. Because adolescents identify so easily with models, it is important to present them with a variety of models they can identify with, in terms of becoming aware of the place of the artist in his world. This variety should probably span the range from so called far-out arty types to the more conservative scholarly types. It is during this later stage that value commitments in regards to art as a whole, artists and art products are being made. The development of this value system is quite complex moving in the direction of internalization or to the point of the values becoming a part of the character of the individual. This obviously is a level not all persons ever reach.

These implications for classroom use have been stated in very general terms, yet they serve as the link between research and art curriculum.

This seems to be the point where semantics enter the picture and arguments begin. We can probably safely assume that the overwhelming majority of informed educators are familiar with the term behavioral objectives. To some they conjure visions of a technological giant ready to swallow the nation's children whole, digest them through some computerized process, to be regurgitated in the image of some tyrannical teacher. Others bow to the system as to a new Messiah, capable of total absolution of the nation's educational ills. Obviously extremes exist. One fact however does remain: behavioral objectives do offer one concrete means of
evaluating change in student behavior and as educators that is one of our primary concerns. Substantiating behavioral change serves other purposes also. As Dr. Jack Davis states in his recent article, in Issues in Art Education, "The position and status of art in the total school program may depend upon the ability to offer concrete evidence of change in student behavior." This can be doubly important for a discipline such as ours which traditionally has had to fight for its very existence in public school curriculum. Probably the most familiar name in pro behavioral objective literature is that of Robert Mager, who indicates that an instructor might not have to do much else if he would provide each learner with a copy of specific course objectives. Specificity is of prime importance to Mager. He asks: Are the objectives meaningful for the students? Do they communicate exactly what is expected? Can the learner be sure of what his teacher expects as terminal behavior, under what conditions and to what degree of success?

Unless this specificity requirement is met, Mager proposes, there will be students who are in doubt as to what the teacher expects, and teachers who will be evaluating what has not been taught, leading to extreme frustration for both.

Robert Armstrong has developed a structure of variables including the affective and psycho-motor domains, which appear to provide a more complete system or guide for analyzing behavior than that of the cognitive alone. Within the structure, the cognitive domain, emphasizing student mental and intellectual processes includes the variables of knowledge, comprehension, application, analysis, synthesis, and evaluation. The affective domain, more nebulous, but equally if not more important than the cognitive, includes behaviors which primarily emphasize attitudes, emotions, and values
and are reflected in the interests, appreciations, and adjustments of students. Affective variables are those of receiving, responding, valuing, organization, and characterization. Obviously these are appreciably less easy to observe and evaluate. Psychomotor behaviors emphasize neuromuscular or physical skills which involve differing degrees of physical dexterity. Variables in this area include frequency, energy and duration.

These are two fairly well known approaches to the area of behavior objectives. There must be literally dozens of other authors who have their own method and model for classroom application. The final model we have chosen to use in applying to an art lesson is one developed by H. H. McAshan. This model is concise and understandable and most important for those of us in art education, offers an optional criterion level for evaluation. The art teacher who wonders in vain how to determine whether or not "90% of his students have reached 90% mastery" in a particular area of expression will find the open-ended minimal level model of great help. Evaluation step E-1 asks for a description of the desired performance, activity, behavior or instrumentation assuming completion, but not necessarily an expected success level or criterion. This we feel can be immensely useful in dealing with variables in the affective domain.

All this specificity and verbage about objectives is seen by many to be a deterrent to the very freedom and spontaneity we associate with child art. It should be stated here that child art is many more things than freedom and spontaneity. It should be no less free by being a discipline. It should be no less spontaneous by being a learning experience.

Let's begin our art lesson with the McAshan model described earlier. We've chosen a second grade class and a lesson in finger painting. Referring to our research and looking at developmental characteristics at the
second grade level, we find that there are certain things of which we should be aware before considering any lesson. The typical second grader is in the concrete representational stage of development; he perceives his world globally, and is in need of activities which will aid in the development of his large and small motor coordination. He reacts to his environment through all his senses, needs and is much more responsive to motivation than he will be the next year in school, and his originality thrives under unevaluated conditions. The objectives for the art lesson are written as indicated in the McAshan model.

As the basic objective statement for the lesson, we find that we wish "to increase the manipulative skills of second graders through finger painting." That sounds quite explicit--but to make sure there is no misunderstanding, we will complete the next section, which is a check on whether we have really communicated the goal.  

a. Who is the learner?  
- second grade students  

b. What is the program variable?  
- manipulative skills in using finger paint.  

c. What are the implied behavioral domains? Surely the cognitive, as the child listens and thinks about demonstrations on wetting paper and choosing amounts and colors of paint. Of course, the psychomotor, as he experiments with different arm-ual, fist-ual, and manual ways of creating pattern and design with his color. And what about the pure affective slippery joy of squeezing and squishing all that color between his fingers?

How, now, shall we evaluate his work? Or shall we? Or shall it be a co-evaluation? We know from our developmental research data that his creative endeavors can be squelched by too much evaluation at this age. By looking at step E-1, we find that the step is primarily a descriptive evaluation rather than judgmental.
Has the child performed the activity desired, not how well? Is his behavior the one called for in the basic statement—that of doing a finger painting, not a chalk drawing. Has he used the asked for method of dipping hands into paint and manipulating it upon the surface of a paper, not by using a paint brush or ball of clay.

An optional statement might be: has he shown attempts to use his hand in a variety of ways to achieve varied patterns, on the side, knuckles, several fingers at once or fist.

If we can describe him as having participated and not given a value judgment as to whether he has used our favorite color, spilled two jars of water or covered half the room with paint, that will suffice. At this level and indeed, by adding more specific optional statements, for any level in art the criterion of "90% achieve 90% mastery" should not apply.

Written objectives do not eliminate the motivational aspects of teaching—the turn-on, mind blowing stimulation that is so important to a successful lesson. This aspect cannot be rigidly stated or structured, as the teacher must be constantly aware of the reactions of individual class members and be flexible enough to cope with them. Thus the objectives can remain constant but the teaching approach may differ according to differences in class makeup.

The behavioral objective system may not be the answer to all our educational problems, but whether we name it differently, apply it totally or amend it partially, it deserves our consideration.

Hopefully this attempt to bridge the abyss between relevant developmental research and a creative art teaching situation will offer you some basis for helping develop curricula for your own classes, that you might not have considered before.