

Art and Integration: What Can We Create?

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Article:

In 1975, Public Law 94-142 (the Education for All Handicapped Children Act) proposed specific and far-reaching remedies to the then prevalent practice of segregating children with severe disabilities in institutions or special schools. Central among the remedies is the emphasis on placement in a least restrictive environment. This emphasis has produced the leverage needed to move many children with severe disabilities from segregated to integrated settings, particularly to integrated schools. However, strategies that can make integrated activities, such as an art activity, successful in terms of fostering social interactions between disabled and nondisabled participants are in very short supply. Indeed, in the 12 years that have transpired since P.L. 94-142 passed, researchers have discovered more about what not to do than what to do to make integrated programming successful. For example, there is now ample evidence that physical proximity alone rarely brings about positive heterogeneous interactions. Without proper structuring of an interaction situation for cooperative participation, nondisabled individuals sometimes see peers with disabilities in negative and prejudiced ways (Novak, 1975), feel discomfort and uncertainty in interacting with them (Jones, 1970), and, during interactions, sometimes show feelings of rejection toward them (Iano, Ayers, Heller, McGettigan, & Walker, 1974).

The roles that nondisabled persons assume during social interaction situations may influence outcomes as well. Within a recreationally-oriented group comprised of severely disabled and nondisabled children, nondisabled peers who were asked to assume the role of a tutor showed less enjoyment than when they were asked to simply play with their disabled peers (Cole, Vandercook, & Rynders, in press). Furthermore, when paired with disabled peers who are older than they, nondisabled partners appear to be inhibited in their playful behaviors (Cole, Vandercook, & Rynders, 1987).

Roles played by instructors may also affect social interactions between nondisabled and disabled students. Too much coaching of interactions (e.g., prompting, reminding), particularly after disabled and nondisabled students have become well acquainted, is unnecessary and, in some cases, counterproductive (Cole, Meyer, Vandercook, & McQuarter, 1986).

Instructed by the evidence of what not to do, and influenced by findings pointing toward what works effectively in programming related to the arts, research on developing successful integrated art activities commenced in 1984. Over a three-year period, separate investigations were undertaken to examine the effects of: (1) age matched cooperative learning groups, (2) strategies designed to encourage the development of friendship between disabled and nondisabled peers, and (3) training adults in prompting, reinforcing and other behavioral techniques. The purpose of this article is to report the outcomes of that work.

Rationale for Art Education

A number of authors (Copeland, 1984; Dalke, 1984; Lowenfeld & Brittain, 1970; Schleien, Ray, Soderman-Olson, & McMahan, 1987; Sherrill, 1979) have discussed the potential benefits of art education to children with

and without disabilities. Broudy (1984) argued that art education is not only a benefit in its own right, but that aesthetic education in the visual arts aids in cognitive development, and contributes to the development of verbal skills. Furthermore, art education instructs individuals in the fundamental language of the visual arts, the development of skills in manipulating art materials, and offers opportunities to practice these skills. Moreover, one of the most important functions of art education is to provide students with opportunities for personal expression. Art education should also present children with examples of high quality works of art, while teaching that art is an expression of the values of the culture and historical period in which the artist lived.

Perhaps the best rationale for providing an art instruction/museum program for children with mental retardation is offered by Dalke (1984), who suggested that in the production of art, there are no regimented patterns of right or wrong, and every participant has an opportunity to succeed. Similarly, as Lowenfeld and Brittain (1970) note, art education, with its training to enhance perceptual discrimination, cognitive and motor skill development, and the development of self-identification and self-confidence, might serve as a powerful tool to promote successful integration. Public Law 94-142 mandates placement and functional inclusion of children with disabilities in least restrictive school and community environments. However, friendships between children with and without disabilities cannot be mandated. In fact, significant attitudinal barriers exist that limit social integration (Bak & Siperstein, 1986; Towfighy-Hooshyar & Zingle, 1984; Voeltz, 1980; 1982). Consequently, efforts to integrate children with mental retardation need to focus on the development of socially appropriate behaviors within the context of chronologically age appropriate activities. When art instruction is provided in a nonjudgmental, non-competitive, and integrated context, it can become an activity in which all children receive a personally satisfying experience.

In summary, art education for persons with and without disabilities could include the following potential benefits:

1. development of cognitive and verbal skills;
2. development of skills in manipulating art materials and opportunities to practice these skills;
3. concurrent participation in easily adapted and flexible activities by persons with varying ability levels;
4. opportunities for integration and social participation with peers;
5. exposure to high quality works of art and opportunities for personal expression through art activities; and
6. improved self-concept through opportunities to succeed in activities that do not have regimented patterns of right and wrong.

Methods

Program Description

The site for the integrated art programming intervention was Kidspace, a children's art gallery and studio occupying one floor of the Minnesota Museum of Art in St. Paul, Minnesota. Over a three-year period, separate investigations, each with a slightly different emphasis, were conducted during the periods of October/November through May. Each investigation was approximately seven months in length. Different participants were involved in each of the studies. During the first study, participants with disabilities attended one school and their nondisabled peers came from another school. Participants in the studies during the second and third years came from the same elementary school and middle school, respectively. (Figure 1 contains a brief description of the purpose of each program, participants, design, and independent and dependent variables).

Kidspace contains a gallery of interactive art exhibits that changes biennially. The exhibit displayed during the first 2 years was called "Architectural Illusions". Works of art representing familiar elements, such as windows or columns, were designed to "surprise" the viewer. For example, floor-to-ceiling columns of glass were

equipped with lights that glowed and flashed when heat and light sensors in their bases were activated. Holograms, three dimensional images revealed by light beams, had been embedded into mock windows in the walls of the gallery. Multi-hued square panels with a Greek key pattern were affixed to the walls with velcro and could be arranged in various patterns.

The Kidspace exhibit displayed during the third year consisted of sculptures resembling trees, farm animals, and mythical beasts, all of which were made from ordinary objects (e.g., machinery parts that had been welded together). Children had an opportunity to trace shadows of the sculptures that were cast against translucent panels, and to construct an animal from machinery parts.

Curriculum Development

Slightly different curricula were developed for each of the three integrated art programs prior to the start of each program. Curricula were developed jointly by staff from the museum and university researchers (i.e., two of whom were Certified Therapeutic Recreation Specialists). Projects were designed that would emphasize the use of art as a leisure activity, rather than as a strictly academic activity. Art activities occurring in the studio were designed to teach students that the elements of line, shape, color, and texture could be manipulated in various ways to produce three dimensional objects (e.g., buildings, sculptures, animals). Children were taught through a series of sequential instructional activities to look for the basic art elements in the gallery exhibits and during studio demonstrations, and then to create their own art product. Participants in the first year of the study created a "Fantasy City" made of construction paper, tissue paper, boxes, egg cartons, fabric scraps, and other materials. During the second year, participants created their own "Kidspace", joining large cardboard panels into a "room" using paint, tissue paper, fabric, and other materials to add color and texture. Participants in the third year were encouraged to create a series of small sculptures from everyday materials.

During each of the three years of the overall study, the art curriculum was adapted to meet the needs of individual students with disabilities. For example, some students participated partially (Baumgart et al., 1982) in a sculpture activity, handing small objects (a step the student could perform) to a peer who threaded the object onto a piece of string and tied it to a sculpture (a step the student could not perform due to motor skill limitations). Other adaptations included teaching the student with disabilities to complete an art activity in an alternate way (e.g., tearing paper into strips instead of cutting it), using a prosthetic device (e.g., paint brushes with built-up, easily grasped handles; scissors that were operated by using a palmar grasp to squeeze the handles together), or providing assistance from a staff member.

Staff and Peer Training

Staff training played an increasingly important role across the course of the three years of the project. Initial training consisted of an inservice session prior to the start of the program for all regular education teachers, assistants, and museum staff and volunteers. Most of these individuals had no prior contact with students who were disabled. During this two-hour inservice session, staff received brief descriptions of the students with disabilities and their learning characteristics. The benefits of integrated activities for children with and without disabilities were discussed, and staff received instruction in how to positively reinforce appropriate social interactions between students.

During the second year, the first meeting between the investigators and special education staff involved in the project (i.e., teachers, instructional assistants, occupational therapist, speech clinician) was used to explain the study and answer questions. A second meeting was arranged to include regular education staff and museum staff and volunteers. This meeting provided detailed instructions on staff roles during the baseline and intervention phases of the study. Staff were instructed on how to be trainer advocates and facilitators of positive interactions between children in the group to which they would be assigned. As trainer advocates, staff were responsible for assisting students with disabilities to participate in the activities, encouraging cooperative participation and social interactions between group members, and providing positive reinforcement (e.g., social praise) to group members for interacting cooperatively.

Staff training during the third year was similar. Techniques that teachers, art educators, and assistants could use to facilitate specific types of positive interaction behaviors (e.g., turntaking and parallel or cooperative participation) were emphasized.

Year	Purpose	Participants	Design	Independent Variables	Dependent Variables	Findings
1	Conduct a pilot project to determine feasibility of integration into a community art program.	27 nonhandicapped 3rd graders (ages 7 to 10) and 9 children with moderate-severe disabilities (ages 7 to 10) from two different schools.	A-B, quasi-experimental, and pre-post attitude measures.	*Staff Training *Integrated art activity groups (3 nondisabled and 1 student with disability per group).	*Attitudes of nondisabled participants. *Appropriate/inappropriate behaviors of disabled participants. *Social interactions between disabled and nondisabled participants.	*Increase in positive attitude by nondisabled peers toward children with mental retardation. ¹ *Frequency of appropriate social behavior greater than inappropriate behaviors for participants with disabilities. ² *Increase in social interactions received by disabled from nondisabled peers. ³
2	Investigate effectiveness of cooperative learning strategies to facilitate social interaction in a community art program.	52 nondisabled first, fourth, and fifth graders (ages 6–11) and 15 students with autism (ages 5–12) from an integrated elementary school.	Multiple baseline across classes.	*Extensive training for nondisabled peers in how to interact cooperatively. *Cooperatively structured art activities (two groups each comprised of 1 student with autism and 5–6 nondisabled students). *Use of adult trainer advocates to encourage and reinforce cooperative behavior and social interactions.	*Social interactions between disabled and nondisabled participants. *Appropriate/inappropriate behaviors of participants with autism.	*Increased social interactions between nondisabled students and students with autism. ⁴ *Appropriate behavior decreased in class 1; increased in class 2.
3	Promote: (a) development of functional art skills by participants with disabilities (b) social interactions between disabled and nondisabled participants, and (c) facilitate integration into regular education art classes at students' schools.	Twelve sixth graders (ages 11–13) and six children with severe to profound mental retardation and/or multiple disabilities (ages 11–13).	A-B quasi-experimental design, with generalization probes of social interactions and appropriate behavior in school art class.	Instruction in functional art skills (cutting, gluing, and painting for students with disabilities). Cooperatively structured art activities in museum; integration into regular art class at school. *Use of adult trainer advocates to encourage and reinforce cooperative behavior and social interactions.	*Social behaviors between disabled and nondisabled participants. *Acquisition of functional art skills by students with disabilities.	*Some generalization of social behaviors to school art class. *Increase in art skills by three participants with disabilities.

¹ Significant at $p < .05$

² Significant at $p < .01$

³ Significant at $p < .01$

⁴ Significant at $p < .01$ (class 2); $p < .007$ (class 1)

FIGURE 1. THREE YEARS OF RESEARCH IN INTEGRATED ART SETTINGS: A SUMMARY.

Peer Information

Nondisabled participants in the first year viewed a "Special Friends" (Voeltz et al., 1983) slide-tape presentation which depicted scenes of children with and without disabilities participating together in a variety of school and after-school leisure activities. Students were informed that children with moderate to severe cognitive disabilities would be joining their class for art activities at the museum. A discussion session, in which students were given the opportunity to ask questions about students with disabilities, followed.

The informational session for nondisabled students who participated in the second year also began with a slide-tape presentation that included slides of integrated art activities that had been taken at Kid-space during the previous year. Since disabled participants during this particular year were autistic, methods that children with autism sometimes use to communicate, both vocally and through signs, natural gestures, and graphic symbols, were discussed. Students were also given a brief overview of the behavioral characteristics of students with autism. They were told that some students with autism may engage in inappropriate or repetitive behaviors at times, and that these behaviors may be a form of communicating boredom, frustration, or anxiety. Nondisabled students learned ways they could involve their peers with disabilities in the activity by inviting them to join in a task, demonstrating how to perform the steps of the activity, and assisting them if necessary. Students received an opportunity to practice several manual signs (e.g., "hello", "friend", "museum", "art class"). The speech clinician showed the nondisabled students an augmentative communication system (i.e., a nylon wallet containing line drawings of preferred items) used by one of the students with autism, sensitizing them as to how their Special Friend might use it.

Nondisabled participants in the third study attended informational sessions that ranged in length from 15 to 30 minutes prior to each monthly integrated art class at the museum. Students in this study also viewed the slide-tape presentation and participated in discussion sessions with the investigators on ways they could involve their peers with severe multiple disabilities in the activities. They were encouraged to discuss any problems they were having in their relationships with the students who were severely multiply disabled. Informal role playing opportunities and problem solving simulations accompanied these discussion sessions.

Integration Strategies

During the first year, students were placed into small groups comprised of three nondisabled students and one student who was moderately to severely cognitively disabled. Adults (i.e., museum staff, teachers, assistants, and volunteers) circulated between groups and periodically provided activity-related directions to group members, encouraged students to work together on the activity, and reinforced positive interactions. Since the majority of the special education students had moderate to severe cognitive disabilities, but were not multiply disabled, and were thus able to participate in the activity with little assistance, adults played fairly non-intrusive roles in this program.

During the second year, participants with disabilities were classified as autistic. Several of the students with autism exhibited inappropriate, and, often, stereotypic behaviors that required that an adult redirect the child back to appropriate participation. One adult was assigned to each group to serve as a trainer advocate and stayed with the group throughout the session. As trainer advocates, adult staff members provided individualized art instruction to the students with autism, assisted them to participate in activities whenever necessary, and reinforced positive interactions between students with and without disabilities. Trainer advocates also clarified general activity directions that were provided by the art teacher. In explaining each new activity, the art teacher prompted students to work together with the others in their group to complete projects, and reminded nondisabled students to involve the students with autism in the art activities.

Integration strategies in the third year were similar to those used during the first two projects. Groups were formed of one student with severe multiple disabilities and two nondisabled students. During museum activities, a trainer advocate was assigned to each group and reinforced positive interactions between students. Trainer advocates also encouraged cooperative and parallel participation and redirected students back to activities if they became distracted. In addition to the regularly scheduled visits to the museum, participants in the third year attended an art class together at their school. Teachers or aides accompanied the students with disabilities to a 45-minute art class, held two times a week, every other week. Students worked in their assigned groups at large work tables in the school art room. Adult staff members sat adjacent to the students with disabilities and provided instruction on the same art skills that were being instructed at the museum (i.e., cutting, gluing, and painting). Art activities in the school art class (a "generalization" site) were individually, rather than cooperatively structured, in accordance with the art teacher's stipulation that the curriculum remain unchanged and students be graded on individual projects.

The third year of the Kidspace study represented an effort to coordinate integration activities in the school and museum by providing additional opportunities for contact between children with and without disabilities and for art skill acquisition by the students with severe disabilities. In contrast to the preceding years of the study, students in the third year had more frequent opportunities for contact. In addition to monthly trips to the museum, students saw each other during art classes at the school every other week, and had opportunities for informal contact in the school's hallways or lunchroom.

Integration strategies that were implemented in each of the three years of the study and limitations that were identified in each project are represented in Figure 2. Included are a brief review of the museum program immediately preceding the 3-year study and a look into the future.

	Strategies	Limitations
I. Past Practices		
Pre-integration		<ul style="list-style-type: none"> *Segregated groups *One-time field trips to museum *Limited exposure and few interactions between handicapped/nonhandicapped children *Untrained, apprehensive staff *Individually structured art curricula *Art activities not functional/age-appropriate
II. Stages of Program		
Year 1	<ul style="list-style-type: none"> *Begin staff sensitivity training *Produce an interactive art environment *Design group activities *Initiate functional age-appropriate art education curriculum 	<ul style="list-style-type: none"> *Children from different schools *No maintenance of friendships *No cooperative art curricula
Year 2	<ul style="list-style-type: none"> *Training nonhandicapped peers to interact cooperatively *Preparing trainer advocates *Cooperatively structured art curriculum with functional/age-appropriate activities 	<ul style="list-style-type: none"> *No generalization of art skills to school *No coordination between museum and school
Year 3	<ul style="list-style-type: none"> *Instruction in functional art skills in museum and school *Training nonhandicapped peers to cooperatively interact in museum and school *Preparation of trainer advocates to facilitate integration in museum and school *Cooperatively structured art activities that are more functional and age-appropriate than Year 2 program 	<ul style="list-style-type: none"> *Little cooperative art activity in school *Strong emphasis on individual art production *Other community environments not prepared enough for integrated art programming
III. Future Directions		
Social integration	<ul style="list-style-type: none"> *Cooperation between home, school and community *Curricular structures adaptable to many art activities and environment *Techniques to promote generalization and maintenance of art and social skills across environments *Recruitment of persons with handicaps to community art settings *Accessible art education environments 	

FIGURE 2. OVERCOMING OBSTACLES TO INTEGRATE COMMUNITY ART EDUCATION PROGRAMS.

Results

Dependent variables (i.e., social interactions between disabled and nondisabled participants (year 1-3); attitudes of nondisabled participants (year 1); appropriate/inappropriate behaviors of disabled participants (year 2); and art skill acquisition (year 3) for all three years of the study are summarized in Table 1. In the first year of the study, attitudes of the nondisabled participants toward students with severe disabilities were measured via a pre- and post-test using Voeltz' (1982) Acceptance Scale. Results indicated a positive and significant ($p < .05$) attitude change. Appropriate and inappropriate social behaviors of the students with disabilities were also

evaluated. Results showed that students engaged in appropriate behavior approximately 75% of the time during museum art activities. Positive social interactions that the nondisabled students directed toward their peers with disabilities also increased significantly ($p < .01$). Although not statistically significant, interactions that students with disabilities directed toward their nondisabled peers also increased.

Social interactions between students with autism and their age-matched nondisabled peers, and appropriate and inappropriate behaviors of students with autism were also measured during the second year of the study. The frequency of positive interactions that nondisabled peers directed toward the younger and older students with autism showed significant increases ($p < .01$). Interactions that students with autism initiated toward their nondisabled peers remained low throughout the study. The frequency of appropriate behavior of the older students with autism decreased significantly ($p < .05$), while younger students with autism showed a significant increase ($p < .01$) in their appropriate behavior.

During the third year, a variety of social behaviors (i.e., appropriate/cooperative behavior, providing/accepting/rejecting assistance, recruiting attention/requesting help, emoting or giving positive/negative affect, and orientation toward task or peer) of students with and without disabilities were measured. Although not statistically significant, cooperative behaviors of students with disabilities and nondisabled peers increased slightly throughout the course of the museum visits. Appropriate behaviors of students with disabilities remained high during museum activities and during the integrated art class at the students' school. Three students with disabilities acquired the functional art skills of cutting, gluing, and painting. The remaining three students who had severe motor and sensory impairments exhibited minimal increases in the acquisition of the art skills.

Implications

Research indicates that the availability of community recreation and leisure settings does not guarantee that people with disabilities will make adequate use of them. Typically, they spend the majority of their lives in passive, meaningless activities regardless of where they are living (Birenbaum & Re, 1979; Salzberg & Langford, 1981). Several variables predominate in influencing the quality of leisure activity participation including: (1) availability of transportation, (2) careprovider involvement, (3) friends or escorts to accompany individuals, and (4) leisure skills instruction and acquisition (Schleien & Ray, 1988).

Leisure education should be made an integral part of ongoing educational and community education curricula, and should not be perceived as a luxury service, taking the form of an occasional field trip. Instruction in leisure skills acquisition should attend to individuals' chronological ages, personal preferences, and family/community lifestyles. Effective strategies for teaching leisure skills could include the use of behavioral procedures and skill training in school, community, and home environments. Of particular importance are procedures that enhance the maintenance and generalization of leisure skills in current and future natural environments.

In a related vein, the responsibility for improving and expanding leisure/recreation programming rests with service providers and families in home, school, and community environments. Maximizing cooperation and coordination among families, teachers, community recreation professionals, therapeutic recreation specialists, and human service agencies is an important goal that will facilitate leisure/recreation participation across settings. However, if responsibilities are spread too widely among agencies, it is possible that no one organization will ensure that integrated leisure/recreation programming is carried out. Therefore, it is recommended that a lead agency be designated to assume overall programming responsibility, based perhaps on the chronological ages of the persons with disabilities served. It would be logical, for example, to assign to the schools the responsibility for instructing leisure/recreation skills (e.g., art education) to young students and to give specific social service agencies (e.g., museums, community recreation departments) the responsibility for training young adults and adults in these skills.

The primary objective of this three-year project was to successfully integrate children with and without severe disabilities into community museum programs. The data support the attainment of this objective. Our secondary

objective was to validate various methods to integrate these children into school and after-school leisure environments. Although the specific effects of each of the individual components of our instructional "package" were not determined, it would seem inappropriate to exclude any of the components at this point in time. These components, including the involvement of trainer advocates, their subsequent use of contingent social reinforcement, the "Special Friends" training program, and cooperatively structured activities, were considered essential in producing socially valid results (e.g., friendship development, attitude change, overall systems change).

Because the museum setting was developed specifically for elementary-age children and was interactive in nature, it was an ideal environment to investigate the efficacy of the instructional package. And, since similar types of museum environments that are interactive in nature exist for children within the Minneapolis/St. Paul metropolitan area, the potential for generalization of positive, socially appropriate behaviors is possible. More research should be conducted to further validate integration strategies in these and other community environments. Additionally, the generalization of newly acquired art education skills to other museums, as well as to school and home settings, should also be investigated further. Therapeutic recreation specialists, regular and special educators, and community leisure service providers should continue to work together to provide opportunities for persons with severe disabilities to become integrated successfully into their communities.

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