Chapter 3

Troubleshooting the Art Lesson

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Troubleshooting is a process designed to help teachers choose lessons, analyze their language and procedures, and organize classroom space and time. When an art lesson is planned, a logical expectation is that the lesson will go pretty much as written. Troubleshooting takes the opposite approach. It expects that things will go wrong and tries to prevent or minimize potential problems. "Murphy's Law" leads us to expect that whatever can go wrong will go wrong. The troubleshooting expectation that things will go wrong is the "Murphy's Law" of lesson planning.

Student diversity enriches the classroom and the rewards it brings are worth the challenges. However, to reach the reward stage, there are a number of obstacles to overcome. Guay, in Chapter One, describes some concerns and goals for art classrooms that include special needs students with their general education peers. Burnette and Lokerson, in Chapter Two, describe how and why special needs students came to be placed in general education and in art classrooms. This chapter provides a troubleshooting framework to identify and avoid potential art lesson and classroom management problems.

Troubleshooting Rationale

Most people appreciate an occasional pat on the back for a job well done—it is strong positive reinforcement. Now imagine a day for special needs students filled, not with approval, but with frustration and disappointments. In a typical day, reading can be a problem for a variety of reasons, including difficulties distinguishing between the letters *b*, *p*, *d*, and *q*. Try to read a page when these four letters are not in their correct positions. Reading difficulties are only intensified when they are combined with written math problems. These subjects do not ease their demands. Both reading and math build on sequenced lessons, tightly organized to be completed by the end of the school year. Their curriculum is organized in an ever-escalating upward spiral, with more demands and complex skills added to previous lessons and to those of prior years. The school day offers little respite for students experiencing reading problems when oral and silent reading is also required in social science, history, and other subjects. Students' past failures can also impede progress and make it very hard to catch up. In a school day filled with written words, symbols, and directions that frustrate and embarrass them, students with special needs may find little positive. It is easy to understand why they might feel like failures.

The art room can be a refuge, a place for students with special needs to demonstrate their skills and abilities. Each segment of the art studio curriculum can allow the student to complete one project and begin another as a new challenge. In contrast to reading or math, the art studio curriculum uses a variety of art media that encourage students to approach problems anew, without a history of failure. The art studio curriculum can offer special needs students a fresh start because there are many different ways to solve art problems and to be creative. If a student does not excel in drawing, a three-dimensional medium such as clay may prove more satisfying.

Success in Art is Not Automatic

But success in the art room for students with special needs is not automatic and accommodations may be needed. Students will need the teacher's help to overcome, or work around, their learning and behavior problems. They are unable to do it themselves. The expression that "the student just isn't motivated," sometimes used to cover a number of problem areas, does an injustice to students. Rick Lavoie, a renowned special education administrator and an inspirational speaker, illustrated this point and described some classroom accommodations for students with learning disabilities. His videotape workshop, "How Difficult Can This Be?" made at the Eagle Hill School in Greenwich, Connecticut, features activities that allow the participants to personally experience problems created by learning disabilities.

In one workshop activity, Lavoie demonstrated that motivation alone wasn't enough to overcome a learning deficit. Lavoie offered an adult workshop participant a reward of two hundred dollars if she could identify the object in a blurred photograph, one she previously had failed to recognize. Although she tried again, and certainly was motivated by the money ("My husband is going to kill me."), she still could not identify the object in the picture, even for the two hundred dollars. She needed extra help, not money, to figure out what was in the picture. Lavoie made a lesson accommodation for her. He did not change his request for her to identify the object, but he added a visual prompt. He superimposed an outline of the object (drawn in marker pen on a transparent sheet) on top of the blurred image. With this lesson accommodation, the workshop participant was able to identify the cow in the picture.

The workshop participant got the help she needed because her teacher recognized that she could not succeed without his intervention. Special needs students also try to succeed but are frustrated when their learning needs go unrecognized. Merely repeating the same directions that students do not understand or distributing written directions to students who have reading problems does not help them. Without classroom accommodations that address their learning needs, the students' failures accumulate throughout the day and can become a "cycle of failure," a self-fulfilling expectation of failure. Art teachers are in a unique position to break this cycle of failure because they can offer opportunities for creative problem solving and more.

Good Teaching is Good Teaching

The saying, "Good teaching is good teaching" applies when teaching special education or general education students, both in the arts and in traditional subject areas. Good teaching involves careful planning and sensitivity to the students' and school issues, among other factors. In contrast, it seems to be human nature to look for a quick fix. Advertisers know that people will buy a product that promises an easy way to lose weight or to stop smoking, etc., etc. Just as there is no magic weight loss pill, there is no magic teaching pill to learn how to teach students with special needs. There are however, effective teaching strategies and approaches that can reach a wide range of students of differing abilities. When these strategies are put together, they form a framework for lesson planning and behavior management. These sound teaching practices offer an additional bonus because they can be adapted for a variety of student ages and disabilities. Moreover, teaching practices and principles that work well in one classroom can usually transfer to other school settings. They are as relevant in the art room as in the special education program.

Most teachers have encountered situations, either academic or behavioral, where there were no rules for what comes next. The teacher was in uncharted waters and had to rely on instinct, experience, and professional judgment. When a strategy did work (accompanied by an almost audible, "Whew!") it became part of the teacher's "bag of tricks." The troubleshooting process is a very large bag of tricks. It is based on established special education and behavior modification theories and approaches (Dunn, 1973; Hardman, Drew, & Egan, 1996; Friend, & Bursuck, 1999; Hobbs, 1966; Kanner, 1964; Kephart, 1960; Kirk & McCarthy, 1961; Lovaas, 1977; Long & Morse, 1996; and Martin and Pear, 1988) and evolved out of this special educator's art education training (Burton, 1981; Gaitskell & Hurwitz, 1970; Kellogg, 1970; Lowenfeld, 1954, 1957; and Uhlin & DiChiara, 1984) and experiences teaching art to special education students.

This troubleshooting approach incorporates the practices, responses, validation, and the encouragement of art teachers around the country. Some parts of the process may sound familiar and are indeed, common sense approaches. Others rely on special education behavior modification and management theories and practices. Put together, they form the *troubleshooting process*, a systematic approach to teaching that *recognizes and anticipates* the needs of special education students. Ms. Kerry, the teacher described by Guay in Chapter One, needed help to make her art classroom a positive one for students with special needs. But, there is no need for Ms. Kerry or others to reinvent the teaching wheel for students with special needs in the art room. Troubleshooting is designed to help teachers choose art lessons, analyze their language and procedures, and organize classroom space and time. When an art lesson is planned, a logical expectation is that the lesson will go pretty much as written. Troubleshooting takes the opposite approach. It expects that *things will go wrong* and tries to prevent or minimize potential problems. "Murphy's Law" leads us to expect that whatever can go wrong will happen. The troubleshooting expectation that things will go wrong is the "Murphy's Law" of lesson planning.

Windsocks Step by Step

I observed "Mrs. Harried," an elementary grades art teacher in a suburban school. Mrs. Harried shared that retirement was looking better every day. She had two schools to cover, too many students to teach, and now all these special education students. No one had prepared her to teach students with special needs. Nevertheless, she planned a Flag Day lesson for them, a lesson she had taught each year to her general education students. They were going to make paper flag windsocks using red, white, and blue construction paper. As she arranged the materials on her desk, she expressed her concerns about teaching this class of eleven boys from a self-contained special education classroom. The boys had a variety of learning and behavior problems and Mrs. Harried said she couldn't keep up with all their needs.

The boys were brought to the art room by their special education teacher who left them to attend a meeting. They took their seats at rectangular tables arranged in two rows, from the front to the back of the room. Mrs. Harried told the boys they were going to make windsocks using the colors of the flag. She gave each boy one 12 x 18 in, sheet of white construction paper and asked them to make a cylinder and to staple the sides together. Some of the boys were unsure about those directions and got off their chairs to see what others were doing. They did not know what to do with the paper because they did not understand the word cylinder. They were also confused about how to staple the paper because the stapler only reached part way down the paper length. Meanwhile, Mrs. Harried walked from one part of the room to the other stapling some cylinders herself and removing other, wrongly placed staples. As she moved towards the back of the room, she was unable to see the behavioral interactions taking place behind her in the front of the room.

Mrs. Harried walked back to the front of the room and gave directions for the remaining parts of the lesson. The boys were to glue a small blue pre-cut rectangle (4 x 6 in.) onto their cylinder. Then they were to cut out silver paper stars and glue them onto the blue field. After that, they were to glue red construction paper stripes to their cylinders. Mrs. Harried held up a sample windsock that she had made to show these last steps. When the boys completed all of the previous steps, they were to staple crepe paper streamers to the bottom of their cylinders and punch holes in the top so a string could be attached to their windsocks.

Confetti in the Breeze

The silver stars were an important part of this lesson. She was glad that this was a small class because she had just enough silver foil sheets to go around. Mrs. Harried demonstrated on the chalkboard how to draw a five-pointed star. Her star was drawn with one continuous line that crossed over previously drawn lines. Then she handed out the blue construction paper rectangles and gave each boy one 8 x 10 in. sheet of thin silver foil with paper backing, paper she had been saving for this lesson. Mrs. Harried told the boys to turn the foil over to the paper side and to *carefully* draw stars all over the paper and to *carefully* cut them out. The students drew five-pointed stars all over their papers, just like the one drawn on the board by Mrs. Harried. And, just as Mrs. Harried had demonstrated for them, the students' pencil lines crossed over previously drawn lines. When it was time to cut along those pencil lines, it was apparent that something was very wrong.... Instead of five-pointed stars, hundreds of small, confetti-like silver triangles piled up on the students' tables. Mrs. Harried was visibly distraught.

At this point, both teacher and students seemed unhappy with the lesson and with each other. The classroom noise and student out of seat behavior escalated as Mrs. Harried walked quickly from table to table attempting to salvage silver stars. She finally told the boys to "just glue on any of the silver pieces." For the rest of the class time, Mrs. Harried stapled streamers and punched holes, trying to finish before the period ended. As the students left the room, one boy threw his windsock into the trash barrel. Mrs. Harried was exhausted and collapsed into her

chair. Sadly, the outcome of this lesson might have been different because much of what happened could have been avoided. Mrs. Harried had not used a trouble-shooting process and she made no lesson accommodations for a class of students with learning and behavior difficulties. But, for our purposes, it would be hard to make up a lesson like this one.

Assume Nothing

Mrs. Harried chose a direction following lesson, one that required no creativity on the part of the students (more on this below). Since she had taught the lesson before, she did not anticipate the problems this lesson would cause students with special needs. Mrs. Harried's teaching assumptions about a lesson she had previously taught were not appropriate. In contrast, the troubleshooting process *assumes nothing*. The troubleshooting process would have walked her through the steps of the lesson to help her identify potential problem areas and plan ways to avoid them. Having chosen a lesson, a teacher cannot assume, as did Mrs. Harried that students will know the names of the materials, the equipment, or the art processes they will use. Troubleshooting recognizes that students may not understand the directions or remember skills taught in previous lessons. The troubleshooting process also checks art supplies *before* the lesson begins because those materials may not be available or in usable condition.

Troubleshooting also includes some knowledge and understanding of the students' personal and interpersonal problems. It is helpful to know, for example, that an event in the student's day may trigger some behavior difficulties. It is difficult to break up a fight between teenagers who may outweigh you. It is easier to read the signs of their impending behavior problems and channel aggressive behavior into activities that hurt no one. Adrienne Hunter, for example, is aware that colors are identified with and have serious gang related implications. She uses neutral colors when introducing her court-referred students to her art lessons (see Chapter Four, Students with Emotional and/or Behavior Disorders). Hunter's students can work in productive ways because she is aware of their personal problems and potential teaching hot spots. Understanding students' learning and behavior needs is part of the role of a special education teacher. The trouble-shooting process helps the art teacher think like a special educator.

Choosing the Art Lesson

Open-ended versus Closed-ended Art Lessons

The first and most important part of the troubleshooting process is choosir art lesson. A lesson that requires reading skills or the ability to follow a co series of directions will probably result in student behavior problems. The the stage to add still more of the same frustration that is experienced in oth subjects. Art lessons can be different. Art teachers can choose between *ope ended* and *closed-ended* art lessons. Open-ended art lessons are effective v special education students because they do not have a "right" or "wrong" solve them. There are many different ways to be successful. In contrast, cl ended art lessons, like most school subjects, *do* have a right or wrong answ Words read in class are either right or wrong, math answers are right or wr spelling is right or wrong, etc. Students with special needs have problems these subject areas and do not need more of the same.

Closed-ended art lessons are step-by-step, *direction-following* lessons, not opportunities for creative problem solving. Closed-ended art lessons are ea to identify because, when the directions are exactly followed, all the stude artwork looks the same. In October, for example, how many general educa tion classroom walls are decorated with pumpkin faces made from pre-cut pumpkin features glued, often with help, to pre-cut pumpkin shapes? Ther few visible differences between these pumpkins. Origami, the Japanese ar paper folding, is another example of a closed-ended lesson that can frustra students with special needs. Those students able to follow directions that p delicate paper cranes, or complex paper boxes with lids that open and shut amusing paper frogs that jump when pressed can experience a great sense accomplishment. But for many students with special needs, their Origami folding looks more like crumpled paper litter. Worse, this experience leave doubtful of their skills and reluctant to return to art class. The precise direc following required by closed-ended art lessons uncomfortably resembles l the students hoped to leave behind.

Quite the opposite, open-ended studio art lessons encourage individual cre ity and problem solving. Students with special needs can find their own, o unique, solution to the art assignment and the art room can be an educatio oasis for them. This opportunity is not only liberating, it is empowering. It break the cycle of failure.

> Art making is part of the fundamental human urge to make sense of the world. It is also part of proving one's competence. In the process of creating paintings, drawings and sculpture, children ask questions of themselves and of their world. The questions they pose cause them to reflect, inquire and probe their senses, feelings, and minds. (Burton, 1981)

Open-ended art lessons have other advantages. The versatility of open-ended studio art lessons makes them appropriate for a wide range of ages and grade levels. To illustrate this, the same open-ended art lesson was taught to young students with mental retardation and to university students. The lesson, magazine colle', was part of a unit on texture. The directions were adapted and modified for each group, but otherwise the art lesson was essentially the same. Both groups selected and incorporated textures cut from magazines into their crayon and marker pen designs. There were two differences – time and complexity. The students with mental retardation needed less time to finish their artwork because their designs were generally less complex. In contrast, the university students developed intricate designs and many needed another class period to finish. Burton (1981) described how students act on and change materials in ways that are developmentally appropriate. Both groups of students solved the magazine colle' art problems and made creative decisions at their own rate and level of skills. The artwork demonstrated their many unique design decisions.

Some art teachers, at conferences and workshops, have requested art lessons specifically designed for students with special needs. Students with special needs do not need a separate art curriculum! Open-ended art studio assignments allow them to work at their own developmental levels. Students with special needs and their general education peers benefit when art lessons are open-ended.

Mrs. Harried's Closed-ended Art Lesson

Mrs. Harried felt stretched to the limit and was physically unable to keep up with all the requests for help. She spent a great deal of valuable class time walking from one end of the room to the other, trying to fix problems and undo mistakes. Yet, Mrs. Harried was unaware of her own part in an arrangement that left her exhausted and unhappy. Her closed-ended lesson actually made the students *more* dependent on her. They continually asked her questions about the lesson. There were raised hands and calls for help throughout the period. Her lesson left the boys unsure about the task and their own skills. They wasted class time walking around the room trying to find out what they were supposed to do.

An open-ended version of Mrs. Harried's windsock lesson would make some changes in both her presentation and lesson materials.

- Mrs. Harried would ask questions about windsocks. She would find out what the students knew about windsocks, what they are and how they are used. She could ask the students to describe people who use windsocks and show pictures of how windsocks show the direction of the wind at weather stations and airports. She could ask the boys if they had used windsocks at their homes and to describe those experiences.
- Mrs. Harried would have several samples of windsocks so the boys could see what they look like and how they are made. Multiple samples would show design options and demonstrate that there were many ways to design windsocks. The sample windsocks would also help the students see and understand how the parts of the lesson fit together. They would see and understand the meaning of the word, cylinder.
- Mrs. Harried's materials would offer choices of colors and textures and would include a stapler that fit the paper size. After seeing and discussing the samples, the boys could *design their own windsocks* and work independently. The boys would need less help from Mrs. Harried.

Making Choices and Working Independently

Open-ended art lessons provide opportunities to make artistic choices. Yet making choices in a school setting is often an unfamiliar experience for students with special needs (Guess, Benson, & Seigel-Causey, 1985). I remember two third-grade girls with learning disabilities who were very reluctant to create designs for their art folder covers. Their prior art experiences required them to make still life drawings that looked as realistic as possible. This understandably frustrated the girls. Both had difficulty writing their names without reversing some of the letters. They had great difficulty translating the images they saw onto paper. Imagine the demands this still life drawing class had placed on them! It took several weeks for the girls to gradually relax and begin to change their attitude about art class.

Because of their negative experiences, the girls were not pushed to begin their work. Instead, they watched their classmates create not the same design, but a variety of folder designs of their own choosing. When the girls felt comfortable, they began to design their own folders. Still, at times their discomfort and insecurity about their own creative decisions caused them to ask, "Is this all right? Am I

doing it right?" My response was "You decide. You are the artist." Their reaction was often one of disbelief, but those questions became less frequent. When they or another student needed more help or structure or reassurance, several options were discussed with them. They could choose the one they wanted to use. Other times class members were encouraged to brainstorm ideas and again, the student could choose which, if any, to use. Although students with special needs may initially be hesitant to make their own creative decisions, they can become more comfortable, more self-reliant, and less demanding of the teacher's time.

Troubleshooting the Seating Plan

Choosing, planning, and gathering the resources for an appropriate art lesson are the initial considerations in the troubleshooting process. The next part requires a careful look at where students with special needs are to sit in the art room. Some teachers allow students to sit anywhere they please. In other classrooms, students must take the same seat each time so the teacher can match the student's face to the name on the seating chart. The latter is a survival strategy for art teachers with over 500 students a week. Whatever the plan, the classroom organization and seating arrangement should help teachers see all of the students and have easy access to students who need help and to those who may cause trouble. Troubleshooting the class seating plan should make it easier to teach, and literally reach students.

Mrs. Harried's Seating Plan

Mrs. Harried's special education students were scattered around the large room. Some, who should have been separated, sat next to each other. They argued and wrote on each other's paper. Because of her room organization, as Mrs. Harried walked around the room, she could not see what was happening behind her. She had not maintained a "back to the walls" pathway around the room that would have positioned her to see what the rest of the class was doing when she assisted one student. Mrs. Harried had not developed an effective scanning technique so she could see the students' faces and monitor their work. She missed both the problem behaviors and students whose work deserved praise. By the time she reached students who needed help, it was too late. They had already misused the materials and were upset with their results. Quick intervention might have prevented minor frustrations from escalating into behavior problems.

Mrs. Harried could have saved her time and energy had she seated her small group of students in one section of the room. The students who needed the most attention, behavioral prompts or reminders, might have worked better if they were seated closer to her primary teaching station, a management strategy that probably goes back to the one room schoolhouse. Back then, a student who needed extra monitoring was seated in front of the room next to the teacher's desk. What was then used as a punishment is now recognized as an effective behavior management strategy. The teacher's nearby presence can be a calming influence that reduces behavior problems. Fritz Redl, a pioneer in the education of students with emotional and behavior disorders, called this method "proximity control" (Long & Morse, 1996; Redl & Wineman, 1957). The students who require the most help (or monitoring) are seated next to the teacher for easy access: interventions can be made before the behaviors escalate. A quick intervention, eye contact or "Do you need some help?" or a review of the directions is often all that is necessary.

For Mrs. Harried, a different room arrangement would have prevented many of the problem behaviors. For example, the 11 boys could easily fit around two rectangular tables, pushed together to make one large, square table. Mrs. Harried could see, and avoid, potential learning or behavior problems. She would be able to move around the table and access students who needed help with the vocabulary or art processes. Students who required the most assistance would be seated near her primary teaching area. The ample table size would also give the boys their own workspace and some distance from each other. Mrs. Harried might have been happier with this seating plan.

Sitting Near Peer Helpers

The art class provides an opportunity for students with special needs to connect with and learn from their peers. In inclusive classes, when students with special needs are seated at tables throughout the room, general education students can become models and peer helpers. As peer helpers, they can be a valuable help to the art teacher, but they should be selected carefully. The general education and special education teachers might suggest possible peer helpers and student seating combinations. Teacher selected and trained peer tutors can help in several ways: (1) the peer tutor can function as a role model through his or her own work skills; (2) the peer tutor is already at the table at the time a problem occurs (timing is important here—the peer tutor can review the directions as the questions arise); and (3) the peer tutor can re-demonstrate a skill if and when it is needed. Peer helpers gain the satisfaction of assisting their classmates (and have been instructed not to do the student's artwork).

One shy, middle school age girl with learning disabilities had problems both attending to lesson directions and retaining information. She paid little attention

to her art teacher's directions. While her teacher described the lesson, she looked around the room, talked to other students, and fiddled with the supplies in front of her. When her classmates began to work, she watched what they were doing and asked questions when she needed to know what to do next. At the same time, she was able to connect with their social world. She listened to and joined in the ongoing discussions about clothing, nail polish colors, hairstyles, jewelry, and boy friends that ran parallel to the artwork. Her peer helpers not only reviewed the directions for her, they demonstrated typical middle school social behaviors. They responded to her questions and quickly returned to their talk about the latest fashions, accessories, etc. This shy girl with learning disabilities got help when she needed it and was part of the middle school girl talk.

Sitting Apart

Other students with special needs may not want close physical proximity or interaction with any of their peers. They may, in fact, work more effectively when seated separately. A student who is distracted by the materials, displays, or personal interactions in the art room might work better if seated in a corner of the room. That student could be provided with a *study carrel*, a three-sided partition that sits on a table or desk. It is designed to minimize visual distractions. Another student may prefer to sit near his general education peers, close enough to watch and learn from them, but not at the same table. One middle school boy with learning disabilities chose to sit quietly by himself in a corner at the far end of the art room. He needed physical distance from his classmates to work comfortably. Although he sat away from the group, he still wanted to see what was happening and quietly monitored everything going on in the room.

Another middle school student, this one with emotional problems, also chose to work alone, but his table was located in the middle of the room. Everyone had to walk by him to get materials, to clean up, or to leave the room. He kept up a running commentary with himself about everything going on, but he still needed to work alone in his own space. Students with social or emotional problems may want or require different levels of social interaction with their classmates and their interactions can be affected by many other factors. For these students, a separate work area is not a punishment. Separation can offer a student a comfortable space to calm down and keep their behavior under control. Other seating options may be effective for different reasons. For example, students who use wheelchairs need wide aisles and ample legroom under sinks. Troubleshooting where students will sit in the art room acknowledges both their preferences and their needs.

Troubleshooting the Materials

After choosing the lesson and organizing where students will sit, troubleshooting the materials becomes the next consideration. It is easy to assume that the materials needed for the lesson are available, reliable, and ready to use. But, once again, "assume nothing" is the guiding principle. Tempera paint dries up, paper colors fade and may be unusable, and new supplies differ from those used before. A cartoon by Nick Downes illustrates the need to troubleshoot the materials. It shows a teacher standing before an open art supply cabinet. Her narrative tells the students, "Today we shall paint a rainbow. The colors available to us are black, yellow, and purple."

It is obvious that the teacher in this cartoon did not check her art supplies before the lesson began. She was lucky though, because the passive-looking students at the receiving end of her comments do not look like they will cause any problems. If they had been students with mental retardation, they probably would wait patiently as the teacher looked for other colors, or they would use the colors available. One can imagine a different scenario if those students had emotional and/or behavior problems! They would be unlikely to wait around while she looked for more colors. How would the teacher respond to other students who had just learned about rainbows in science class and expected to paint their rainbows with the "right" colors?

Mrs. Harried's Materials

Mrs. Harried did not troubleshoot her materials. Her stapler could not reach the center of the cylinders and immediately caused problems. Although she had carefully saved a sheet of silver foil for each student, she had not anticipated how the foil might be used. She demonstrated drawing the star, but not cutting it out. Had she done so, she would have anticipated the cutting problem. Scrap paper would be used to practice drawing and cutting out stars. Only after she saw that the boys understood what to do, would she hand out her limited silver paper. Or, taking a step backward, she might first have questioned the students' ability to draw and cut out such a difficult shape. If stars were absolutely essential to the lesson, there are several options. She could avoid problems of tracing or cutting by using a star-shaped stamp and silver water-base ink. The boys could glue on pre-cut silver stars or stickers. Mrs. Harried could also open up the lesson and encourage the boys to design their own shapes.

When a star shape (or any other difficult shape) is essential to the lesson, teachers can use an *assembly-line approach* that emphasizes each student's skills. For example, students who draw best, draw the stars. Students with the best cutting skills cut out the stars. Others, with limited eye-hand coordination, can manage the supplies. They can bring paper to those drawing, star shapes to those cutting, and distribute the completed stars for everyone to use. An assembly line includes everyone and places students in the job where they can succeed. It is an effective and efficient management strategy that also fits PTA requests for multiple table decorations of similar design.

Unreliable Materials

Materials change, and materials that don't respond in expected ways are upsetting, especially for students with a low frustration tolerance. To see how materials have changed, compare a box of old crayons with a new box of crayons. There is more pigment and less wax in the old crayons because it would be more expensive to use the old crayon formulas today. Changes can also be found in free or donated materials. For example, styrofoam food trays (carefully washed) have long been used with water-base printing inks as a quick and easy printing plate. Styrofoam is an inexpensive (read: free) and responsive (read: easy) medium to use. Even children unable to use their hands are able to draw on this responsive medium using a pencil and special headgear. The physical or occupational therapist can help teachers find this and other enabling devices. I have used styrofoam as a printing plate with students at all grade levels, from preschool (our cover photograph) to university students. The multiple prints that can be made using this easy graphic arts material provide students with a sense of control and encourage their exploration of ink color and paper combinations.

What could possibly be wrong with a printing method that is accessible to so many? The problem lies in the coating now used on some styrofoam trays. The coating prevents the water-base printing ink from adhering to the styrofoam plate when ink is rolled onto it with a brayer. Up to this point in the printing lesson, the students have not run into problems. They are eager to ink their plates and see their prints. But, when the ink does not stick to their styrofoam plates and beads up on the surface, students become understandably frustrated and angry. Teachers can prevent this frustration by troubleshooting the materials *before* the lesson. Rolling out ink on one of the *same* styrofoam trays will quickly identify the problem and changes of materials can be made.

Black construction paper is another material that needs some troubleshooting. "Black" comes in different shades, with blue tones, yellow undertones, or variations of brown and red. Some years ago, as a VSA/CT artist-in-residence, I taught an art lesson to a group of middle-school aged students who had both mental retardation and severe physical limitations. The students were to "draw" on black construction paper with liquid bleach, an empowering lesson. (Parents and school administrators gave us permission for this lesson, but we probably could not use liquid bleach in schools today.) We covered the tables with newspaper, the students with smocks, and opened the windows. Many of the students had a weak handgrip and had difficulty holding a paintbrush. So, instead of a paintbrush, we used office envelope moisteners, plastic bottles with foam applicator tips. The bottles securely held the liquid bleach and provided a thick, easy to hold, gripping surface. When the students drew on 12 x 18 in. sheets of black construction paper, the bleach effect began almost immediately. The students gasped and were thrilled as their thick bleached lines changed from black to yellow-brown. The contrast between the black paper and the students' thick lines produced dramatic effects and everyone was impressed. But, when another teacher tried the same lesson, it did not work. The black paper in that classroom stayed black. We later learned that the paper they had used was not the same as ours. We also learned that black construction paper came with many variations and responded in different ways to bleach.

A lesson that uses tissue paper transfers can be undermined when the tissue paper does not bleed as expected. Many lessons incorporate a wet paper and colored tissue paper transfer method. When colored tissue paper is placed on a wet paper surface, the colors usually bleed onto the paper. An underwater, fall leaf, or rainbow effect can be achieved by the subtle, and often unpredictable, running and blending of the tissue paper colors. But, like black construction paper, tissue paper can be unpredictable. Some tissue paper colors do not bleed on wet paper. An important component of the lesson and its outcome can be lost, and the students frustrated, when new tissue paper materials do not perform as expected.

Sometimes the materials themselves cause the problem, but at other times they must be adapted for the students. Some adaptations can be homemade while others need to be ordered through the occupational or physical therapist. Students with a weak handgrip can benefit from an inexpensive adaptation, a pencil or crayon inserted into the foam cylinder part of a hair curler. The foam cylinder makes the pencil or crayon easier to hold and foam curlers come in a variety of sizes that can fit different hands. Dycem™, a spongy blue material available through occupational or physical therapists, is usually placed on the seat

of a wheelchair to keep the student from sliding down in the chair. It can also be placed under art materials to keep them from slipping off the desk or table. Masking tape, an inexpensive material, has long been used to provide stability for a student's paper. (Many more adaptations of tools and materials can be found in Chapter Seven, Students with Physical Disabilities.)

Organizing the Materials

If the first part of troubleshooting materials is to make sure they work, the second part is to have the materials ready and accessible before the class begins. It only takes a few minutes or seconds for students with behavior problems to act out. When the teacher's attention is focused on the missing materials or non-functioning equipment, they know the attention is not on them. It should also be noted that students with vision impairments depend on a predictable placement of materials. In some ways, the teacher who travels with art-on-a-cart has an advantage — the materials must be ready to use and accessible. Materials that are not organized or are in different locations each time the students look for them are not only difficult to find, but also increase the students' dependence on the teacher. When materials are well organized and logically located, students with special needs and general education students can find and use them independently and can help clean up at the end of the period.

Art teachers have developed many inexpensive storage systems. Bins or gallon milk jugs with the tops cut off have long been used to hold art supplies (crayons, pencils, scissors, etc.). The bins can be clearly labeled with words or pictures, visual prompts that remind students where to find and return the materials. The location of the supplies and materials can also provide visual/environmental prompts that remind students where to clean equipment. For example, paintbrush containers located next to the sink remind students to clean the brushes. One Connecticut art teacher uses a trade-in system for supplies. For example, when her students return their pencils, they are ready for scissors; when scissors are put away, students are ready to use glue. Her system makes clean up quick and easy and limits the number of materials, a distraction to some, on the tables. Another teacher in Washington, DC uses a baggy system. He gives each student a numbered baggy containing all the supplies that will be used during the lesson. At the end of the period, he stands at the door and collects and checks the baggies as the class leaves. Whatever system works best for the teacher and the setting, a consistent and predictable system is both reassuring and saves time.

Troubleshooting the Directions

Many of us have played "Telephone," a game where the first person whispers a statement to the second person who whispers it to a third, and so on. Each person repeats what is remembered (and may embellish what they have heard) until at the end, the original statement may be unrecognizable. The "Telephone" game demonstrates how a series of directions can become distorted. In the classroom, the directions students try to remember and follow, like the telephone game, may bear little resemblance to those given by the teacher. Students with mental retardation have problems when given three or more directions to follow. Most will remember only the last direction, and if distracted, may not even remember that one. To improve recall and direction following skills, special education teachers may use a game that begins with only one direction to follow and gradually increases the number of directions as the student is able to follow them.

A typical art lesson may present all of the directions at once. Students gather around the teacher in the front of the room for a demonstration of the lesson procedures and media. Afterwards, in theory, they should be ready to work independently. The art teacher is then available to consult, question, demonstrate, or assist students who need extra help. But when the class is large, students standing in the back often cannot see what the teacher is doing. Some may be distracted by the behaviors of other students and miss the directions. When special needs students miss all or part of the instructions, it is easy to predict that they will need help. Moreover, it is likely that they will have problems with a complex set of directions even if they were paying attention.

Being aware of the students' sight lines (what they can see of the demonstration) and involving students in parts or all of the demonstration while the steps are explained (even using a hand over hand teaching approach) are some ways to increase attention and understanding. Reviewing the directions before students begin to work on their own can also reduce problems caused by missed or misunderstood directions. However, asking the class if they understand the directions will *not* always produce accurate responses. Students with mental retardation will say "Yes" to please you even if they don't know what to do. Other students may not want their peers to see that they don't understand the directions and may say nothing. And, students who can't remember what they are supposed to do probably can't frame questions to ask for help. However, the teacher's questions about the skills to be used and what comes next can guide their responses and provide necessary review. "Who can tell me what this method/ technique/ tool/ etc. is called?" or "Show me how this brayer is used?" or "Who can show us how

to roll out a clay slab?" These questions give positive reinforcement to students who know the answers or can demonstrate the skill. They can also reduce misunderstandings and identify students who are not ready to work independently. This extra review also helps general education students who may need more time to process directions and saves teacher time later. It is a win-win process.

Another review strategy can be used when students return to their tables. Tents of *clearly written* directions (not as easy as it seems) can be duplicated and placed on the tables. The tents are made by folding a sheet of oaktag in half and gluing copies of the lesson directions onto each side. The duplicated directions add another layer of review to help students remember and sequence what comes next.

Mrs. Harried's Directions

Mrs. Harried demonstrated what happens when too many directions are presented at once. She should *not* have assumed that the students would be able to follow all her directions. A task analysis of her windsock lesson would divide the lesson sequence into several parts, beginning with step-by-step directions for making the cylinder. A step-by-step break down of the directions for making stars (or other designs) would follow. Then a step by step sequence for cutting and gluing the windsock parts together would be the last parts of her windsock task analysis. When planning her task analysis, Mrs. Harried might think of the student who was *least* capable of understanding and following directions. Planning step-by-step directions to reach that student can ensure that the other students will understand them, too.

Troubleshooting the Directions with a Task Analysis

A *task analysis* is one of the best direction teaching methods. An analysis of the task breaks a complex task or sequence of skills into simple steps – the less capable the student, the greater the number of steps. It is a flexible teaching approach that adapts to a variety of student needs. Task analysis has long been used with students who have mental retardation. It is an effective teaching method to use when teaching self-help skills or using an art material like white glue. Some students, using a glue bottle for example, may be able to open the top of the bottle while others may need assistance. Some cannot turn the bottle upside down while others can turn the bottle but cannot squeeze out the glue. When difficulty with this part of the task is identified, the task can be modified (See Chapter Five, Students with Mental Retardation). A student unable to control the squeeze can instead pour glue into a lid and use his finger or a short brush to apply the glue. "Tie your shoes," a self-help example, can actually involve thirty or forty steps in what initially seems to be one easy direction. The break down of a self-help task into its component parts may appear to be quite time consuming, but once a task analysis has been written, it can easily be adapted for other students learning the same skill. Task analysis is also the means of determining which parts of the task the student can and cannot do and which parts may require the assistance of a paraprofessional or peer helper.

"Task analysis is a tool that helps to teach the goals and objectives specified in the IEP" (Schultz & Carpenter, p. 164). Task analysis is not difficult to learn and most people have probably used a form of task analysis. If you have given directions from one part of town to another, you have developed a point to point task analysis of the streets and landmarks for that traveler. If you sequentially organize your grocery list so the first items on your list correspond to those grocery items located near the entrance of the supermarket and the last items are near the checkout counter, you have written another form of a task analysis. Like other good approaches to teaching, task analysis is an effective method because it works. It is easy to understand and does not require extensive training to use. "Some people think that task analysis is something that is unreasonably difficult and complex, when in fact, it is a rather straightforward and simple process, particularly for teachers who know their subjects well" (Arends, p. 77).

It is unlikely that art teachers will teach students to tie shoes, but the same approach can be applied to teaching art skills (Morreau and Anderson, 1986). When students are taught to roll out a clay slab or to ink printing plates, a series of directions are presented to them. When the directions are analyzed and the complex parts are broken down into smaller steps, it is easier for students to understand and follow them. It is also easy to identify the step that is causing problems. Once the teacher has developed a task analysis, it can be duplicated and placed on the student's table. Time, initially used to develop the task analysis, is saved during the lesson because there are fewer questions about what comes next.

When writing a new task analysis of directions, it is very helpful to recruit a friend or family member to follow the steps *exactly* as they are written. First attempts at writing a task analysis often leave out an important step. For example, your "volunteer" may try to walk through a closed door because the direction to "open the door" may be missing. Much like directions for a toy that needs assembly, that small, missing piece or incomplete direction can cause many expletive deleted reactions in people, even without a history of learning difficulties.

Troubleshooting the Vocabulary

Words used everyday may not be understood when used in a different context. In one class, students with mental retardation did not understand the directions for crayon rubbings although none of the vocabulary words in the lesson were new to them and the directions were not complicated. The students had been instructed to find a surface with texture, place their sheet of paper on top of it, and to rub over the paper with the "side of the crayon." A teacher troubleshooting this vocabulary would pick out the word "texture" as the one most likely to cause problems. But in fact, the students were familiar with the word "texture" and the concept it conveyed. They had played a game to find and identify textured surfaces all around the classroom, including the bottoms of their sneakers. The students were confused because they did not know how to find the "side" of the crayon. Their crayons were round.

Certain vocabulary words may sabotage a lesson. But, some potentially difficult words are easier to identify than others. For example, "cylinder" is a word that should raise red flags. How many students with special needs use this word? Had Mrs. Harried realized that word might be unfamiliar, she might have shown the boys what a cylinder looks like at the beginning of the lesson. The old adage, "A picture is worth a thousand words" should be remembered, and the actual item is even better. Completed samples shown to the class before the lesson begins offer visual connections to the vocabulary and the verbal directions. The samples are then put aside so students are not tempted to copy them.

It is difficult to anticipate the words that may cause problems, but each time one is encountered, it takes the teacher closer to what may be in the minds and experiences of the students. It also helps to review any questionable words with the students, not ahead of the lesson, but at the time that they are used in the lesson. This little step avoids information overload at the beginning of the lesson (remember the "Telephone" game?) and helps concrete learners connect the word with the concept or process.

Troubleshooting Class Time

Beginning the Art Class

Time at the beginning of the art class is important because it sets the tone for what comes next. When a class begins, there are usually so many things going on—class attendance, school notices, public address announcements, students who arrive at different times, social interactions ... and the lesson has not even begun. Time on task, when a student is actually engaged in the activity, is the important consideration (Arends, 1997). It would seem only natural to rush through all of the housekeeping tasks to get to the good stuff. Yet, these minutes can be viewed differently when seen as a decompression time for students. The administrative tasks, attendance, etc., becomes the "theme music" that signals the beginning of class. Just as theme music from a favorite television show lets you know that the show is about to begin, the music also gives some time to get a snack or make a quick visit to the bathroom. Students can use the class' theme music time as time to readjust from a previous subject, one with closed-ended demands, to one that is open-ended and more self-directed. Time is not lost. It is a transition time to a different way of thinking and a new set of challenges.

Ending the Art Class

Students work at different rates and some may complete their assignments before the period is over. Due to this disparity, even a thoughtful seating arrangement and careful preparation of the lesson cannot prevent problems due to unstructured time at the end of the class. A lesson that has gone well may suddenly fall apart if two or more students get into a fight and students with emotional or behavioral problems need only a few seconds to cause problems. Troubleshooting the time at the end of the period is a behavior management strategy used to avoid those behavior problems.

Some students need very little time to complete an art lesson while others require more time than we would ever have, so I prepared for those who worked quickly. When planning an art lesson, I also planned "filler" activities to have in reserve at the end of the period. The best filler activity turned out to be a very simple one that used graph paper. Students filled in the graph paper squares with colored pencils or marker pens. It was quite amazing to see the many different styles that emerged. Some students neatly drew around the outline of each square before filling in any remaining space. Others rapidly colored in a square without concern for the borders. Some kept to the graph paper's orderly grid while others just used a square or two as a departure point. The designs were remarkably different. Graph paper can also be adapted for the student's fine motor skill level because the size of the squares varies from ⅛ to 1 in. squares. Students with visual impairments can use graph paper with bold contrast lines or raised lines that indicate the squares. This paper and other supplies can be obtained from the school district's teacher for the blind. One middle school boy with learning disabilities was overwhelmed by all the blank squares on the page. His graph paper was reduced to one quarter of the page. For him, this modification must be similar to changing an assignment from a 25-page essay to a one-page description of a field trip.

Other fillers can be made from art visuals mounted on cardboard and cut into puzzle pieces. These and other art games, for example art card games or teacher made art domino pieces can be stored in separate envelopes and chosen by students who have completed their assignment. The old favorite and dependable marker pen design that decorates the student's folder is another filler activity. Both the graph paper and folder cover designs can begin during class time but due to the amount of time required to complete them, they can become filler activities. Students can choose the artwork they want to finish and independently structure their remaining class time.

Time at the end of the period can also be used to frame and hang student artwork. Framing a student's artwork is positive reinforcement. Framing not only enhances the student's artwork, it demonstrates that the work is valued. One middle school group of students with special needs were fascinated by the visible changes when different colors of construction paper were placed behind their artwork. The color changes accented different parts of their designs. In another middle school setting, an end of class period activity for a boy with behavior difficulties changed his non-participatory behavior. His teacher trusted him to create a bulletin board using the artwork of his classmates. After this experience, he regularly participated during the art period.

Summary

Mrs. Harried had taught her windsock lesson each year to general education students. She had saved enough silver paper for the special education class and all the materials were on her desk. She thought she was ready for the class. Had she known how her windsock lesson would turn out, she might have planned differently. The troubleshooting process might have helped her think about and identify problems with her seating arrangements, the lesson's vocabulary and directions, and how she allocated her class time. Mrs. Harried was exhausted after her lesson, but the troubleshooting process and a task analysis of the windsock lesson might have prevented her frustration and avoided so much walking around the room. Troubleshooting initially takes more time, but it is time and energy well used.

When the parts of the troubleshooting process are put together, they become a structure to help teachers recognize and minimize classroom problems. The troubleshooting process offers a predictable and reassuring class structure that teaches students how lesson presentations are organized, directions are reviewed, where art materials are located, and how to productively use class time. It also encourages student independence. Questions about what to do next are reduced, and as students with special needs learn to be more independent, they rely less on the art teacher. The troubleshooting process also makes it easier for peer helpers and paraprofessionals to help students with special needs. And, most important, it helps students with special needs achieve success in the art class.

The emphasis on open-ended art lessons encourages students with special needs to use their own ideas and make their own creative decisions. The troubleshooting process provides opportunities and time to focus attention on the students' positive efforts. Students with special needs do bring their histories of learning and/or behavior problems to the art room, but they can thrive when given opportunities to succeed.

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