

A BLESSING IN DISGUISE

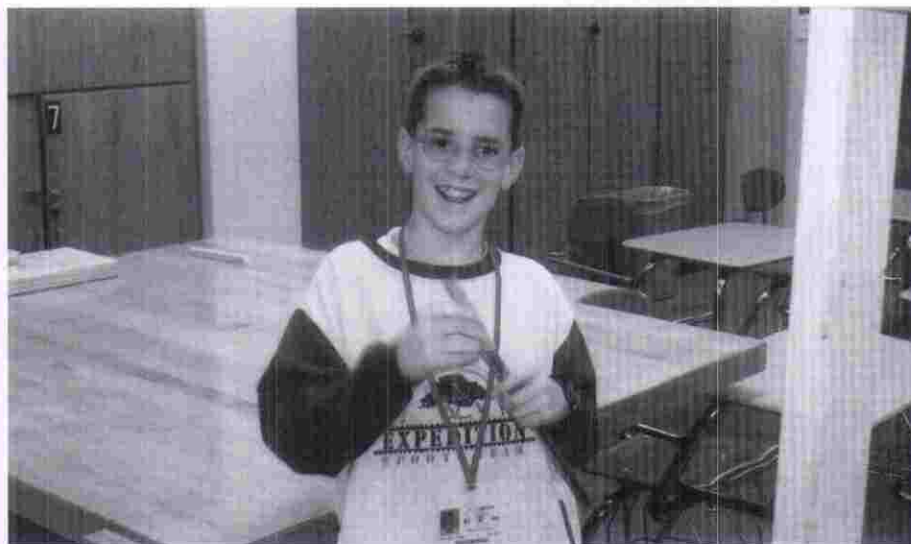
Ronald D. Yuill, DTE

When I was told by our administration that there were not enough aides to help the special education students in our classes, I suggested placing all the students requiring special assistance into one class. My idea was to teach all of the special education children at the same time with the assistance of an aide or two. However, the administration left the majority of the special education students in my regular seventh grade classes, and assigned me an additional class that had lower-level-ability students. I did not consider this a workable solution.

In this special class I had sixth and seventh grade students. The sixth grade students were placed in this class because they were not able to function in a keyboarding class. The keyboarding class took the place of our sixth grade technology education course, which was removed from our curriculum a couple of years ago. I was very fortunate to have four fantastic, helpful, and caring aides. I could not have completed the class without them.

We are a very large middle school of about 1100 sixth, seventh, and eighth grade students. I learned I was to teach the special education class on Friday before school started on Monday and wasn't sure I could be prepared. I was very unhappy that there was not more communication!

I was getting more and more positive reinforcement about the students and their abilities, attitudes, and appreciation of doing a hands-on operation.



Kevin sands the tubes.

Getting Ideas from Other Teachers

I talked to one of our school's special education teachers and learned that our special education students are counted in the ISTEP tests. Since the tests are geared more toward mainstream students, the scores posted by the special education students had a negative effect on the school's overall scoring. She said any help I could provide would be greatly appreciated. The first thing I tried with the class

was measuring. The special education teacher also provided me some other information on math items that I could cover. I felt the students were grasping the concepts of measuring until I gave them some blocks to measure. This was a problem because the blocks were not square and the sizes were not the same. *A lesson to teachers*—triple check your work before you give it to your students. I really felt bad about my mistake.

Team Teaching

The technology and science departments often do some activities together, so I told two science teachers about my concerns. One informed me that centimeters were also covered by the ISTEP test—and we were having trouble with inches! Interestingly, I found that centimeters were easier for the students to grasp, and they enjoyed the activity once they were successful at measuring.

Biotechnology Education

A student came into my class one day and said, "I know what those green pegs are." I asked, "What are they?" His reply was, "They are fertilizer for trees," and he was correct. *That was a teachable moment!* I took the class outside and we hammered the tree fertilizer pegs in the ground around a tree. It was purchased with money donated to our department in memory of a teacher who was killed in an automobile accident and who loved to work with wood. The seventh grade students knew the teacher and were so happy to help. We returned to the class and discussed the teacher (which was difficult for me) and working with items in the yard. I was amazed at the excitement the students exhibited in both areas.

Interdisciplinary Materials

After the measuring activities, I tried an activity designed to work toward the language arts standards. I took a few pictures of some tools and asked the students to fill in the blanks on a worksheet describing the tools. This was time-consuming, but the students liked the activity, and it helped them with their writing skills.

Let's Make Something!

We had some square, maple, table legs that we felt could make some excellent napkin rings. The students and I drilled holes in the end of the leg with a drill press. The students measured the wood and then cut it into the proper lengths using the miter box. The wood was sanded by hand and then dipped in lacquer for a glossy finish. The students were very proud of the napkin holders. This activity reinforced their measuring skills and worked on their sanding techniques. It also gave us the opportunity to discuss purchasing items while looking for imperfections in the items being purchased. A student mentioned noticing prices and trying to estimate the cost of what was being purchased. We also discussed purchasing items on sale and reading about the sales in newspapers. Product quality was also a topic of importance. The students had to do their best to ensure a good product. It was a fantastic feeling hearing the students' words about the napkin rings before and after taking them home. I could feel my perspective shifting.

Reinforce the Concepts and Teachers Sharing Ideas

After we finished making the napkin rings, we began looking for something to reinforce the measuring concepts. I remembered a wooden trivet that was given to me by another teacher and asked the students to measure boards to length and then mark them where they needed to be drilled. Students cut their dowel rods to length using the miter box saw. Then I helped each student drill the wood using the drill press.

Problem Solving

After sanding, we assembled the parts and tried to do some problem solving. Do we drill the materials, nail them, or use a staple gun with brads? After trying the different techniques and talking about them with the students, it was determined that I would use our electric stapler with brads to hold the parts together. I was getting more and more positive reinforcement about the students and their abilities, attitudes, and appreciation of doing a hands-on operation.



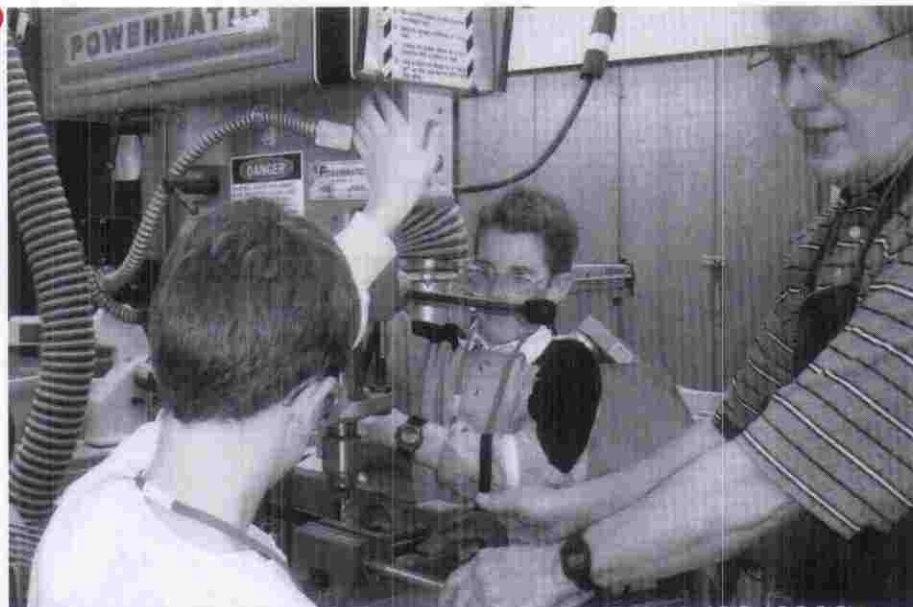
Ashley, the student with the winning design, and Carmel, standing by the sound- and weight-testing device.

Designing

I asked the students if they thought it would be a good idea to use measuring in making a mass-production item. We discussed some possible items to produce, and wind chimes received the most positive response. A lot of time was used in talking about the design and tone, as well as studying items already produced. I was very proud of the ideas shared by the students and the excitement generated by the activity.

When I went to purchase the pipe at a local store, I talked to a man who was purchasing pipe to be used to make wind chimes at a family reunion. He asked me what we were going to do with the pipe, and I said I planned to mass-produce wind chimes in a special education class and hoped to make enough money for a class pizza party. As we walked through the check-out line, he told me to go on through, and he paid for our test pipes. I was very surprised and pleased; there are still some good people out there!

The students placed many ideas on the blackboard, brought in samples, modified ideas, and voted on the ones they felt were the best. We made some samples of each and discussed the positive and negative characteristics of each. One student said that all the ideas are great, but let's make it simple. We need one with as few parts as possible and one that will allow us not to have to worry about the weight of the pipes causing it to tip sideways. A prototype was made, and they all liked it. Each student then made a sample to show others to sell. Again, I was amazed at the excitement, cooperation, and the ability of the students to stay on task. Even I was having fun!



Mr. Yuill, Kevin, and Ben, drilling holes in the pipes. Each student has specific responsibilities to ensure that the holes are drilled correctly.

The next day most of the students wanted to tell others about their products. We did a sampling of the students to see how many of the chimes we needed to produce, and 30 was our estimate. We calculated a cost of about \$2.50 per chime, and doubled the amount for a class pizza party, with the rest of the money to be

used for the technology education department materials.

We started the process of cutting the pipes, which didn't work very well and was quite time-consuming. We discussed buying the pipe cut to length and the wood cut to shape. I used a power saw to cut the pipe and a band



Ashley has just finished drilling the holes for the string to hold the pipe.



Our finished products: napkin rings, a hot-pan holder, and the wind chimes.

saw to cut the wood and used a disc sander to sand the wooden pieces. This cut down the time to produce the pieces that were then ready for filing and sanding.

One of the students had Autism/CD. This means he reacted inappropriately to being touched. He would throw his arms and hands in the air and would often yell. I touched his hand to hold the drill straight when drilling the holes for the chimes, and at first he was upset, but later he realized I meant no harm and followed my suggestions. When he completed the chimes he yelled and jumped up in the air and wanted to give me a high five. A couple of the aides came over thinking we had problems. This student's sense of accomplishment gave me tremendous satisfaction. I found myself enjoying the class more and more.

This part of the program was to demonstrate to the students how to do repetitive tasks, get along with others, examine the finished product to see if it was of good quality, and hopefully boost the students' future abilities to get jobs and keep them.

I taught special education many years ago, and was successful. However, this group of students made my days enjoyable, and I found I worked very hard for the class. These students turned out to be a blessing in disguise. They were what teaching is about, "Helping youngsters grow up and be successful in life."

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The designer and her chimes!

Many content-area secondary teachers are not prepared to work with students with learning disabilities. Their training was in their content specialization, be it mathematics, French, physics, or English literature. Many high school educators have not been prepared to provide the needed support for students with specific learning deficits. Therefore, an important collaborative role of the learning disabilities teacher in the high school is to help content-area teachers develop a sensitivity to the needs of students with learning disabilities and to provide them with alternatives for making necessary adjustments in their teaching.

Source: From *Learning Disabilities: Theories, Diagnosis, and Teaching Strategies*, by Lerner, J., 2003, Boston: Houghton Mifflin Co.

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