

Touched a life lately?

Would you like to contribute to the future of a child or a group of children as well as your own future?

Are you comfortably competent in some technical area? Could you explain that area to an intelligent child? This is easier than it sounds, because most 10 year old children can program the VCR as well as or better than their parents. If you don't think so, all you have to do is ask one of them.

How do I know? Let's start at the beginning.

At the 1990 Kennehoochee Hamfest, I donated some magazines to the Wacky Bear Institute -- a group of aspiring hams in the 5th grade at Addison Elementary School in Marietta, GA. The name came from the teacher's call sign: Carolyn Caldwell is N4WBI. She was newly licensed and was sharing her excitement about and enjoyment of amateur (ham) radio with her class of gifted children.

When she learned that I was a programmer (among other things) she asked if I could teach a unit on programming. In discussion with my manager, I learned that he had taught an economics class at a high school as a community involvement project and that he would he agree to invest one morning of my time at the school each week.

Carolyn and I had a lot of discussions about the what and how of programming, and we agreed that the unit would focus on logic and problem solving. The computer would just be one of the tools that was used.

Then came the logistics of doing it... This group of children goes to Target (Cobb County's designation for the gifted program) one day a week. The County's limit on class sizes caused the group to be split with half meeting on one day (Monday) and the other half meeting the next day (Tuesday). If I can only be there one morning a week, how does the teacher inject some outside enrichment the other morning?

This is where other people who can explain technical subjects come in. Members of the Metropolitan Atlanta Telephone Pioneers Amateur Radio Club (MATPARC) and the Kennehoochee Amateur Radio Club (KARC) came in the other morning to teach amateur radio code and theory.

What can you teach a 10 year old about computers?
Consider: 'What is a computer?' 'How does it all connect together?'
The connection question is a good example of giving the children an opportunity to be a resource for others. We have a chalkboard session where they brainstorm about the computer 'pieces' they know or have heard about. These pieces then go into a general block diagram. They then go to the computer lab and draw and label a diagram of the connections of the various computers and their peripherals. (Don't be too impressed, it's not a specially constructed or equipped room. It's just a place that all the computers will fit. We have used a storeroom as the lab.) At the time of this writing, the lab is a collection of County

purchased Apple II's and grocery receipt purchased IBM's, so there is variety in how the units are connected.

What's the purpose of the diagrams? Well, the students go back to class to discuss their diagrams. While they are being given a writing assignment to be done on the computer, I disappear for a few minutes. When they go back to the lab, none of the computers work correctly; some don't do anything. Each student has to find the problem in the workstation, fix it, and show me what was done. Then the student puts the problem back in and exchanges workstations with another student. Each student who goes through this process becomes a resource for the regular classroom teacher. Any time the regular class is in the lab there is at least one person who can do common problem analysis and trouble shooting.

The confidence the students gain in doing these things carries over into other areas as well. Since there are more computers than printers in the lab, there will be some students who complete an assignment but do not have time to print it. The teacher probably won't have time to do this for them, so how do these students get a printout of their work? It's not unusual to see one or two of the Target students in the lab printing out other students' work during regular classroom time. The teacher has one or more knowledgeable, reliable assistants who can easily catch up on work missed in the classroom.

What kind of logic and problem solving have they done? The all-time favorite is the voice-activated robot that only understands a limited number of commands (me). They steer the robot around the school grounds with commands of 'forward', 'backward', 'left', 'right', and 'stop'. If the robot gets a

command it does not understand, it goes around in a little circle until it hears 'stop'. (The robot does have built-in 'safety' features -- it won't walk into a wall or through a puddle.) Programming usually starts with putting your name on the screen in big letters. The students use graph paper to lay out their names, then they write a BASIC program to print those lines. Some of them rapidly advance to creating pictures with letters and symbols. Other things have included a Fahrenheit to Celsius conversion program and computing how far and fast I walk when doing laps on the track at the gym. The walking laps problem was done three ways; first on the chalkboard with manual calculations, then using a calculator, then writing a program in BASIC to do the calculations.

What about the parents? Do they gain anything from this?

We held several evening sessions to familiarize interested parents with what we were doing and to qualify them as lab assistants for the regular classroom teachers. There is now a volunteer parent available in the lab almost full time.

The Target students are not the only ones to benefit from this program. The availability of volunteer lab assistants and knowledgeable students in the classrooms has created its own problems. Where we once could use the computer lab whenever we wanted it, there is now a weekly sign-up sheet for lab time. The lab is in use most of the day. This is a very positive problem!

Amateur radio has been incorporated in some of the Target class activities. The students have met other students and learned of people in other places via packet radio. The packet communications project lead to Carolyn

Caldwell being selected as one of 16 regional winners in a competition sponsored by Technology and Learning magazine. The publicity from the project and the award culminated in an invitation from NASA for the students at Addison Elementary to participate in SAREX-50 (Shuttle Amateur Radio EXperiment - mission 50) in July of 1992. A crowd of several hundred students and parents watched as three students at Addison Elementary spoke with an astronaut aboard the Space Shuttle. The event had been publicized to the entire school, and there was a telephone hotline that gave current status (since we know how often the Shuttle launches are delayed). This was done with the support of MATPARC, KARC, the Big Shanty Repeater Group (BSRG), the Atlanta Ladies Amateur Radio Club (ALARC) and others. There was media coverage by the local newspaper and 4 TV stations. My involvement? I just made pictures and enjoyed the fruits of other people's labor.

Does this work? Can these kids learn all this technical mumbo-jumbo? You better believe it! More than 20 of them have passed the exam for the Novice or higher amateur license in three years.

I don't have a child at this school so why do I do this?

1. I'm selfish. In 20 years these children won't be children anymore. They will be the doctors, lawyers, legislators, (fill in your choices _____) that I deal with. At that point, I want them to remember that some of the old people they have to 'put up with' thought that they were worth taking time with when they were young. Maybe they'll take some time with me. Most of them are surprised when I tell them this because they have never thought of an adult being honest with them about something such as being selfish.

2. I enjoy seeing 'AHA!' happen. 'AHA!' is that magic moment when a child discovers a new way of doing something, or discovers that he or she knows how to use some skill or information that's been acquired. That moment of understanding is priceless. Although it doesn't happen every day and it sometimes takes a lot of work from both student and teacher, it's always worth the effort.

3. Some of these children need an adult to say "I think you're terrific just because you're you" instead of "You're special because you're smart" -- which usually means that someone has additional expectations of them.

By the way, "I think you're terrific" applies to any child: every school has some children who never hear positive things about themselves.

If you've been hooked by my experience or if you're just curious about what opportunities might be available in your area, ask a teacher. If you have a child in school, you should check first with your child's teacher or one of the resource teachers at the school, then with the Parent-Teacher organization. If you're a ham, your local club probably has several teachers in it and these teachers are likely to be willing to expose their students to something 'technical'. If you're active in a church of any type you'll find some teachers there. Call your local school board and ask if they have a volunteer program to which you could contribute your skills.

There's a lot of work in adapting your technical knowledge or skills to the experience (not intelligence: most kids are as smart as we let them be) of a child.

Remember that you have to work your specialty into the existing curriculum: reading, writing and arithmetic are still a required part of a basic education. You may sometimes be the available adult for a crying child. (I didn't expect this one, but I did have the background of comforting my own children - and I've made some new friends.)

Is it worth the effort?

'To teach is to touch a life' - from a cross-stitch picture in a classroom

When a teenager (whom you taught in fifth grade) runs up, hugs you and tells you how glad they are to see you, you know you've touched that life. Most of us don't often have that opportunity.