

The Next Gen Hams: It's Elementary

*How do we get techno-sophisticated youth into Amateur Radio?
An Illinois club has forged a path toward a solution.*

Rosalie White, K1STO

Members of the Fox River Radio League (FRRL) in Batavia, Illinois wrangled for years, as all good clubs do, with how to get kids into ham radio. The club assists a member who teaches electronics in the district's high school and brings ham radio to the classroom from time to time. Club members work with scouts, promote ARRL's Kids Day activity and operate a Field Day that highly encourages youth to visit. Members established a group for young people, The Next Gen Hams. TNGH has its own net that meets on the 2 meter club repeater (to read more about TNGH, visit the club Web site at www.frirl.org/).

Last autumn, the club asked Charlie Sufana, AJ9N, one of the most experienced ARISS (Amateur Radio on the International Space Station) school mentors to give a presentation at a club meeting on what ARISS volunteers do. FRRL also invited Dr Matt Rich, principal of the Boulder Hill Elementary School (BHES) in Montgomery, Illinois. Charlie's talk included a DVD showing of Fairview (Illinois) Elementary School's ARISS contact. FRRL Secretary John Spasojevich, K9COE, remembers that "...something hit me during the presentation; an ARISS school QSO was something I knew

I had to do. I felt driven to do this for BHES."

John and FRRL President Greg Braun, N9CHA, decided to submit an ARISS school application. They wanted more for BHES than the multiple science lessons and motivational ham experiences that most ARISS school students receive.

The Door's Ajar

John's son attended BHES, so John knew he had a foot in the door with school officials. He contacted Dr Rich who invited John to a meeting. John asked Greg, N9CHA, a ham satellite expert, for support. Like the camel that got its nose under the tent, John and Greg took advantage of a small opening at BHES. Before their meeting, they charted a broad program of projects and memorable hands-on experiences for students.

Dr Rich was impressed with the meeting. He explained what he'd heard to assistant principal Julie Shore. She spoke with the fourth grade teachers because their science curriculum covered the solar system, and social studies was focused on learning about the world — Amateur Radio and ARISS communications were a natural! John and Greg met with those teachers, and the teachers requested that an after-school club be established.

The teachers and hams scheduled their very first radio club meeting for October 2005. They chose the name Boulder Hill Elementary School Radio Club (BHESRC). Students met every two weeks from 3:30-4:30 for Amateur Radio-related hands-on activities. Ninety percent of the kids were fourth graders; the rest were in fifth grade. John and Greg took care of day-to-day efforts required to sponsor the school club and got support from other FRRL members.

One of the purposes of the BHESRC is exploring communication and wireless technology and discovering how these affect our lives. Students started making contacts with handheld radios in a classroom on one side of the building to fellow students on the other side. A second goal of the club was for students to talk with hams all over the world, increasing the kids' awareness that people everywhere are pretty much the same. This reflects the words of ARRL President Joel Harrison, W5ZN, who has said that through communication, you can become a friend with someone you've never met (and probably will never meet) face to face.

John mused about what the school staff thought at first: "As we got the program going, I often wondered if we were a pain in the teachers' neck! We attracted 22 kids at



The fascination doesn't end once you get kids to talk over the microphone.



The Boulder Hill Bobcats, with help from sponsors (left to right) Greg Braun, N9CHA; John Spasojevich, K9COE, and Principal Matt Rich, made six AO-51 School Club Roundup contacts with an Arrow antenna and a handheld radio.

first, and it grew quickly to 30!”

Tiffany Vanatta, a fourth grade teacher said, “The kids really enjoyed the radio contacts. The day went along well since it was the kickoff for our school *Read Across the World* contest, and kids were communicating via ham radio with people across the world.”

Spin, Spin, Spin

To help sustain momentum among teachers, John sent a note to each one thanking them for making the day of radio contacts go smoothly. He reminded teachers that the contacts allowed students to talk with people in five states, as well as hams in Denmark, Austria and Croatia. He continued his spin by bragging about student accomplishments: “Six kids spoke to six different ham radio operators during a nine minute radio pass through an Amateur Radio satellite orbiting overhead! We have a good plan for next week, which will lead into a project where students build things.”

Think Creatively, Plan Broadly

John obtained the ARRL Big Project curriculum (see www.arrl.org/FandES/tbp/). He found some of it a bit heady for fourth and fifth graders, but said, “We reviewed the lessons, chose some to adapt, and taught some of the easier lessons along with our own.”

John and Greg planned for students to write in journals about their ham radio experiences, practicing persuasive writing on why the world needs space exploration and why communication is important. A BHES goal to improve non-fiction reading coincided nicely with students reading books and Web articles on space exploration, radio, radio waves and communication. Town libraries supported the students who prepared reports and bulletin board displays to show and share what they learned. For math, students designed, administered and tallied scientific surveys.

In January 2005, John and Greg procured a call sign for the school club, W9BHB, short for Boulder Hill Bobcats, reflecting the school’s mascot. Students made Internet Radio Linking Project contacts from Alaska to England, along with HF stateside contacts. Kids studied the concept of UTC, practiced the phonetic alphabet and learned basic schematic symbols and diagrams. In February, the youngsters made HF contacts during School Club Roundup and used a handheld radio and Arrow antenna for six OSCAR 51 contacts.

The Spin Continued

John felt it would be useful to get the attention of school district officials. He sent an invitation to David Behlow, Oswego District 308 school superintendent, to attend the March school club meeting. John and Greg planned for the kids to build crystal



A youth beams with great pride as he discovers that his team’s crystal radio receiver works great!

radios. John recalls, “Behlow really got into the building process with the kids — he remembered building a crystal set as a kid. He asked us hams to meet with several others in the administration office to hear about our ARISS plans.”

But that wasn’t the end of the crystal radios. John arranged with the faculty to show off the students’ crystal radios in the display cases in the school’s main entrance. John’s group thought of more good strategy: Students could make signs and prepare the display just in time for parents to see as they came to school for parent/teacher conferences.

Presently, the club station has a Kenwood TS-440 for 160-10 meters, an Alinco DR-620 for 2 meters and 440 MHz, several handheld radios, a Hustler 5-BTV on a tripod, a homebrew dual band J-pole and a 2 meter/440 MHz beam. John and Greg set up a permanent station on a cart and they’ve explored the installation of an antenna on the school roof.

The FRRL planned a campaign to prevent students’ interest from flagging in the summer, and for this, John lauds FRRL. The site selected for Field Day was near the school and FRRL members brought students to be a part of it. John and Greg announced a summer license class, and one teacher and several students were interested. John’s first-rate philosophy is: “If we hook one of the teachers, the status and position of the school club will be excellent.”

For fall 2006, Jeff Schafermeyer became BHES’s new principal. He became gung-ho about BHESRC and ARISS, creating related activities of his own for all students, not just the ham club. He was adamant that the club continue as long as kids were interested. For good instructor-to-student ratio, club size was set at 30 students; 50 signed up, mostly fifth grade girls. For continuity, John and Greg suggested a ham radio plan to the district’s junior high schools. Lastly, the

BHESRC ARISS QSO took place in March 2007, but that’s another story.

Keep Your Ears Open for Opportunities, or Make Your Own

These Illinois hams are doing many of the right things. You say your club members have no ties to any schools? How about designing a meeting that targets non-hams, possibly a talk by a member about area technology and industry and focusing on the need to recruit youth into science careers. Invite teachers, Girl and Boy Scout leaders and other youth directors. Make a no-pressure overture to follow up individually and meet with these folks. If your club already works with a middle school, tackle the elementary or high school. Kids need continuity of your support through the grade levels if you want them to stay active in ham radio.

Once you get a positive response to meet with a youth leader or teacher, don’t promise a huge program at the outset or promise the world. We’ve all been told it’s all in how you say it. Plan a professional approach and act in that manner. Be courteous; find out what needs the leaders have and what their ideas are. Ensure you can complete what you promise.

Determine the Basics, Be a Doctor of Spin and Add Innovation

Teachers will remember what you bring to the needs of the particular classroom and school day, and youth leaders will recall what interested the kids. Teachers will especially remember if you make the kids feel excited about items in the curriculum that you can relate to science and technology. You must be innovative. Use John and Greg’s design as a basis for your model and then plug in your club’s experts and their offerings of special abilities, experiences and knowledge. Present this to the teachers and leaders.

Your club may get on a roll at the beginning, but as FRRL did, your members must keep the momentum going. Think about what makes the teachers look good and what makes the school look good to the community, but also, what really is good! Remember, teachers have a lot of material to fit into each day, and they may not get bitten by the Amateur Radio bug the same way we hams did.

All photos courtesy of the Boulder Hill Elementary School Amateur Radio Club, W9BHB.

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