

"Wireless Literacy" is ARRL Education & Technology Program Goal



NEWINGTON, CT, March 31, 2005--With some 130 schools now on board, the ARRL Education & Technology Program (ETP)--also known as "the Big Project"--has set its sights on transforming the teaching of wireless technology in the US. ETP Coordinator Mark Spencer, WA8SME, acknowledges that incorporating what he calls "wireless literacy" into the broader educational landscape is not something that will happen overnight. Even so, he believes the ETP can have a role not only in developing a favorable climate for wireless literacy and establishing it as an educational mainstay but in ultimately setting academic standards. Spencer says reaching teachers first is key.



ARRL ETP Coordinator Mark Spencer, WA8SME (right), guides Ronny Risinger, KC5EES, through a robot chip programming exercise during the 2004 Teachers Institute.

"You've got to have a jazzed teacher," Spencer stresses, pointing out that many teachers remain uncomfortable with wireless technology and are unaware of the best ways to teach it. To address this problem, the ETP last summer sponsored its first Teachers Institute on Wireless Technology, an intensive weeklong, hands-on session aimed at getting the nine educators who attended up to speed on wireless and electronics technology basics and how to teach them.

Expanding on the success of the inaugural institute, the ETP this year will sponsor three sessions--two at ARRL Headquarters and one "on the road" in Ohio in July. A former teacher and school administrator, Spencer keeps his own hand in the game by instructing Amateur Radio licensing and upgrade classes in his off-time. Those classes, he says, serve as a test bed for innovations and approaches he might want to incorporate into the ETP curriculum--many of them hands-on activities.



A student at Louisiana Delta Community College installs a vertical

The institutes at ARRL Headquarters will immerse two dozen educators from across the US in wireless technology--all expenses paid. Spencer plans to augment the 2005 Teachers Institutes with more radio operating experience, evening sessions and, of course, more hands-on and interactive projects. The ARRL Education & Technology Program recently kicked off its 2005 fund-raising effort, and ARRL Chief Development Officer Mary Hobart, K1MMH, says subsidizing the expansion of the Teachers Institute initiative is one facet of the current drive.

"The ARRL Education & Technology Program is flying high!" she says. She reports the ARRL Teachers Institute has leadership funding for 2005 with gifts from the

antenna for the school's station.



A student at Gowanda Middle-High School in Gowanda, New York--a Big Project school since 2002. The Gowanda Central School District Amateur Radio Club's call sign is KC2KJN.

about the benefits of that approach. "The teachers really felt supported," he observed. "I think they came away from the experience really thinking that the ARRL and the philanthropists who are supporting this program really think it's important."

Hobart says the ARRL has dedicated close to \$470,000 in resources and member contributions to make the ETP a success. In addition to subsidizing the Teachers Institutes, the program's major expenses include station equipment--some \$2200 per school--and project and activity boards and kits, which run between \$20 and \$100 apiece.

Spencer says that as of this month, 134 schools are part of the Big Project, and the program has provided turnkey Amateur Radio stations to 110 of them--up from 80 schools a year earlier. In many instances--Spencer doesn't have hard numbers--teachers working with the ETP have encouraged many of their students to become radio amateurs, although that's not a primary objective of the program.



Naomi Musselman, KI4BAS, operates the radio while Ronnie Robertson looks at the William Byrd High School Amateur Radio Club in Vinton, Virginia.

Brandenburg Life Foundation and from ARRL Vice President Kay Craigie, N3KN, and her husband Carter, N3AO. "Those contributions will provide about one-half of the total funding needed for the three Teachers Institute programs in 2005," Hobart notes. ARRL corporate partner Parallax will contribute robotics kits for participating teachers to build and program during this year's sessions.

Spencer says that based on the "single data point" of the first Teachers Institute, he's "cautiously optimistic"

The 2005 Teachers Institute sessions at ARRL Headquarters will be June 13-17 and August 1-5. To read about last year's pilot Teachers Institute see "First ARRL Education and Technology Program Teachers Institute Revs Up Educators."

Comments from teachers who participated and have used the curriculum tools in their classroom are available in the "2004 Teachers Institute Participants Report."

Teachers interested in knowing more about the ARRL Education & Technology Program or in the Teachers Institutes should contact Mark Spencer, WA8SME, mspencer@arrl.org; 860-594-0396. To help support the ARRL Education & Technology Program, visit the donation form on the ARRL Web site.

Beyond local schools and teachers, Spencer looks to Amateur Radio clubs in the community to establish close relationships with participating schools, sharing their expertise and providing assistance. "Number 2 is local community support," he says. "I can't emphasize that enough." Among other things, Spencer says, hams have to get involved in their local schools, talk to youngsters on the air and urge school boards to include Amateur Radio programs in the classroom.

"It really comes down to the local community drives what gets taught in the local schools," he says. "The teachers can be jazzed, but if they don't have any support from the local ham community, they're just going to get themselves burned out." Spencer says he's frequently on the stump



The race is on! Carl Dombrowik, N1PXL, and Jill Mohr, KC7ZZY, set their BOE-BOT programmable robot vehicles loose on the obstacle course test set up in the ARRL Headquarters hallway during the 2004 Teachers Institute.

asking amateurs to "walk the walk as well as talk the talk."

Overall, Spencer feels the program is moving in the right direction. While he's aiming for the maximum possible "return" on donors' investment in the Big Project, he acknowledges his inability at this point to provide quantitative measures of the program's success.

"Any real change in the educational community takes at least 12 years to come to fruition," Spencer said. In many cases, he believes, the program plants a seed that might flower down the road when a youngster exposed to wireless technology and electronics via the ETP makes his or her academic plans and career choices.

"It's not like we can identify success with test scores," he says--at least until wireless literacy is integrated into educational standards. But if the response from the teaching and academic community is any measure, Spencer says the program has been a resounding success

that represents a significant contribution to the participating schools.

"We need to be patient," he cautions those who may feel that an enterprise like the Big Project should yield more immediate, obvious results. "Contributions that are given today don't necessarily turn into rubber on the road today," although he says that does happen.

"We're really talking about changing the culture of the school," Spencer concluded.

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