

The Aerospace Education Foundation has shifted gears. Its main attention is now directed at local teachers and schools.

# The Foundation and the Schools

By John T. Correll, Editor in Chief

Thank you we really had a fun  
time. Space is cool!!! I hope  
you come back next year!  
From Joseph Osborn

*AEF often receives tangible expressions of thanks (left) for its programs for elementary school children—some as young as these third graders (opposite).*

**T**HE report to the Aerospace Education Foundation was succinct:

"Thank you for the grant that you gave all eighteen of us for our rockets. We went to Don Bowers's grandfather's farm. We set off our rockets in a field. They all went off OK. We did not get hurt with the rockets. I have never set off rockets before, so this is the best rocket I have ever seen."

That was from Jenny, a student in the fifth grade at Glenwood Elementary School in Enid, Okla. Her teacher, Wayne Wagner, used a \$250 grant from the Aerospace Education Foundation to buy model rockets, which his students then assembled and launched.

It was a good day all round. Most of the students recovered their rockets. Casey said that "If I get a chance, I will launch mine again." Josh's rocket, however, drifted off toward the Trogens' farm and could not be found.

Erica caught a fish in the pond.

The entire class sent illustrated thank-you notes. Summing up the appreciation to AEF, Megan wrote, "Without you, we would not have done this."

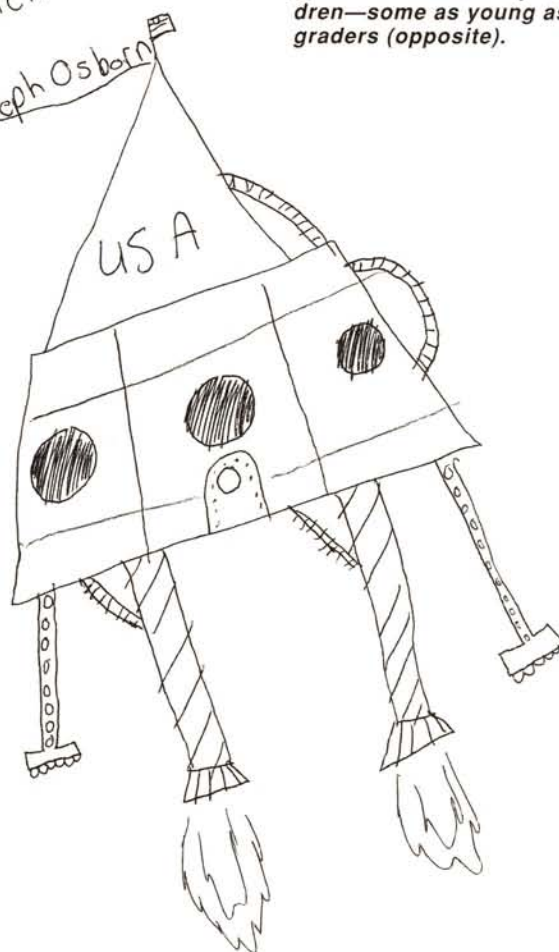




Photo by Paul Kennedy

Each week's mail brings more testimonials from teachers, principals, parents, and students on the difference that AEF programs are making in local schools.

"Let me give you an idea of what teachers are doing with these funds," says AEF President Thomas J. McKee. "Several used the funds to take field trips. There were three or four to NASA facilities; several to Air Force bases; a half-dozen went to local airports; and a number visited technology, space, and aviation museums. Frequently, the funds were actually used to pay for buses that the local school systems couldn't pay for. Hundreds of students had the chance to build and fly model rockets.

"One teacher designed a program for her fourth-grade students that [begins] by examining the owl, how it flies, and how it is adapted as a bird of prey. She then moves her students into studying airplanes and how they fly. Our grant purchased the videos and textbooks she needed to support the program."

### Local Focus

The Air Force Association Foun-

ation, later AEF, was formally established as an affiliate of the Air Force Association in 1956. Until recently, its best-known achievement was "Project Utah," undertaken in the 1960s in cooperation with the US Office of Education. It demonstrated the feasibility of using Air Force technical training courses in the Utah public schools and was, later on, a significant element in securing accreditation for the Community College of the Air Force.

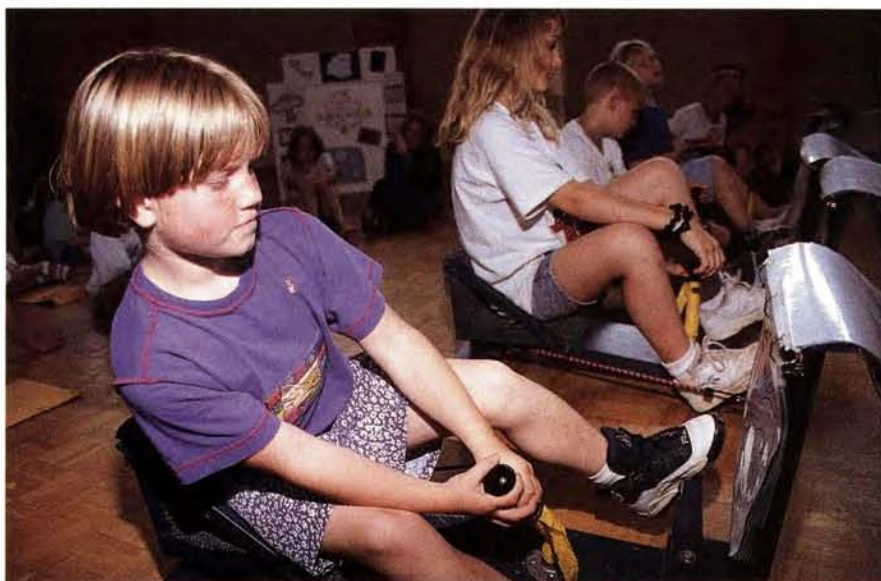
In 1989, AEF began awarding scholarships in appreciable numbers. Since then, AEF has given almost 1,500 scholarships and study grants to Community College of the Air Force graduates, outstanding graduates of AFROTC, and others. Over the years, AEF has worked with the AFA staff and *Air Force Magazine* to publish a number of important works, including several reports on the defense industrial base and a 1992 book, *Airpower in the Gulf*.

In years past, AEF was almost completely dependent on the Air Force Association for financial support. A large AFA endowment and continuing contributions from AFA and its field organizations are still

important, but the foundation now raises about half of its own funding donations, generated by such premiums as an AEF calendar and personalized address labels sent to individuals on a mailing list.

The excitement that the Aerospace Education Foundation is generating is the result of redefinition and revitalization that began two years ago. After a critical self-examination, AEF set new priorities and adopted "National Vision, Local Focus" as a major operating principle. "Basically, what this means is that AEF's first focus is on meeting the needs of its number one customer—the Air Force Association—and doing so by directing its resources toward meeting AFA educational needs at the chapter level," says Walter E. Scott, the foundation's Chairman of the Board. Today, seventy-five percent of AEF's expenditures are at the local level.

Nothing showcases the new look of AEF better than four activities targeted at public school classrooms: chapter matching grants, direct grants to educators, "Visions of Exploration"—a joint venture of AEF and *USA Today* newspaper—and teacher-recognition programs.



**AEF sponsors several programs, some more hands-on than others. One teacher gives AEF credit for the fact that, after her class's participation in the "Visions" program, she now has "future pilots, engineers, and scientists" in her class.**

### Chapter Matching Grants

The foundation will match, up to \$1,000, expenditures by Air Force Association chapters on innovative aerospace education efforts. It made fourteen such grants in 1995 and figures to increase that number substantially this year.

One such grant went to the Hawaii Chapter, which sponsors a two-week aerospace education summer workshop to prepare at least fifty elementary school teachers a year to incorporate aerospace concepts into the curricula for grades four through six. It familiarizes teachers with the many and varied aerospace resources in Hawaii and lets them meet people in the community who can help them with aerospace education.

The program includes classroom instruction, guest speakers, field trips, orientation flights, and other activities. The workshops are supervised by a volunteer, Dr. Phillip R. Brieske, vice president for Aerospace Education of the Hawaii Chapter and a retired professor of physics. In 1995, Dr. Brieske received AEF's Sam E. Keith, Jr., Award, given for the outstanding contribution of the year to aerospace education.

Another AEF matching grant went to the Colorado Springs/Lance Sijan Chapter in Colorado Springs, Colo., which sponsored teachers to attend the US Space Foundation's Space Discovery course at the US Air Force Academy. This is a professional development program in which teach-

ers "get comfortable teaching with space." According to chapter officials, it "shows teachers how to incorporate space and aviation concepts into all areas of the curriculum and to stimulate student interest and achievement."

The General B. A. Schriever Los Angeles Chapter in El Segundo, Calif., used its matching grant to sponsor an essay-writing competition for memorials along the "Space Walk" in San Pedro, Calif. Each year, the Space Walk honors four people or events in the history of space evolution. Students compete by writing essays on topics selected for memorializing on plaques lining the wall by the walk.

### Direct Grants to Educators

In a program that caught fire immediately upon its inception in 1995, AEF awards grants of up to \$250 directly to teachers for an aerospace-related activity or to assist in math and science instruction in the classroom. Last year, there were 119 of these direct grants altogether. In the first five months of 1996, however, 148 had already been awarded.

"While \$250 might not sound like a lot of money, it makes more of a difference than you might think," says AEF Managing Director Phillip E. Lacombe. Teachers use these grants to pay for trips, books, videotapes, and other materials not in the school budget.

Spanish Fort School in Spanish

Fort, Ala., used its \$250 grant to help put on "Space Week" in March 1996. It began on Monday, with teachers appearing in astronaut training uniforms. Each morning, students in grades from kindergarten on up got a "space question of the day." Correct answers went into a box, from which winners were drawn to receive NASA patches and space pencils. The school cafeteria served Saturn Sausage, Galactic Green Beans, and Jupiter Jell-O with Flying Fruit. Throughout the week, students learned about space and space exploration in the classrooms.

"With our grant money, we purchased the materials to build a wonderful space shuttle," wrote Harriett Brunson, the teacher who had sent the application to AEF. "Parents worked together to build this model of a shuttle. A class of about thirty students could fit inside the shuttle. It was assembled in our gym using PVC pipes and a heavy black plastic. A commercial artist used fluorescent paint to paint a control panel across the front. A beautiful picture of a space shuttle was painted on one side, while planets and an orbiter were painted on the other. . . . A large-screen television was used inside the shuttle to show a video purchased from NASA, entitled 'The Dream Is Alive.'"

AEF received a huge notebook with 140 thank-you cards and notes from Spanish Fort, some of them signed by a dozen students or more. Ryan, a second grader: "Thank you for giving us money for Space Week. That is my favorite subject." A neatly lettered note from Ethan in the first grade said, "Thank you for the space grant. I liked it a lot. I hope it comes again."

Lori Nazareno, a science teacher from Miami, Fla., used her AEF grant to take students on a tour of the Kennedy Space Center. Many of the children attending her school live at or below the poverty level. "As a result, they only rarely are afforded the opportunity to get out of town and see the many things the world has to offer. Being a school of technology, we thought it quite appropriate to visit Kennedy Space Center and, perhaps, attempt to inspire our students to achieve greater things and gain exposure to the aerospace field. The students absorbed a tremendous amount of information and had a wonderful time while they did it."

Francis X. Cantwell, a retired Air Force lieutenant colonel and a teacher at Cardozo Senior High School in Washington, D. C., used an AEF grant for activities that included a tour of Andrews AFB in the Maryland suburbs.

"He found that the school had a transportation center where students could learn about careers in the transportation industry—buses, trains, taxis—but not a shred of information about aviation, the Air Force, or aerospace," says AEF President McKee. "With our grant, he is working to change that."

Mr. Cantwell adds that, "I have promised students who attain an A in one of my classes, or who have perfect attendance in my homeroom, a flight in a light aircraft. Many of my students have difficult home lives and need real-life, hard-core



Photos by Paul Kennedy

**AEF does not neglect secondary school education. These students from Randolph-Macon Academy, Va., will each receive a copy of Air Force Magazine's "Space Almanac," courtesy of an AEF program.**



**Field trips to such educational landmarks as the Kennedy Space Center in Florida are natural targets for AEF grants. As one teacher put it, students can absorb "a tremendous amount of information and [have] a wonderful time."**

purposes to come to school and study. I am hoping that taking some of them flying and teaching them about flying will be reason enough for them to come to school."

Air Force Junior ROTC and Civil Air Patrol instructor grants are new developments in the foundation's program for schools. They work the same way the direct educator grants do except that they are reserved for AFJROTC and CAP instructors. The grants are for aerospace educational programs in the classroom or the cadet program and cannot be used for

uniforms, drill teams, color guards, or honor guard activity.

Among the first schools to receive one of the new grants was Randolph-Macon Academy in Front Royal, Va. Randolph-Macon is the only coeducational boarding school in the nation with an AFJROTC program. As such, it receives special support from AFA's Northern Shenandoah Valley (Va.) Chapter, which has undertaken a project to establish a permanent endowment to provide scholarships to outstanding JROTC cadets from the area. The AEF grant will provide

Randolph-Macon cadets individual copies of *Air Force Magazine's* "Space Almanac."

### Visions of Exploration

In 1991, the Aerospace Education Foundation entered into a partnership with *USA Today* newspaper to provide public school students with materials to develop their interests in issues of the twenty-first century, using space as a motivating theme. The program is called "Visions of Exploration." Last year, it covered 2,031 classrooms and reached more than 60,000 fourth, fifth, and sixth graders.

Materials include subscriptions to *USA Today* and a teacher's lesson guide keyed to articles in the newspaper that stimulate interest in math and science. Students keep an "Explorer's Journal," a colorful twenty-four-page activity book in which they record their own ideas, thoughts, and discoveries. Surveys of teachers find that eighty-eight percent of them believe the "Visions" program does enhance interest and performance in math and science and that it also helps students develop their thinking skills.

AEF matches local AFA chapter sponsorship of "Visions" classrooms, dollar for dollar. Among the chapters participating most vigorously are the General E. W. Rawlings Chapter in Minneapolis, Minn., which sponsors 121 classrooms; the Langley (Va.) Chapter with sixty-seven class-



**Elementary schools can use AEF matching grants to help sponsor a Space Week, which could include the building of a model space shuttle or contests and competitions designed to stimulate interest in space.**

rooms; the Fort Worth (Tex.) Chapter with fifty-six; and the Dallas (Tex.) Chapter with forty.

Teacher Brenda Standley of Alexander Attendance Center in Mississippi says that her "Visions" students were pleased to see math and science employed in the real world. They formerly saw these subjects as boring, "but not anymore." Nancy Beutler-Abbey from Santa Barbara Elementary in Oregon writes that the very fact that AEF and *USA Today* provide the materials is impressive to her students. "Look who is interested in you," she tells them. As a result, she says, "I now have several future pilots, engineers, and scientists."

The program sometimes leads to interest not only in science, math, and space but also in aviation and the Air Force. "Because of the foundation laid by Visions, we've had pilots invited to speak at schools," says Managing Director Lacombe.

### Teacher Recognition Programs

AEF's premier recognition program for educators is the Christa McAuliffe Award. (Ms. McAuliffe was to be the first teacher in space. She died on the ill-fated *Challenger* mission in 1986. Six months previously, she had been a featured speaker at an AEF roundtable program on space.)

The award has been presented every September since 1986. Competition is high. The winner is announced

with fanfare during the AFA National Convention in Washington, D. C., and receives \$1,000 from AEF.

The McAuliffe Award in 1995 went to Barbara Walters-Phillips, who teaches math, science, and social studies at Glenridge Middle School in Winter Park, Fla. Among her programs are "Aviation Invasion," which teaches girls about flying; "The Young Eagles," which organizes airplane rides for students; and "Expanding Your Horizons," which stimulates interest by girls in math and science careers.

To allow recognition of more edu-

cators, the foundation introduced the Regional Teacher of the Year awards in 1995. Recipients chosen by AFA regions receive \$500 checks from the Foundation and AFA "Teacher of the Year" jackets.

The most recent recognition program is for local teachers of the year. So far in 1996, nine AFA chapters have made such awards.

### The Clearinghouse

As news of the AEF program spreads among teachers and school administrators, the foundation often finds itself fielding questions and acting as a clearinghouse on aerospace education matters. Each week, the foundation mails out dozens of packets of informational material, including products from NASA, the FAA, and others.

Furthermore, AEF has begun to seek out other organizations with an interest in aerospace education to establish working relationships and is organizing a get-acquainted meeting of such groups later this year at AFA headquarters in Arlington, Va.

Among the large organizations attending will be the 4-H Club, which has a program of some size to encourage and help prepare young people for careers in aerospace. 4-H plans to devote one issue of its newsletter—which reaches thousands of 4-H volunteers and every extension agent in every county in the United States—to AFA and AEF aerospace education efforts. ■



**Students at Cardozo Senior High School in Washington, D. C., used an AEF grant for a field trip to Andrews AFB, Md., opening their eyes to Air Force, aviation, and aerospace career opportunities.**

Photo by Paul Kennedy