

MCPS Science Volunteer Project Description

Initial Planning

One of the objectives of the American Association for the Advancement of Science / Senior Scientists and Engineers (AAAS/SSE) organization is to advance K-12 education. Several members had already volunteered in schools in the District of Columbia and Montgomery County, Maryland. The Project planning team took advantage of this experience, and augmented it by adding a Montgomery County resident who had been a regular volunteer in its middle schools for nine years. Another addition was a staff member from AAAS's Education and Human Resources office, who provided a critical link to AAAS and its extensive knowledge of educational issues and organizations.

The possibility of a project was explored with the Montgomery County (MD) Public Schools (MCPS) Program Supervisor, Science. He welcomed the role that retirees could play in advising students on their science inquiry projects. A decision was made to proceed with the first phase as a pilot project. The objectives were to gain an understanding of the ways in which retired scientists and engineers could assist MCPS science teachers, and to determine the value added by the volunteers through teacher evaluations. Volunteers would be recruited from AAAS retirees living in Montgomery and adjacent counties.

2005-2006 School Year Pilot

AAAS/SSE and MCPS formalized an arrangement to conduct a one-year pilot of the MCPS Science Volunteer Project through a Memorandum of Understanding (MOU) signed by AAAS's CEO and the MCPS Program Supervisor, Science. The MOU identified the tasks to be carried out by AAAS, SSE and MCPS. It was effective from the date of signing, July 19, 2005, until July 1, 2006.

To recruit volunteers, the AAAS CEO sent emails to all AAAS members over 60 years of age residing in Montgomery and adjacent counties. Prospective volunteers were expected to spend 80 hours per school year in the classroom. There were 16 responses with biographies.

The volunteers participated in a half-day orientation led by the MCPS Science Supervisor and his staff. It centered on the MCPS science program and the role of science inquiry projects (a mandatory activity for middle school students in Montgomery County). The orientation also included presentations on school operations and on volunteer experiences in the MCPS classrooms.

Of the 16 AAAS members who responded, 7 dropped out and 9 remained to begin the pilot. Of the remaining, 8 were assigned to middle schools and 1 to a high school. In February 2005, the volunteers met at AAAS to share their experiences. While the specific contributions and level of activity varied among the volunteers, the overall feeling was positive. In general, the volunteers spent several hours a week at their schools, primarily working with a single teacher. In a couple of cases, however, the involvement was restricted to the planning and implementation of the inquiry projects. To evaluate the pilot, the MCPS Science Supervisor sent emails to the participating teachers asking these questions:

1. Have you found the volunteers' assistance to be helpful?
2. Would you recommend that the project be continued for the next school year?

The responses were very positive, with only one negative.

The Project

Based on the evaluations of the pilot, it was decided to proceed with a full project. A MOU, effective "until either party notifies the other of its intent to terminate," was signed by the AAAS CEO and the MCPS Program Supervisor, Science.

Management Structure

The Project is managed jointly by the SSE Project Leader and the MCPS Science Supervisor. The Project Leader is supported by Project Coordinators for elementary and middle schools, who work directly with their respective volunteers. The Science Supervisor interfaces with the lead science teachers at the schools where the volunteers are located.

Recruitment

Recruitment of volunteers has been expanded to include other organizations in addition to AAAS. In July 2006, AAAS/SSE and the AAAS CEO met with representatives of science and engineering societies located in the metropolitan Washington, DC, area to discuss the MCPS Science Volunteer Project. As a result, several societies regularly send recruiting emails to their members in Montgomery County and place articles in their local newsletters. Research institutions in the area send information to their retirees, and emails are sent to their alumni lists. Notices are placed in the local newspaper, and word-of-mouth is quite effective. A total of 49 scientists and engineers volunteered in 2008. Of these, 24 were assigned to 14 elementary and 8 middle schools.

Time Commitment

The volunteers are expected to attend their classrooms one day a week, although the number of hours per visit will vary, depending on the specific arrangements made with the teachers. They are also asked to participate in the training session for new volunteers and in an annual meeting held at AAAS.

Training

The training begins with one-day orientation. MCPS personnel describe the school and classroom environment, curriculum and testing, rules and guidelines for volunteers, and the science inquiry process. Continuing volunteers also attend the meeting and share their experiences.

Subsequently, the new volunteers join continuing volunteers at their schools for at least one day, to get first-hand experience.

Then the new volunteers, together with their respective coordinators, meet the principals and lead teachers at their assigned schools. This provides an opportunity for the volunteer to present his or her professional background, the principal to describe the logistical arrangements of the school,

and the lead teacher to engage in a discussion with the new volunteer and the coordinator about the type of assistance to be provided.

There is periodic interaction between the coordinators and their volunteers to ensure that any concerns are addressed expeditiously.

Volunteers Handbook

All volunteers receive a Volunteers Handbook, which contains operational details, guidelines, and tips for a successful experience.

Science Nights

It is very important for parents to support their children's science studies. Volunteers are helping to inform parents through their participation in Science Nights held at schools in MCPS and structured around the inquiry projects carried out by the students. In addition, there are other evening events where volunteers man individual tables and present scientific topics of interest to parents and students.

Funding

There is no external funding for the Project. The volunteers provide their time pro bono, and costs they incur, such as commuting to their schools, can be considered as charitable contributions in calculating their taxes. The costs incurred by AAAS (the project's point of contact) include maintenance of the website and database, provision of rooms and lunches for meetings, and are covered by overhead. The space for the training session is provided gratis by the Audubon Naturalist Society.

Evaluations

Towards the end of the school year, evaluation forms are distributed to the volunteers and lead teachers. The results are combined in a report to the SSE Program Leader. A Program report, consisting of reports from the Montgomery and Fairfax County Projects, is forwarded to the Head of the Education and Human Resources office at AAAS.