

The Washington Statistical Society's Quantitative Literacy Group

By Wendy Rotz

From promoting statistical understanding in the general public to inspiring the next generation of young statisticians, Quantitative Literacy (QL) has a tall order. The Washington Statistical Society (WSS), a chapter of ASA, has a volunteer QL group of statisticians who have set out to do just that.

The work of QL groups across the country grows increasingly important as society continually expands the use of data and measurements. Today, ordinary people face a barrage of quantitative data in the media, through advertising, on political issues, and even when presented serious medical treatment options. I thank the SRMS Newsletter editors for asking me to contribute this article about the WSS QL Group.

The WSS QL Group formed in 1991 to support the ASA Quantitative Literacy initiative. Since then hundreds of professionals have participated in WSS sponsored QL events. Over the years we have worked with teachers behind the scenes, met with students in the classroom, organized student competitions, judged science fairs, and conducted workshops for teachers and the general public.

Behind the scenes: The WSS QL volunteers have coached local teachers individually and conducted teacher workshops. When the State of Maryland required that statistics be taught in every grade, including kindergarten, WSS consulted on curricula and textbooks and provided QL material for classroom activities.

In the classroom: We have visited classrooms from kindergarten through 12th grade in Washington, D.C. and nearby counties in Maryland and Virginia. When Fairfax County in Virginia asked us to visit every 8th grade math class for career days, WSS rose to the challenge to solicit enough volunteers. Our classroom discussions are augmented with excerpts from the award winning PBS series "Against All Odds" and follow with statistical exercises using sweets so students may eat their data.

Competitions: WSS created the Curtis Jacobs Memorial Prize in 1992 to honor the memory of Curtis Jacobs, a former Bureau of Labor statistician, and to encourage middle and high school students to gain an understanding and appreciation of surveys and their uses. Students submit reports on projects that include collecting and analyzing survey data. Math, statistics, computer science, and journalism students have won this prize.

Since 1986, pre-dating QL, WSS has judged and awarded prizes in the local science fairs.

In 2000, WSS began judging the regional ASA poster competition sending the winning entries to the national ASA competition. Then in 2001, during the regional judging and in cooperation with ASA, WSS began awarding prizes for entries in the Washington D.C. metropolitan area. The prizes gave schools a chance to compete in a smaller geographical area, yet still compete in the national competition.

We haven't stopped at 12th grade. Following the lead of the Albany Chapter of ASA, in 2002 WSS awarded a prize for the best graduate student presentation at Probability and Statistics Day. The event, organized by Mid-Atlantic universities, provides young researchers with an opportunity to present their work. Student participation nearly tripled when WSS announced the competition. The WSS award was based not only on the student's statistical strengths, but also on their presentation skills. These skills facilitate statistical careers in consulting, academia and research.

Teaming with outside organizations: We successfully teamed with local schools, ASA and other organizations. In 1996, WSS began conducting QL activities with the Girl Scouts of America (GSA). This included meeting local Girl Scout troops and participating in Scout Day at the Smithsonian's Air and Space Museum. The GSA effort to stimulate girls' interest in math and science was paralleled by the QL effort to promote women and minorities in statistics.

In 2000, WSS first teamed with the Business Information Finders (BIF), an organization of librarians, to jointly sponsor a seminar on statistical graphs and tables. Over 75 people from WSS, BIF and the general public attended the evening event.

The best of times: Throughout the years, of all the work I've done for professional organizations, I have enjoyed QL the most. I will always remember a kindergarten class studying the distribution of birthdays. They submitted a poster with an enormous birthday cake colored in crayons. Glued to it were construction paper candles for each student in the class. The five-year olds had obviously done all of the work themselves and it was absolutely precious.

It is encouraging to see young people show so much promise, such as the 8th grade journalism students who pre-tested their school questionnaire in a focus group and discussed the implications of non-response when they reported their final survey results. I have been impressed by high school students researching public opinion on such serious topics as death and dying or the reproductive ethics of cloning. The talent is there, we need to capture it.

I encourage all statisticians to join their local QL efforts or form their own chapter's QL group. It is a service to our profession. If you would like more information on the WSS QL group, and especially if you would like to volunteer, please e-mail me on Wendy.Rotz@ey.com.