

Report of the Math Fair Conferences in BIRS in April 2009, 09w2150 and June 2009, 09w2151.

This was the seventh year that math fair workshops have been held at BIRS. This year two workshops were held with seventeen participants in the first workshop and sixteen in the second. The first workshop was directed mainly towards math fairs for elementary, junior, and senior high schools, the other was concerned with math fairs for pre-service teachers attending colleges and universities.

The participants came from elementary schools, junior-high and high schools, from independent organizations, and from universities and colleges. The purpose of the workshop was to bring together educators who are interested in using our particular type of math fair, called a SNAP math fair, to enhance the mathematics curriculum. (The name SNAP is an acronym for the guiding principles of this unconventional type of math fair: It is student-centered, non-competitive, all-inclusive, and problem-based.) The projects at a SNAP math fair are problems that the students present to the visitors. In preparation, the students will have solved chosen problems, rewritten them in their own words, and created hands-on models for the visitors. At a SNAP math fair, all the students participate, and the students are the facilitators who help the visitors solve the problems. This process of involving students in fun, rich mathematics is the underlying vision that makes the SNAP program so unique and effective.

At the BIRS workshop, the participants learn about and try math-based puzzles and games that they can use in the classroom. More importantly, they have a chance to see how other teachers have organized math fairs at their schools, how the SNAP math fair fits the curriculum, and what some schools have done for follow-ups.

At the first workshop, Garnik Tonoyan from Yerevan State University in Armenia was a special guest speaker. Dr. Tonoyan has been involved with the International Math Olympiad for many years and he described some of his work Armenia.

The concept of the SNAP math fair originated in Edmonton with Andy Liu and Mike Dumanski, and it has proved so successful that it led to the formation of a non-profit organization, the SNAP mathematics foundation, which has helped promote mathematics in schools around the world. As well as the SNAP foundation, the Calgary-based Galileo Education Network Association (GENA) helps schools organize math fairs, and provides valuable lesson-study follow-ups. The founder of GENA, Sharon Friesen, described

the work of GENA in Alberta and BC.

Altogether, the BIRS math fair workshops are having a noticeable impact on mathematics education. The BIRS math fair workshops have contributed greatly to the proliferation and popularization of the SNAP math fair. SNAP math fairs have been held at schools in Alberta, Ontario, British Columbia, as well as in several countries other than Canada. In some places, the use of a SNAP math fair to change children's attitudes about mathematics has almost become a "grass-roots" movement. Although there is only a small amount of research concerning SNAP math fairs, several participants have strong anecdotal evidence that student achievement in mathematics improves after they have participated in a SNAP math fair, and that the problem solving that they do in preparation for the math fair transfers to other areas of the curriculum.

Regards,

Tiina Hohn Mathematics Department Grant MacEwan College

Ted Lewis, Department of Mathematical and Statistical Sciences, The University of Alberta