



Report of the Math Fair Conference in BIRS in April 2010, 10w2161

This was the eighth BIRS math fair workshop, named as **The Ted Lewis Workshop on SNAP Math Fairs**, which is becoming a popular annual event. The participants came from elementary schools, junior-high and high schools, from independent organizations, and from universities and colleges. The twenty participants at this year's workshop in are educators of all types, from teachers to grad students to expert puzzle and game designers.

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. No first prize! No arguments about judging! Everyone is a winner!".

At the BIRS workshop, the participants learn about and try math-based puzzles and games that they can use in the classroom. 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. And then they go back to their schools and change the culture of mathematics in their class-room.

This year we enjoyed several samples of math fair puzzles prepared by the students of St. Mary's University in Calgary. The grad students from University of Alberta told us what they are doing in visiting schools in Edmonton area. We learned how to put on a math fair, shared some experiences from different schools all the way from Ontario with some of our participants. One of the highlights and talks that teachers specially found interesting was the talk by Dr. Elaine Beltaos about how the trends in the research of today's world of advanced algebra directly relates to the basic shapes and methods in an elementary classroom topic of triangles and groups. And of course we tried our hands on new puzzles presented by Dr Andy Liu .

The BIRS math fair workshops have contributed greatly to the proliferation and popularization of the SNAP math fair. In some places, the use of a SNAP math fair to change children's attitudes about mathematics has almost become a "grass-roots" movement, and so it is difficult to pin down exactly how many schools are now doing them. We have a fair idea about the numbers in Edmonton and Calgary - for example over 60 percent of the elementary schools in the Edmonton catholic system now hold regular math fairs, and as far as we can gauge, the numbers are high in the public system as well. GENA reports similar figures for the Calgary area.

SNAP and CMS are also providing some support for the launch of a similar math fair workshop in the Fields institute in Toronto, and PIMS is providing math fair booklets for the participants. The Fields workshop is being organized by Tanya Thompson who has been a valuable participant at past BIRS workshops. Altogether, the BIRS math fair workshops are having a noticeable impact on mathematics education.

Regards,

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