

Some Reactions to ICME - Karlsruhe

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I, along with Doyal Nelson and Jack Bana from the University of Alberta and a fairly large contingent of Canadians, participated in the Third International Congress on Mathematics Education held this August in the lovely city of Karlsruhe in the Black Forest area of Germany. The meeting was attended by teachers at all levels, from elementary school to university, from over 80 countries, with the majority coming from various western European countries.

What comes from such a congress? As you might well imagine, there were many logistical difficulties. There were problems of translating into at least three languages, as well as a problem of the congress meetings being rather spread out. The latter problem prevented a lot of valuable incidental personal contact from occurring. It might be said that many of the presentations and discussions got stuck on a general level or on the level of platitudes due to the broad nature of the topics and audiences, and also partly due to various political considerations. Speakers and panelists were carefully chosen to reflect a spectrum geographically and politically. Many people felt a great need to get up and say something just so they could return and say they had represented their country.

These problems notwithstanding, there were some observable trends and common concerns. I will only give a few brief highlights.

There seems to be a global concern for the manipulative skills (or lack thereof) of students entering post-secondary education. There is a universal tendency to blame "new mathematics" for this, but that term hardly has universal meaning.

Although we in Alberta tend to focus on very specific objectives and on the attainment of "basics" in our curriculum, this is not a universal trend. Indeed, there is a feeling in most European countries that this approach is entirely wrong and there is a need for broader, not more narrow, goals in mathematics instruction.

Three content themes struck me as worth mentioning. Many countries seem to be working toward including probability and statistics in upper elementary and junior high school curriculums in important ways. Second, there seems to be confusion in many countries, including Canada, as to what represents geometric instruction for all children and adolescents. Finally, there seems to be widespread attention given to the role of computing devices in mathematics instruction. Representatives from diverse countries mentioned the need to integrate the use of hand-held calculators into instruction and to develop an understanding of the workings of computers with *all* students before they finish school. It was felt that this latter topic was one important lead into the entire important area of attaining a broader focus on applications of mathematics.