

SOME PERSONAL REFLECTIONS ON ICME-10

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In the second week of July 2004, the big quadrennial event in mathematical education, or didactics of mathematics as we say in Europe, took place on the campus of the Technical University of Denmark situated at the outskirts of Copenhagen. We are talking about the “10th International Congress on Mathematical Education”, abbreviated as ICME-10.

About 2300 researchers in mathematics, researchers in mathematics education and teachers from all levels in the educational system from primary school to university, discussed new developments in relation to quality in mathematical education. There were participants from 119 different countries. Registration took place on Sunday July 4 in the magnificent celebration hall of the University of Copenhagen, close to the hotels of the participants. The registration day was a beautiful sunny day. During the conference, participants enjoyed rich variations in the Danish weather! At registration, the participants received cards for the public transportation system in the Copenhagen area, which in the following days quickly and

easily brought them to the site of the congress.

Researchers and Practitioners

The international congress on mathematical education is *the* event that brings together active research mathematicians, deeply devoted to develop and disseminate their subject, and practitioners, strongly devoted to create a well-functioning and rich teaching environment in mathematics in their countries of origin, under the guidance of researchers in mathematical education, who have contributed significantly to structuring thinking about problems related to the teaching and learning of mathematics. During the congress, I came to realise how important it is that researchers in mathematics and researchers in mathematics education do not lose contact with each other to the confusion of the practitioners in the classroom, who face concrete problems with specific topics from mathematics. More than ever, I now believe that the voices of both groups of researchers are necessary in the debate about the contents, the meth-



ods, the presentation and the assessment of mathematics in schools.

Ceremonies and Awards

Many participants will remember the opening ceremony since two politicians made very good speeches and stayed for the whole ceremony. The Danish minister of education, Ulla Tørnæs, faced the problems for mathematics in schools without getting into general political polemic, and the Mayor of Lyngby Municipality, Rolf Agaard-Svendsen, who holds a Ph.D. in mathematical statistics, made a witty speech where he even showed a page from his thesis. Other speeches were made by professor Hyman Bass, the president of ICMI (International Commission on Mathematical Instruction), professor Mogens Niss, the chair of the international programme committee (IPC), professor Morten Blomhøj, the chair of the local organizing committee (LOC), professor Christian Stubkjær, the dean of research at the Technical University of Denmark, and professor Bernard Hodgson, the general secretary of ICMI. The ceremony was further enlightened by a musical performance by Royal Danish Brass.

The opening ceremony also included the awarding of the first Felix Klein Medal to professor Guy Brousseau, France, for his lifetime contributions to didactics of mathematics, and the first Hans Freudenthal Medal to professor Celia Hoyles, England, for outstanding contributions to research in the domain of technology and mathematics education¹. With the choices of the first recipients, a high



From the left; Morten Blomhøj (chair of the LOC), Elin Emborg (administrative secretary for LOC and IPC), Mogens Niss (chair of the IPC), all three IMFUFA, Roskilde University, Denmark and Gerd Brandell (chair of the Nordic Contact Committee for ICME-10), Lund University, Sweden.

¹ The citations can be found in issue 52 of the Newsletter.



The president of the International Commission on Mathematical Instruction, Hyman Bass, presents the first Felix Klein Medal to Professor Guy Brousseau (on the right-hand side).

standard has been set for these awards, making them especially prestigious for research in mathematics education.

The Programme

And then we were ready for the conference. The programme was huge: 8 plenary activities, some 80 regular lectures, 29 topic study groups, 24 discussion groups and - as a new thing - a thematic afternoon with 5 choices. There were 5 national presentations during one full afternoon: Korea, Mexico, Romania, Russia and the Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden). Each national presentation had a detailed and comprehensive programme. Obviously, most activities were in parallel sessions with many options. All in all, there were more than half a million possibilities for composing your own programme. To assist the individual planning, participants got an extra copy of the one page schedule, where they could fill in which activities they wanted to attend and where to find them.

For a programme of this size, no single participant can capture it all. But everyone felt the spirit and the energy and compassion with which the many contributors had prepared their contributions. In all fairness it is not possible to single out specific contributions in a general overview. But again you realise that the listeners and the eagerly engaged contributors to discussions are really what make up a good congress. I do think that ICME-10 was a success in that respect.

I attended a thematic afternoon on math-EMS September 2004

ematics and mathematics education that caused a heated debate. Although the tone was not exactly polite, it was very direct and explicit, and it may actually lead to reflections on the various roles of researchers in mathematics and researchers in mathematics education and their possibilities for the shaping of good mathematics teaching in the classroom.

Circus Mathematicus

During the congress, a mathematical circus "Circus Mathematicus" was arranged at the congress site for the general public. The creativity shown was enormous, encompassing among other things: bowling with fractions, a labyrinth, life size

puzzles, boomerangs, juggling, origami, wood carving, beautiful Christmas decorations, various rope tricks and construction of kites. The mathematical circus was a great success and helped attract the attention of the news media to the congress in general, including leading Danish newspapers, TV and radio. Also a very interesting exhibition developed in co-operation between ICMI and UNESCO, "Why mathematics", was shown during ICME-10.

Being one of the local organisers of the congress, I must be careful with appraisal. But I do feel that the congress was successful in fulfilling its aim, namely stimulating the continual process towards good teaching of mathematics. As professor Jeremy Kilpatrick assured us under a very interesting plenary interview session with four distinguished mathematical educators: "The strive for good teaching will never stop. There will always be new challenges."

The closing ceremony took place on Sunday, July 11, and the organisers were relieved after more than four interesting years of planning in collaboration with our extremely effective and helpful congress bureau: Congress Consultants.

ICME-11 takes place in Mexico in 2008. You should join it. An ICME congress is worth the effort.

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Children and congress participants engaged in mathematical activities in Circus Mathematicus.