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COMMISSION INTERNATIONALE
DE L'ENSEIGNEMENT MATHÉMATIQUE

ANNOUNCEMENT FROM THE INTERNATIONAL COMMISSION ON MATHEMATICAL INSTRUCTION ABOUT AN ICMI-SYMPOSIUM TO BE HELD AT THE INTERNATIONAL CONGRESS OF MATHEMATICIANS, HELSINKI, AUGUST 1978, ON THE FOLLOWING

THEME:

The Education of Mathematics Teachers (Pre- and In-Service): What Knowledge, Experience and Understanding of Mathematics should a Mathematics Teacher have?

Many mathematicians are professionally involved in the pre- and in-service education of mathematics teachers. This involvement includes preparation and teaching of courses, evaluation of students and programmes, planning and holding of seminars, work on committees and in conferences related to education of mathematics teachers.

There is universal agreement that the teacher of mathematics should have mathematical competence. In particular he should have adequate background-knowledge and experience with respect to the mathematics taught at school. This implies that specific parts of applied mathematics and problem-solving activities should be indispensable components of the educational programme in addition to basic instruction in pure mathematics.

It is expected that through his education the mathematics teacher has developed the ability to analyse elementary mathematics from an advanced point of view and has gained the flexibility necessary for representing mathematics at various levels and by a variety of approaches. It is a matter of debate whether special courses are needed to further this expected competence and how such courses should be related to methods courses and other training components in the area of pedagogy and psychology of mathematics teaching and learning.

Also there is an increasing consensus that the teacher of mathematics should have a balanced view of philosophical problems related to mathematics, and of the role of mathematics in culture and society. Curriculum

decisions and even teaching methods are highly influenced by preoccupations and attitudes linked to these themes, and corresponding misconceptions on the part of teachers are often unintended side effects of the standard mathematical training. This calls for an integration of foundational, historical and sociological aspects of mathematics into the educational programme.

It is an important task for all those who are involved in the mathematical education of mathematics teachers to clarify — for the various teaching levels — what knowledge, experience and understanding of mathematics a mathematics teacher should have. An International Congress of Mathematicians brings together experts from all countries who are most competent to discuss this problem. This is why the International Commission on Mathematical Instruction, a body established by the International Mathematical Union, has chosen the Mathematical Education of Mathematics Teachers as the theme of a symposium during the next ICM to be held at Helsinki, August 1978. An International Programme Committee is being established chaired by the two Vice-Presidents of ICMI, Professor Christiansen and Professor Steiner. Anyone interested in participating in the Symposium is kindly asked to contact either of the cochairmen, who will also appreciate to receive suggestions regarding the programme of the Symposium.

On behalf of ICMI

S. Iyanaga

President of ICMI

Professor Bent Christiansen

Department of Mathematics
Royal Danish School
of Educational Studies
Emdrupvej 101
DK 2400 Copenhagen NV
Denmark

Professor, Dr. H.-G. Steiner

Institut für Didaktik
der Mathematik
Universität Bielefeld
Postfach 8640
D 4800, Bielefeld 1
Federal Republic of Germany