

# Background and Motives for the Conference

Barbara Jaworski and Bodil Kleve

The theme of this conference, which was held in Gausdal in March 2000, was Social Constructivism, Social Practice Theory and Sociocultural Theory: Relevance and Rationalisations in Mathematics Education. Jaworski (this issue) writes: “These are theories that are in the public domain; that have been discussed by scholars, argued over, rationalised; terms have evolved and, in each case, a discourse has emerged which itself conditions thinking and communication”.

The Norwegian history of Mathematics Education as a specific scientific discipline is relatively short. So far there are relatively few completed master and doctoral degrees in the field. The discipline is complex, internationally, and has become so extensive that researchers in the field typically tend to specialise in different fields. A strong development has occurred in the Nordic countries recently. The basis for this development has been linked to teacher education, and research groups in the field have evolved at several universities and university colleges in the Nordic countries. Master and doctoral degree programmes have also been organised in some of these institutions in the course of the last few years.

A curriculum reform for the 10-year compulsory school took place in Norway in 1997. In the chapter concerning Mathematics in the Curriculum it says:

Learners construct their own mathematical concepts. In that connection it is important to emphasise discussion and reflection. The starting point should be a meaningful situation, and tasks and problems should be realistic in order to motivate pupils. At times pupils may work with incomplete concepts, misconceptions, and they make occasional mistakes and misunderstand things.

*(Ministry of Education 1999 p. 167)*

This means that teachers in schools have to learn about and reflect on theories about teaching and learning mathematics.

The Ministry of Education decided to develop in-service courses for teachers based on the new curriculum (L-97), as a priority action area. These courses also focus upon theoretical aspects about teaching and learning of mathematics. There has been a great demand for such courses in recent years. In this setting it has been natural for teacher educators

to engage in studies of different theories of learning in general and related to mathematics in particular, with objective to convey to teachers how such theories have consequences for teachers in the classrooms.

The conference arose historically from the NORMA conference in Lahti, Finland (NORMA-94), where one focus was constructivism, and one of the plenary talks, entitled “Constructing mathematics, learning and teaching”, was given by Barbara Jaworski, University of Oxford, UK, (Jaworski 1994). This contribution led, in 1995, to an invitation to Barbara to work with teacher educators at a conference in Norway on the topic of constructivism. This collaboration led to a great interest in the topic among the mathematics education community in Norway.

Since then, people engaged in mathematics teacher education in Norway, and especially staff from Oslo University College, Bodil Kleve particularly, have continued collaboration with Barbara Jaworski and Oxford University. In the intervening years, the original focus on constructivism has shifted to consider a wider range of perspectives, all emphasising the social dimensions of mathematics learning and teaching. It was related to this background that Bodil and Barbara jointly organised this conference on theoretical perspectives in mathematical learning and teaching, particularly focusing on social issues. The participants in this conference were colleagues in Norway and the UK, and from further afield, known to have interest, knowledge and expertise in these theories. Because of space limit at Kleve gård in Gausdal where the conference was held, all the participants of the conference were especially invited. Twenty Norwegians and twenty-two persons from abroad participated. It was especially pleasing that three scholars of international renown, Jere Confrey, Jill Adler and Stephen Lerman, agreed to participate and lead parts of the conference.

Regardless of what part of the world you come from, it is of vital importance to come together and exchange views on teaching and learning of mathematics, and to relate one’s work to students in the classroom, and to the social and political situation in different countries. Despite differences in curriculum and cultural background we can all benefit from this collaboration.

The philosophy of the conference was one of sharing theory and practice aiming to get a considerable depth of issues related to the three paradigms. In advance all participants were invited to write papers related to the paradigms. All papers (including those from the three main speakers) were circulated to everybody before the conference so that all were well prepared for group discussions.

The three main speakers initiated the conference by offering questions and issues related to a particular paradigm and to their own research. Jere Confrey started out the first day with “Social Constructivism”. The following day was with Jill Adler and “Social Practice Theory”, and the last person out was Stephen Lerman, South Bank who concentrated on “Socioculturalism”. Their contributions make the main content of this special issue of NOMAD.

All participants contributed in discussion groups, by offering examples from theory, research and practice. This enabled deep and searching questions to be tackled. Such contributions were related to the submitted papers. The authors were given a small amount of time to raise questions and issues relating to their paper. In all groups there were organised scribes, to keep records from all discussions.

A conference like the one held in Gausdal was the first of its kind in Norway, and of great importance for the Norwegian participants.

## **NOMAD and the conference**

The journal *Nordic Studies in Mathematics Education - Nordisk Matematikdidaktikk*, NOMAD, is a journal for research and developmental work in mathematics education. The main objectives of the journal are to stimulate, support and foster Nordic researchers and post-graduate students in mathematics education and to develop mathematics teaching and teacher education in theory and practice at all levels of the educational system. NOMAD publishes articles based on theoretical analysis as well as empirical studies, reports on results from research- and developmental projects, discussing general issues related to mathematics education.

This special issue is the first of its kind in the history of NOMAD, but the theme of the conference should not be unfamiliar to the subscribers of the journal, especial social constructivism, although few articles have had their main focus on theoretical considerations. The first article of the first issue of NOMAD dealt with this subject (Björkqvist 1993).

### **References:**

- Björkqvist, O., (1993). Social constructivism as foundation for the teaching of mathematics. (In Swedish). *Nordic Studies in mathematics Education*. 1(1), 8-17.
- Jaworski, B., (1994). Constructing mathematics, learning and teaching. In E. Pehkonen (Ed.), *Proceedings of the Nordic Conference on Mathematics Teaching (NORMA-94)* (21-34). Helsinki: Department of Teacher Education, University of Helsinki. Research Report 141.
- The Royal Ministry of Education, Research and Church affairs, (1999). *The curriculum for the 10-year compulsory school in Norway*. English edition.