

THE CONCEPT AND ROLE OF THEORY IN MATHEMATICS EDUCATION RESEARCH



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Abstract

In any scientific or scholarly field of research, the notion of "theory" is a crucial one. Now, mathematics education as a research domain is at the cross road of several other disciplines in the natural and social sciences - including, of course, mathematics - and the humanities. However, the fact that the conceptions of "theory" are very different in those disciplines gives rise to a non-negligible amount of unclarity, if not outright confusion, of the concept and role of theory in mathematics education research. In the seminar, I shall present and analyse some of the concepts of theory and some of the specific theories actually encountered in mathematics education research. The characteristics and roles of these theories in mathematics education will be discussed. It should be emphasised that there are quite a few controversies involved in these issues, and that my own views are immersed in these controversies.

About the speaker:

Mogens Niss is professor of mathematics and mathematics education, Roskilde University (RUC), Denmark. He is well-known in the international mathematics education community, and not the least so because of his 12 year membership of the Executive Committee of ICMI, 1987-98, the last eight years in his capacity as the Secretary General of ICMI. He was trained as a pure mathematician with a thesis on topological measure theory utilised in the theory of stochastic processes. His main field of research is mathematics education, where he has published well above a hundred papers in scholarly journals, as well as twelve books. His research interests are focused on the justification problem in mathematics education, on applications and modelling in the teaching and learning of mathematics, on assessment, on the nature of mathematics education research as a scientific discipline, and on mathematical competencies in mathematics education. He is or was in the past a member or a chair of a very large number of national and international committees, including the ICMI-Denmark national sub-commission and OECD PISA's mathematics expert group. He has given hundreds of keynote addresses in national and international meetings and conferences in Australia, Austria, Belgium, Canada, China, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Japan, the Netherlands, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and USA. He has also been a member of adjudication committees for doctorates and professorships in Austria, Canada, Denmark, France, Germany, Lebanon, Norway, Sweden, UK, USA. In 2003, he became Knight of the Order of the Danish Flag ("Ridder af Dannebrog").

All are Welcome!

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