

Citation for the 2019 Award for Interdisciplinary Excellence in Mathematics Education to Dr. Abraham Arcavi

It is with great pleasure that the Award Committee announces that the 2019 Award for Interdisciplinary Excellence in Mathematics Education is given to Dr. Abraham Arcavi, Weizmann Institute of Science, Israel, in recognition of his distinguished and sustained contributions to mathematics education. Employing multiple perspectives and voices in addressing issues in mathematics education both scholarly and administratively, Arcavi has promoted the development of mathematics education as an interdisciplinary field.

Arcavi's scholarly work has been predominantly interdisciplinary, linking mathematics, learning sciences, and practice on the topics of algebra instruction, visualization in the learning of mathematics, and teachers' professional development. For example, he put forth the innovative construct of *symbol-sense* in 1994, as the intuitive feel of when and how to call on algebraic symbols in the process of solving a problem, how to "read through" symbols and how to assign meanings to algebraic manipulations. The notion of symbol sense is now used broadly in many publications devoted to teaching and learning school algebra and entered many courses for mathematics teacher preparation. His recent project with others, VIDEO-LM (Viewing, Investigating, and Discussing Environments Of Learning Mathematics), has developed a six-lensed theoretical framework, which draws upon mathematical, cognitive, and social aspects of mathematics instruction. Teachers view the videos through these six lenses as a means of entering the shoes of the filmed teachers, in so doing deeply reflecting of their own practice. Evaluation studies suggest that VIDEO-LM workshops change participants' subsequent teaching practices. Arcavi's work reflects a remarkable ability to identify and illuminate phenomena of central importance to the needs and agendas of both the research and practice communities.

Arcavi's immense international scholarly activities and professional service have been a significant aspect of his contributions to the mathematics education community. From 1983 to 2019, he has given a total of 73 plenary addresses, workshops and invited lectures in 30 countries and served as a consultant for mathematics education programs in six countries. Among his numerous professional services, Arcavi was elected to serve as Secretary General of the International Commission on Mathematical Instruction (ICMI), 2013-16, and reelected for this position 2017-20. He also served on a large number of commissions, committees, and study groups in Israel and internationally, including the IPC of the 10th, 13th, and 14th ICME, of ICMI Studies 22, 23, 24 and 25, and of the 4th and 5th CERME; Topic Study Group and Working Group at ICME and CERME; Israeli Academy of Sciences; The Israeli National Authority for Research and Evaluation; Israeli Ministry of Education. Arcavi has worked productively with mathematics educators and mathematicians to demonstrate that collaboration between these two communities is essential both for improving the educational program and for research itself.

Arcavi received his doctorate in 1985 from Weizmann Institute of Science (WIS), Israel. After postdoctoral fellowships at Ball State University in 1985-86 and at the University of California at Berkeley in 1986-88, he joined WIS, where he has been a scientist, senior scientist, associate professor, and then full professor since 2010. At WIS, he served as Head of the Mathematics Group at Department of Science Teaching (DSC), Chair of the Board of Studies of DSC, and then Head of DSC in 2001-05, and is currently the Incumbent Lester B. Pearson Professorial Chair. During 2009-10, he also belonged to Hebrew University of Jerusalem, Israel, as a full professor. His past recognitions include Friedenbergs Foundation Prize awarded by the Israel Science Foundation, and Visiting Researcher Fellowship from the University of Tsukuba, Japan.