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Guershon Harel* (harel@math.ucsd.edu), Department of Mathematics, University of California, San Diego, San Diego, CA 92093-0112. *The Necessity Principle and Its Implementation in Mathematics Instruction.*

The Necessity Principle states: For students to learn they must see a need for what we intend to teach them, where by "need" it is meant intellectual need, not social or economic need. Most students, even those who are eager to succeed in school, are intellectually aimless in mathematics classes because their teachers fail to help them realize an intellectual need for what they intend to teach them. In this talk I will discuss the Necessity Principle and give examples of its implementation in mathematics instruction, focusing in particular on the teaching of proof. (Received September 14, 2007)