1067-97-12   **Alexander Y Vaninsky*** (`avaninsky@hostos.cuny.edu`), 500 Grand Concourse, Room B-409, Bronx, NY 10451. *Impact of Automated Proof Systems on Teaching Mathematics.*

Recent developments in the systems of automated proof pave the way to a new approach to teaching mathematics. Such systems allow for hypothesizing theorems with their proof or disproof performed by computer software. This environment allows for change in the pedagogy of mathematics education by making more stress on the logic of the proofs and mathematical objects under consideration. In the framework of the suggested approach each topic of mathematics curriculum is considered a class equipped with properties and methods. Theorem proof is an automated process of assigning values to specific properties. Such approach stresses the basic notions and concepts of mathematics while eliminating routine lengthy proofs. For example, the Göedel Incompleteness Theorem may become a regular topic of standard high school or undergraduate mathematics courses. Students' mathematics preparation should include understanding of the main principles of the automated proof and ability to simulate their functioning. It is shown that a well-known table -based approach to problem solving may serve as a means of simulation while connecting puzzles to proofs. An example of application of the suggested approach is demonstrated. Possible impact on mathematical pedagogy is discussed. (Received April 23, 2010)