

1014-O1-209 **Karsten Schmidt*** (kschmidt@fh-sm.de), FB Wirtschaft, FH Schmalkalden, Blechhammer, 98574 Schmalkalden, Thuringia, Germany, and **Wolfgang Moldenhauer**. *Teaching Mathematics Using a Computer Algebra System—What are the Effects on the Students' Performance?*

In 2003 a project on the effects of using the TI-89 in math education in 8 upper secondary schools in the German state of Thuringia was completed. Since assessment results showed that its effect on the students' math knowledge was positive for most cohorts, and almost never negative, the authorities decided to move onward and allow all schools to decide if they should make the use of pocket calculators with a built-in Computer Algebra System (such as the TI-89) in math education compulsory. Meanwhile, more than 25 (of about 100) upper secondary schools opted for the use of such calculators, as from grade 10 in most cases. Starting in 2000, a test was carried out every year in November with all grade 11 students from schools using the TI-89, and all grade 11 students from selected control schools. Naturally, the use of any electronic calculator was not permitted in these tests. This presentation investigates the effects of the use of CAS technology on the students' performance. Overall assessment results from the project as well as from recent years are investigated. It will also be analyzed if there are certain mathematical topics where students who had been using pocket calculators with built-in CAS tend to be particularly successful compared with students from control schools. (Received August 22, 2005)