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Computer algebra systems: permitted but are they used?

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Summary: Since the 1990s, computer algebra systems (CAS) have been available in Australia as hand-held devices designed for students with the expectation that they will be used in the mathematics classroom. The data discussed in this paper was collected as part of a pilot study that investigated first year university mathematics and statistics students' understanding of functions and variables, as well as the use of technology in their last year of school (Year 12). Did their teachers discourage the use of CAS for algebra? Did the students actually learn how to use CAS to support their work in algebra or to support their learning of algebra? Did they find that, given the level of algebra, it was faster to work with pen-and-paper than to correctly enter algebraic expressions? The results reported in this paper are based on items included in a pilot survey. They raise questions rather than provide answers. The results do however tell us that, at least from these first year university students' recollection of their Year 12 experience, most of their VCE mathematics teachers made little use of CAS as a pedagogical tool in their classes, despite the institutional approval and encouragement indicated by both the State's curriculum and assessment for the past decade. A better understanding of the barriers to teachers using CAS technology to enhance their pedagogy is needed and then perhaps more effective professional learning programs can be provided for teachers. (ERIC)

Classification: U70

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