CAS in the Classroom: Yesterday, Today, and Tomorrow

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The extended abstract:

We will consider the development of classroom use of computer algebra systems (CAS) from different perspectives. Starting with a brief history and timeline of CAS, we'll highlight the explosive growth during the '60s and 80's. The innovations of these two decades brought CAS to the classroom. Early uses were limited, but implementing CAS on microcomputers and the addition of good graphics fomented widespread adoption.

Current usage is our next topic. Today there are two main pedagogical practices: CAS as a high-level computation engine, and CAS-based microworld's for exploration. We are presently at the cusp between desktop and mobile platforms. Another quantum growth step in CAS adoption, like the mainframe-to-desktop burst of the 80s, is beginning. Programs and resources such as PocketCAS & iCAS and Maple Player & Wolfram Alpha are presenting new opportunities to incorporate CAS in our classrooms.

We will close with predictions and hopes for future CAS technology. The question is, "Where can CAS help us to go in didactics and pedagogy tomorrow?"