The ‘mini’ Future Of Education

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Connected to a laptop I can’t afford, on the far end of a tangle of cords, is an exposed circuit board peppered with objects I can name — resistors, diodes — but not explain. The computer itself is running software that I’m not capable of programming myself. But none of that matters, and, in fact, is part of an educational plan from National Instruments’ Academic Program. They want to help students of all types and levels of intellect “do engineering.” That difference — to learn on miniature versions of real-world problems instead of slogging through problem sets in an overpriced textbook — could be enough to better prepare America’s students for the high-tech work that’s inevitably to come.

Dave Wilson, Director of National Instruments’ Academic Program, has been chasing this dream of helping student engineers and scientists “do engineering” for years, and he’s confident that time has finally come. The company has recently announced the availability of its miniSystems, which are educational tools built onto a small, affordable circuit board.

National Instruments has collaborated with a number of various electronics design companies, such as Elenco and Pitsco Eudcation, to build single-board experiments in operating an electrical grid, analyzing the earthquake resistance of a structure, or the power output of an RC car via dynamometer — to name a few. These boards hook into the NI miDAQ low-cost data acquisition device for students, which then distributes data to the company’s LabView software. Tutorials and example projects are included, so students over a wide range can get things moving straightaway. Almost all are less than $99, which helps reduce costs for educators.

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