How do you describe an end plate moment connection? If you’re teaching a basic steel class, that’s a pretty important question. And once upon a time, there wasn’t really a good answer—until the University of Florida’s Duane Ellifritt developed the ultimate solution.

As Duane tells the story: “In the summer of 1985, after seeing the inability of many students to visualize even simple connections, I began to search for a way to make connections more real to them. Field trips are one alternative, but the availability of these is intermittent and with all the problems of liability, some construction managers are not too anxious to have a group of students around. I gave some thought to building some scale models of connections and bringing them into the classroom, but these would be too heavy to move around and you would have the additional problem of a place to store them all when they were not in use.

“My eventual solution was to create a steel sculpture that would be an attractive addition to the public art already existing on campus, something that would symbolize engineering in general, and that could also serve as a teaching aid.”

That first sculpture was completed in 1986 (see photo on page 22 of this issue). And since then, more than 80 sculptures have been installed on campuses throughout the U.S. and Canada. But the program didn’t stop with the steel sculpture. In conjunction with AISC, a teaching guide was created: “Connecting Steel Members—A Teaching Guide.” Now, when a professor is trying to describe an end plate moment connection, students can turn to page 7 and read: “The end plate moment connection is made by shop-welding a plate to the end of a beam and field-bolting to a column or another beam. The four bolts around the tension flange transmit the flange force into the column. In deeper sections, additional bolts may be needed. Sometimes a bolt is added near the neutral axis of the beam, not for stress, but to prevent gaps between the plates.” And accompanying that description is a photograph and two line drawings.

This year, AISC awarded Duane with a Special Achievement Award in recognition of the significance of the sculpture. And last month, the original sculpture in Gainesville, FL, was rededicated.

Next time you visit your alma mater, take a look around. There’s a good chance that you’ll find a replica of Duane’s original teaching sculpture. And if you happen to run into Duane at a conference, congratulate him on making teaching about connections a lot easier.