

From a Plate of Spaghetti to a Cable-stayed Bridge: Increasing the Impact of Corpus Linguistics in Disciplinary Education

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In the 1980s, John Sinclair was instrumental in showing the profound impact corpus linguistics could have on our understanding of language. Now, ten years after his death, I want to urge corpus linguists to think again about having an impact – this time on fields that most people don't associate with language study, such as engineering.

Why does an engineer need corpus linguistics? How can corpus-based studies improve engineering education? What does it take to move from language descriptions to applications that encourage changes in what people do? What challenges face corpus linguists in working with professionals who don't "speak linguistics"? These are the general questions I will address, using my work in the Civil Engineering Writing Project as a concrete example.

Begun in 2009, the Civil Engineering Writing Project is a corpus-based project that addresses a long-standing problem in engineering education: students' lack of preparation for writing in the workplace. Despite decades of discussion, there had been almost no empirical investigation of the problem in the United States. I immediately saw the role corpus linguistics could play in defining the problem, informing teaching materials, and assessing improvements. The project materials have now been piloted at four universities, with significant improvements in students' writing.

My talk will include examples of the corpus-based analyses of words and grammar that helped us understand the gaps between student and practitioner writing. The analyses have, for example, clarified the highly controversial areas of passive voice and first person pronoun use, and highlighted the importance of clausal simplicity and certain word choice issues. They demonstrate that language choices are fundamental to effective engineering. However, the linguistic analyses have also become intertwined with techniques that are less typical in corpus studies. We maintain ongoing collaborations with professionals in the community, to mine their context expertise and get their help interpreting the linguistic findings. We interview students to gain insight into reasons behind their language patterns – insights that no amount of corpus analysis can reveal. We have made additions to the research methodology to include judgments of writing effectiveness, a transition from description to evaluation that is necessary for an applied project. And we are constantly seeking new ways of turning corpus analyses into information and practice that engineers value. Although the additional techniques increase the complexity of the project, I argue in this talk that expanding corpus research in these ways can make it more useful in more disciplines.

I will reflect on the successes and the continuing challenges of the project. How exactly the plate of spaghetti and the cable-stayed bridge figure in – well, that will become clear in the talk.