Teaching Constraint Programming

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Abstract. How do we do research? We start with a question. Then we read books, journal and conference papers, maybe even speak to people. Then we do our own work, make our own contribution, maybe coming up with an improved technique or a greater insight. We then write up our findings, maybe submit this to a conference, present our work and get feedback, and this results in further research. This is a feedback loop, open to scrutiny by our peers.

And what about teaching? *You* teach yourself and become competent. *You* decide how to teach your subject. *You* then teach and mark students. *You* analyze students' performance and use this to modify what you teach. *You* continue to learn your subject and use this new knowledge to modify your teaching. Again, there is a feedback loop. But it is a closed loop, in the sense that no one really gets to critique what *you* do. If you are teaching Constraint Programming (CP) it is unlikely that there are many teaching colleagues who can actually evaluate what you are doing, other than looking at the final exam marks. So you can wander off topic, away from the target and this can be dangerous.

I am fortunate enough to be allowed to teach CP to final year and masters students at Glasgow University. I have been doing this for about 10 years. What I teach and how I teach has evolved over time. I now recognize some things that I did that were clearly wrong and some things that I did that were really good. I know that I do not teach in a vacuum, that my students take many other courses. So I try and identify *stuff* that I think a Constraint Programmer should know that is not being taught in other courses. Consequently, my CP course contains *stuff* that might be considered unusual. I also expect that there's *stuff* that I should teach but do not.

In my talk I will describe the content of my CP course (the stuff of it), some things I have done wrong and some things that really work well. I will cover lecture material, assessed exercises and even exam questions! In essence, I will open my feedback loop allowing *you* to give *me* feedback on what I teach.