

COSC345 Week 4 Notes

I could have chosen to present some technique such as COCOMO II or Function Points in detail.

I chose not to, because I have never found them useful. That's not to say that they are not useful to others, it's just that I've worked on projects with high algorithmic complexity and few or no interactive screens, making function points useless, and in languages for which there is little data, making COCOMO dubious.

So one theme is to trust your own **data** more than anything else, including your own feelings. (This is also one of the key ideas in the Personal Software Process.)

Another theme is that people who haven't done much of it are really quite bad at estimation. That's why I chose to spend what looks like quite a lot of time on an estimation exercise: people have a hard time believing how bad at estimation they are until they are shown. If the students go away convinced that estimation **is** a problem that they will need to work on, the lecture will have succeeded.

I now show a slide showing how well students did in the previous year. The results do not change much from year to year.

In 2015 I added some material about the Personal Software Process, having discovered a report I could make available to the students.

The article is "The Personal Software Process" by Watts S. Humphrey, <http://www.sei.cmu.edu/reports/00tr022.pdf>

The principles are pretty important:

- Every engineer is different; to be most effective, engineers must plan their work and they must base their plans on their own personal data.
- To consistently improve their performance, engineers must personally use well-defined and measured processes.
- To produce quality products, engineers must feel personally responsible for the quality of their products. Superior products are not produced by mistake; engineers must strive to do quality work.
- It costs less to find and fix defects earlier in a process than later.
- It is more efficient to prevent defects than to find and fix them.
- The right way is always the fastest and cheapest way to do a job.

A later horse from the same stable is "The Personal Software ProcessSM (PSPSM > Body of Knowledge, Version 2.0)" by Marsha Pomeroy-Huff, Robert Cannon, Timothy A. Chick, Julia Mullaney, and William Nichols. <http://www.sei.cmu.edu/reports/09sr018.pdf>

Speaking only for myself, the PSP's use of **linear** regression disturbs me greatly. *Never* follow the PSP's advice on statistics; ask a statistician.