M. Jørgensen, D. I. Sjøberg, and G. Kirkebøen (2000)

The prediction ability of experienced software maintainers

Abstract

Reports an empirical study of 109 randomly selected maintenance tasks in a large Norwegian software organization. When the maintainers had understood the maintenance task specifications, we asked whether they knew how to solve the task. A high confidence in knowing how to solve the task meant that the maintainers did not expect any major difficulties. Then, immediately after the task was completed, we asked whether there had been any major unexpected difficulties. A comparison of the answers gave the seemingly surprising result that one could not, except for corrective, small and simple maintenance tasks, have more confidence in the predictions of an experienced maintainer than the predictions of an inexperienced maintainer. We believe that better quality of the feedback on previous predictions and more training in probabilistic thinking are important means to improve the prediction abilities of maintainers. Decision aids, such as maintenance effort estimation models, should enable the analysis of previous predictions and stimulate probabilistic thinking