

"The Role Of Measurement In A Construction/Analysis  
Oriented Software Development Model"

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**Abstract**

The theme of this paper is "Measurement in isolation or as an add-on will not improve the quality or productivity of software development significantly."

I distinguish between construction-oriented and analysis-oriented activities of software development. Analysis-oriented activities can enhance our 'passive' understanding of what the impact of certain process and product variables on quality and productivity has been. However, only construction-oriented activities can 'actively' influence quality and productivity. Measurement can and should be used to support analysis- as well as construction-oriented activities. Measurement applied over time will result in an objective (quantifiable) baseline regarding the experience with construction and analysis. Incrementally enhancing this base-line reflects 'learning'. Such an objective experience base-line has the potential of being reused for the purpose of providing feedback into ongoing or future projects. Learning and feedback are the backbones for improvement. The effectiveness of measurement as a support mechanism depends heavily on the supported software development model. The development model needs to support the transformation of 'passive' measurement results into 'active' improvements of constructing quality software in a cost-effective way. An improvement-oriented process model will be outlined.