



# Experimentation in Software Engineering : an Introduction /

Wohlin, Claes

Springer US,  
2000

Electronic books

Monografía

The purpose of *Experimentation in Software Engineering: An Introduction* is to introduce students, teachers, researchers, and practitioners to experimentation and experimental evaluation with a focus on software engineering. The objective is, in particular, to provide guidelines for performing experiments evaluating methods, techniques and tools in software engineering. The introduction is provided through a process perspective. The focus is on the steps that we go through to perform experiments and quasi-experiments. The process also includes other types of empirical studies. The motivation for the book emerged from the need for support we experienced when turning our software engineering research more experimental. Several books are available which either treat the subject in very general terms or focus on some specific part of experimentation; most focus on the statistical methods in experimentation. These are important, but there were few books elaborating on experimentation from a process perspective, none addressing experimentation in software engineering in particular. The scope of *Experimentation in Software Engineering: An Introduction* is primarily experiments in software engineering as a means for evaluating methods, techniques and tools. The book provides some information regarding empirical studies in general, including both case studies and surveys. The intention is to provide a brief understanding of these strategies and in particular to relate them to experimentation. *Experimentation in Software Engineering: An Introduction* is suitable for use as a textbook or a secondary text for graduate courses, and for researchers and practitioners interested in an empirical approach to software engineering

<https://rebiunoda.pro.baratznet.cloud:28443/OpacDiscovery/public/catalog/detail/b2FpOmNlbGVicmF0aW9uOmVzLmJhcmF0ei5yZW4vMjE2NTkyNjk>

**Título:** Experimentation in Software Engineering an Introduction by Claes Wohlin, Per Runeson, Martin Höst, Magnus C. Ohlsson, Björn Regnell, Anders Wesslén

**Editorial:** Boston, MA Springer US 2000

**Descripción física:** 1 online resource (xx, 204 pages)

**Mención de serie:** The Kluwer International Series in Software Engineering 1384-6469 6

**Contenido:** 1 Introduction -- 1.1 Software engineering context -- 1.2 Science and software engineering -- 2 Empirical strategies -- 2.1 Overview of empirical strategies -- 2.2 Surveys -- 2.3 Case studies -- 2.4 Experiments -- 2.5 Empirical strategies comparison -- 2.6 Empiricism in a software engineering context -- 3 Measurement -- 3.1 Basic concepts -- 3.2 Measurements in software engineering -- 4 Experiment process -- 4.1 Variables, treatments,

objects and subjects -- 4.2 Process -- 5 Definition -- 5.1 Define experiment -- 5.2 Example -- 5.3 Summary -- 6 Planning -- 6.1 Context selection -- 6.2 Hypothesis formulation -- 6.3 Variables selection -- 6.4 Selection of subjects -- 6.5 Experiment design -- 6.6 Instrumentation -- 6.7 Validity evaluation -- 6.8 Detailed description of validity threats -- 6.9 Priority among types of validity threats -- 7 Operation -- 7.1 Preparation -- 7.2 Execution -- 7.3 Data validation -- 8 Analysis and interpretation -- 8.1 Descriptive statistics -- 8.2 Data set reduction -- 8.3 Hypothesis testing -- 9 Presentation and package -- 9.1 An experiment report outline -- 10 Literature survey -- 10.1 Inspection experiments -- 10.2 Other experiments in Software Engineering -- 10.3 Resources -- 11 Example: Experiment process -- 11.1 Definition -- 11.2 Planning -- 11.3 Operation -- 11.4 Analysis and interpretation -- 11.5 Summary and conclusions -- 12 Example: C versus C++ -- 12.1 Introduction and problem statement -- 12.2 Experiment planning -- 12.3 Analysis and interpretation -- 12.4 Conclusions and further work -- 13 Exercises -- 13.1 Understanding -- 13.2 Training -- 13.3 Reviewing -- 13.4 Assignments -- Appendix A: Statistical tables -- Appendix B: Experiment process overview -- References -- About the authors

**Copyright/Depósito Legal:** 968918689

**ISBN:** 9781461546252 electronic bk.) 1461546257 electronic bk.) 9781461370918 1461370914

**Materia:** Computer science Software engineering Computer science. Software engineering.

**Autores:** Runeson, Per Höst, Martin Ohlsson, Magnus C. Regnell, Björn Wesslén, Anders

**Enlace a formato físico adicional:** Print version 9781461370918

**Punto acceso adicional serie-Título:** Kluwer international series in software engineering 6

---

## **Baratz Innovación Documental**

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es