

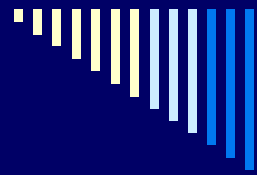
Software Engineering Controlled Experiment Life Cycle

Credits

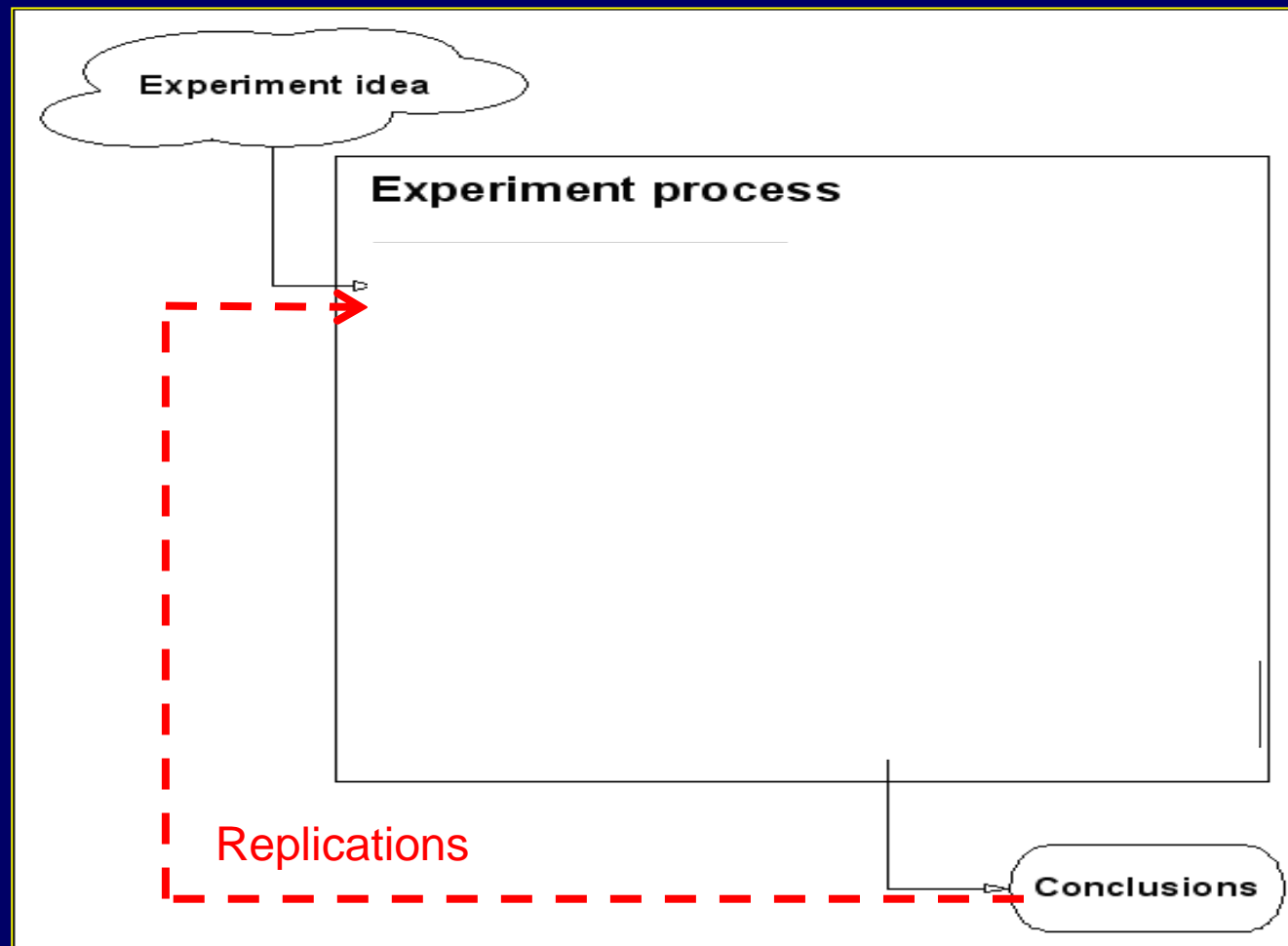
Experimentation in Software Engineering: An Introduction

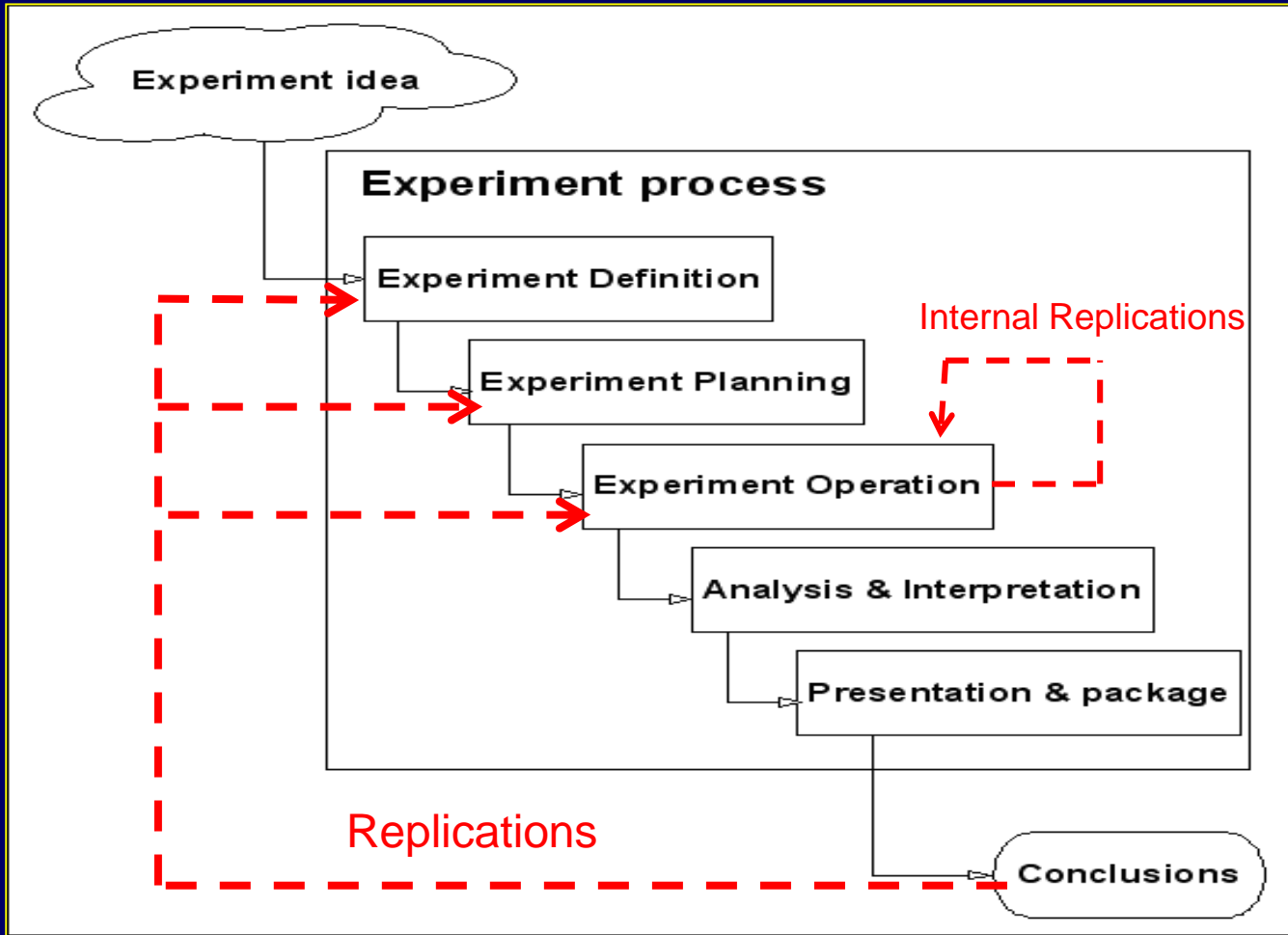
by Claes Wohlin, Per Runeson, Martin Host, Magnus C. Ohlsson, Bjorn Regnell, and Anders Wesslén

Springer-Verlag, 2005 (Formerly printed by Kluwer Academic Press, 2000).

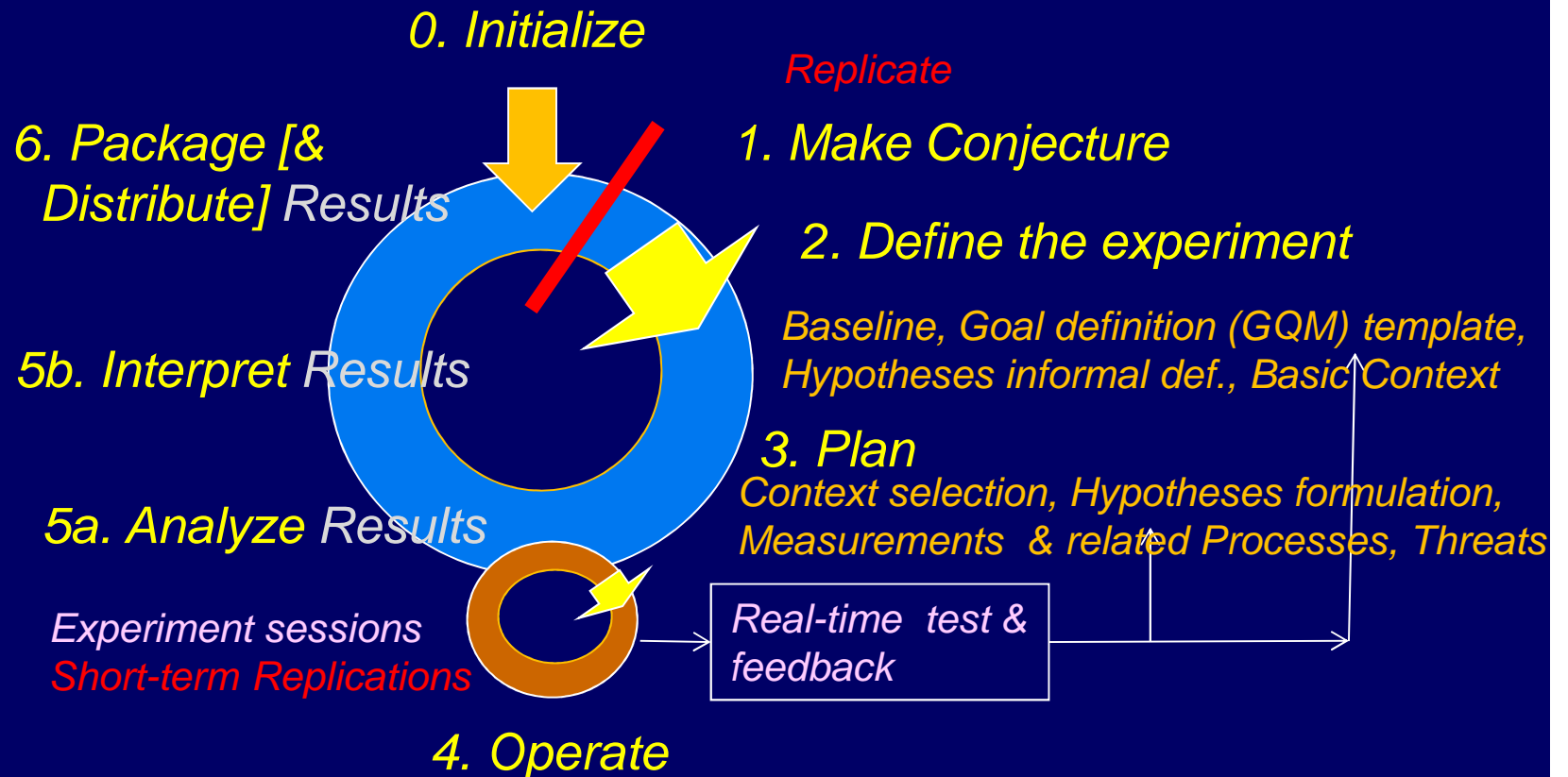


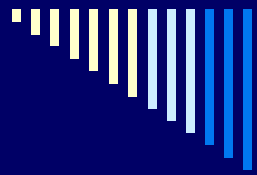
The Experiment Process





The Cyclic Learning Process Applied to Experimentation





The Cyclic Learning Process

Baseline : It is what we already know. (Be sure to know what you should already know.)

0. *Initialize* the improvement cycle.

1. *Make Conjecture* about what we want to know.

2. *Define the Learning Approach* (EXPERIMENT DEFINITION) .

3. *Define the Process*, including measurement points (EXPERIMENT PLAN). Define Hypotheses . Define quantitative goals, and plan qualitative matching. Identify Validity Threats.

4. *Enact the process*, take the planned measures, forward advices and new experiences, give *fast feedback* for process mistakes (EXPERIMENT OPERATION)

5a. *Analyze* measures, advices and new experiences. (EXPERIMENT RESULTS ANALYSIS)

5b. *Test* these results versus the current knowledge. (EXPERIMENT INTERPRETATION)

5c. *Integrate* the new results into the current knowledge, and *possibly synthesize* knowledge at a higher level

6. *Package knowledge* [and distribute it organization wide]. *Update Baseline*.