

StevenTeleki Suggestions for an Alternate PSP Introduction Method
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Suggestions for an Alternate Introduction Method to the SEI PSP

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SEI: Software Engineering Institute
PSP: Personal Software Process

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Agenda

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1. Overview

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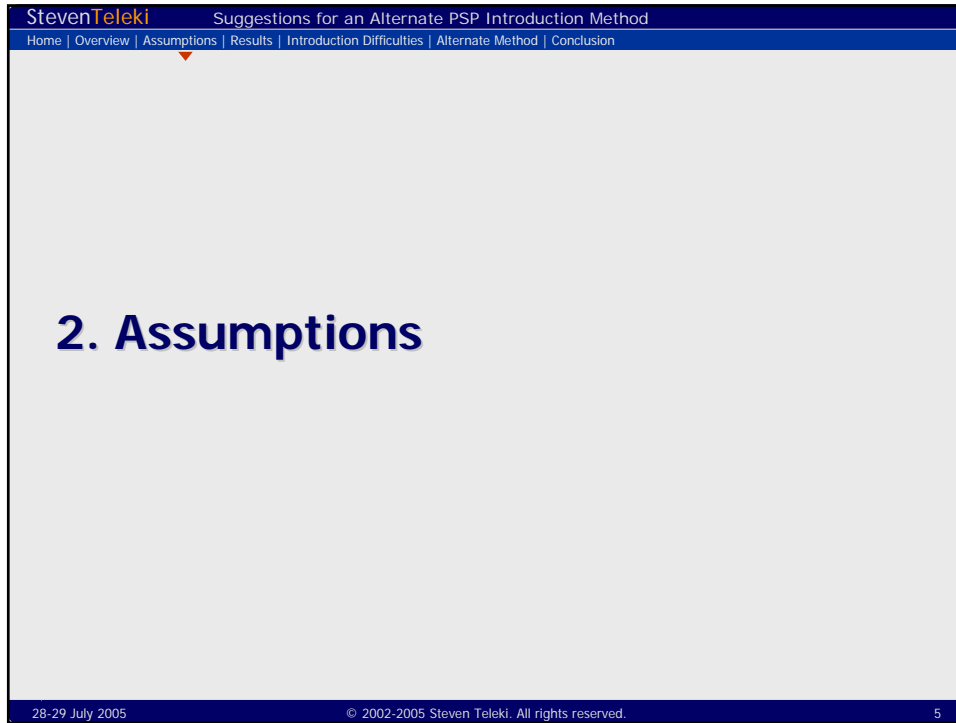
Personal Software Process (PSP)

“The Personal Software Process™ is a self-improvement process designed to help you control, manage, and improve the way you work.”

“[The PSP] is a structured framework of forms, guidelines, and procedures for developing software.”

Humphrey, Watts S. *A Discipline for Software Engineering*. Addison-Wesley. Reading, MA. 1994.

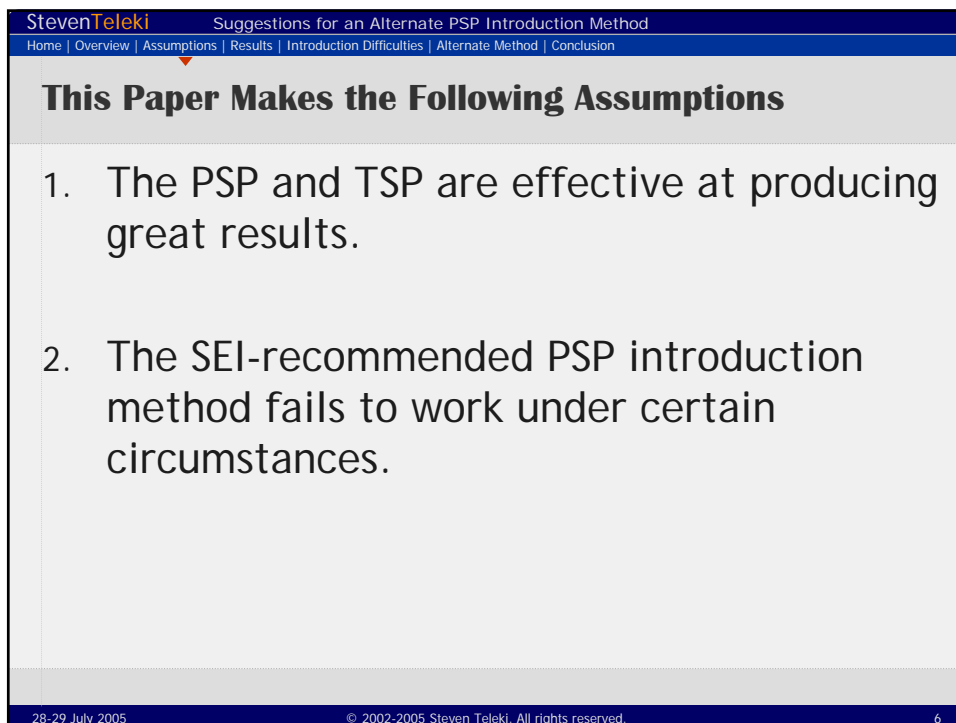
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2. Assumptions

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This Paper Makes the Following Assumptions

1. The PSP and TSP are effective at producing great results.
2. The SEI-recommended PSP introduction method fails to work under certain circumstances.

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3. Results

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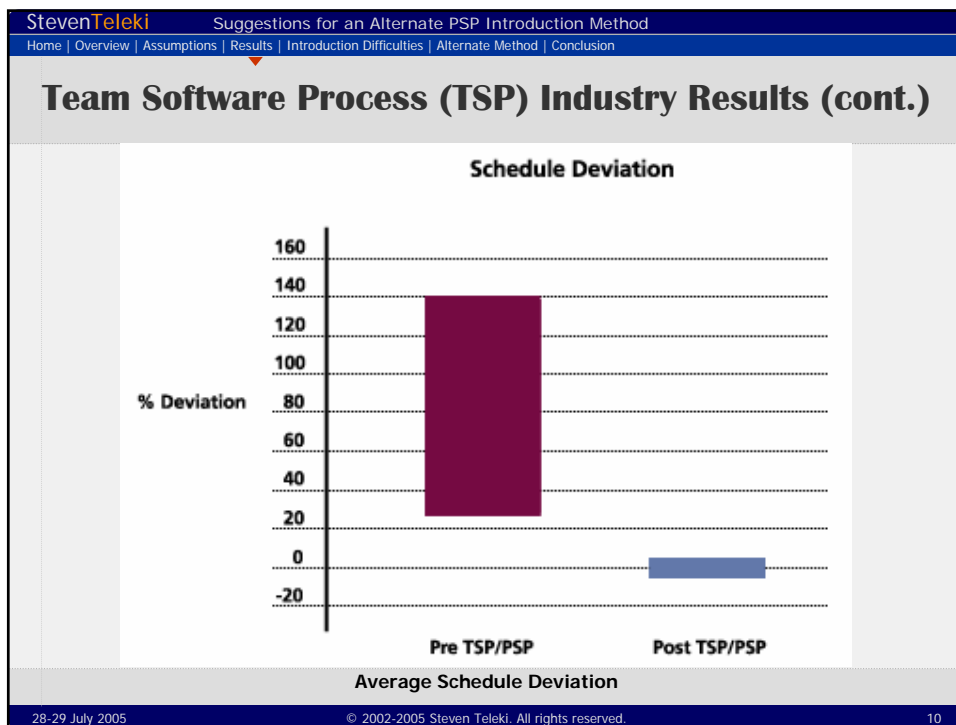
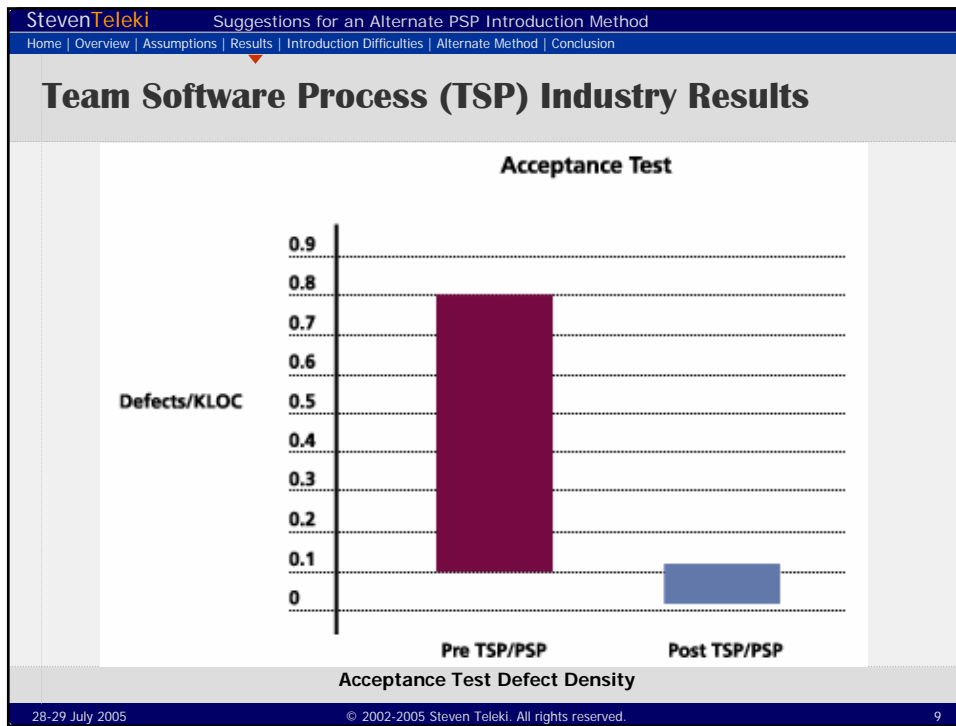
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PSP Class Results

Program Number	Mean Compile and Test	PSP Level Mean Comp and Test
1	105	110
2	100	105
3	100	100
4	70	75
5	70	65
6	70	65
7	30	40
8	30	30
9	30	25
10	30	20

Mean # of Defects/KLOC in Compile and Test

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4. Introduction Difficulties

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The PSP Introduction Method Recommended by the SEI

PSP Level	Activities	Exercises/Reports
PSP3	Cyclic Development	Exercise 10, Report 5
PSP2	Code Reviews, Design Reviews, Design Templates (PSP2.1)	Exercises 7, 8, 9
PSP1	Size Estimating, Test Report, Task Planning, Schedule Planning (PSP1.1)	Exercises 4, 5, 6, Report 4
PSP0	Current Process, Basic Measures, Coding Standard, Process Improvement, Proposal Size, Measurement (PSP0.1)	Exercises 1, 2, 3, Reports 1, 2, 3

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Problems Encountered with the Recommended Method

The class is too disruptive to regular business because of its format.

Class tools and work tools are different.

Class programs and work programs are different.

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Problems Encountered (cont.)

The new knowledge is learned in a context that is different from the context of the everyday work.

The technical solution of the applications developed in the classroom is different from the technical solution used in everyday work.

Lack of tool support.

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Customize the Learning to the Learner

"Choose learning over teaching."

Provide ample one-on-one interaction.

Block, Peter. *Flawless Consulting, A Guide to Getting Your Expertise Used*, Second Edition. San Francisco, CA: Jossey-Bass/Pfeiffer, 2000.

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Build One New Habit, Learn One New Skill at a Time

“My Intention being to acquire the *Habitude* of all these Virtues, I judg’d it would be well not to distract my Attention by attempting the whole at once, but to fix it on one of them at a time, and when I should be Master of that, then to proceed to another, and so on till I should have gone thro’ the thirteen.”

Franklin, Benjamin. *The Autobiography and Other Writings*. New York, NY: Penguin Books, 1986.

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Proposed Method

Introduce the PSP concepts in 60-90 minute sessions, one at a time.

Distributed the sessions a few weeks apart.

Leave enough time between sessions for the engineers to practice the material on their regular work and not on assignments.

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Proposed Sequence

1. Identify tasks required to accomplish the project objectives, log time worked on each identified task (PSP 1.1)
2. Estimate task duration and schedule hours available for project work for each project week based on the time log from previous weeks (PSP 1.1)
3. Add peer review and unit test tasks to the personal task list
4. Conduct a weekly personal review of the personal data to identify lessons learned at the personal level during the previous week and propose lessons to be learned the following week (PSP 0.1)
5. Identify work phases, categorize tasks into phases (PSP 0)
6. Analyze each personal work phase for entry and exit criteria and input and output artifacts
7. Log defects found in your own work and determine the injection phase for each (PSP 0)

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Proposed Sequence (cont.)

8. Build review checklists based on the defect log and replace most peer reviews with personal reviews (PSP 2)
9. Identify system structure and apply personal iteration to each software component addition or modification (PSP 3)
10. Create a quality model of the system based on the work phases and the defect injection and removal rates
11. Analyze each task for the knowledge it requires and decide on actions to improve the knowledge used to complete the task (PSP 2.1)
12. Establish a size measure for the types of artifacts (work products) that you create, analyze the changes in the artifact size (PSP 1)

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Getting Started

Find your partners!

Lunch & Learn

Remember: Do not to reinvent the PSP, but rather to tweak the introduction and enable you to get it going in your organization.

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Getting Started (cont.)

"Outcome desired, action required."

"A successful manager of personal process is willing to do that which an unsuccessful manager of personal process is not willing to do."

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Conclusion

The PSP provides a framework for software engineers to do outstanding work.

Learning the practices embodied in the framework is difficult, because many of these practices require new skills.

Learn new skills one at a time, with ample practice time, until they become a habit.

Individuals who understand their performance can form high-performance teams and the TSP enables this.

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Your Letters Are Welcome!

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For a software development reading list
visit: <http://pseng.net/reading/>

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