

Why I Am Not Certified
My View of Testing Professionalism



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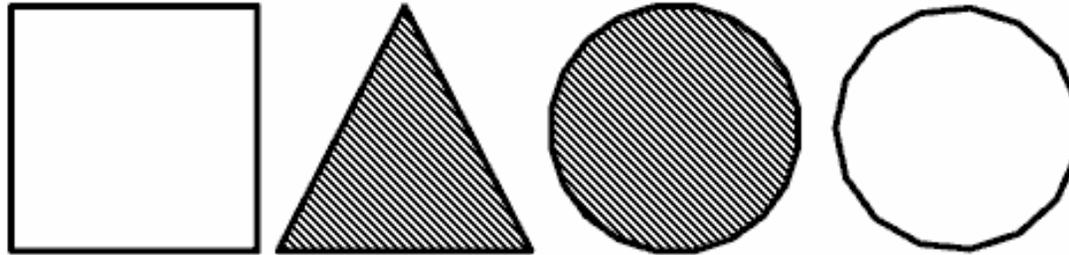
The Quick Answer:

- I don't find any significant merit in any commercial certification system for testers that I have seen. **(Therefore, I feel that it would not be a benefit to me.)**
- I believe that, taken seriously, these certification programs serve as an obstacle to innovation and learning. **(Therefore, I feel that they harm our craft.)**
- Coercive marketing that works on some people doesn't work on me, because I know I am not a commodity. **(Therefore, I am not afraid of being uncertified.)**
- I wish to preserve my reputation for integrity and excellence among certain people whose respect matters to me *very* much. **(I believe obtaining a “qualification” that I know to be meritless or harmful will cause me to forfeit certification within my community.)**

Counterarguments

- “It’s just a foundation.” (**No, it isn’t.**)
- “It’s better than nothing.” (**Nothing is not the alternative. The alternative to certification is an open a marketplace of ideas.**)
- “We need the common terminology it provides.” (**No, we don’t.**)
- “It’s okay for you to decline, Mr. Famous Expert, but normal people need a qualification.” (**There are always alternatives, unless the bullies and scoundrels succeed in closing down the open marketplace of ideas.**)
- “On life critical projects we want testers who know what they are doing.” (**All the more reason to reject shallow and vapid certification practices.**)
- “If we don’t do it, someone else will.” (**That’s why we must raise our voices together to discredit them.**)

“There is exactly one square, here.”



- You and I may *appear* to agree on this statement even if we truly don't, such as if I silently define a “square” as a three-sided polygon.
- This is the problem with a “foundation syllabus” of testing that gains shallow consensus without a deep examination its underlying assumptions. So, even though there are sentences in the ISTQB syllabus that I might also use to describe testing, what I *mean* by those sentences *is in no case* the same thing that Rex Black or Stuart Reid means by them.
- That's why I reject the *entire* ISTQB syllabus.
- Natural language is always ambiguous, but those ambiguities would be no problem if experienced testers held very similar ideas about testing. In fact, we don't.

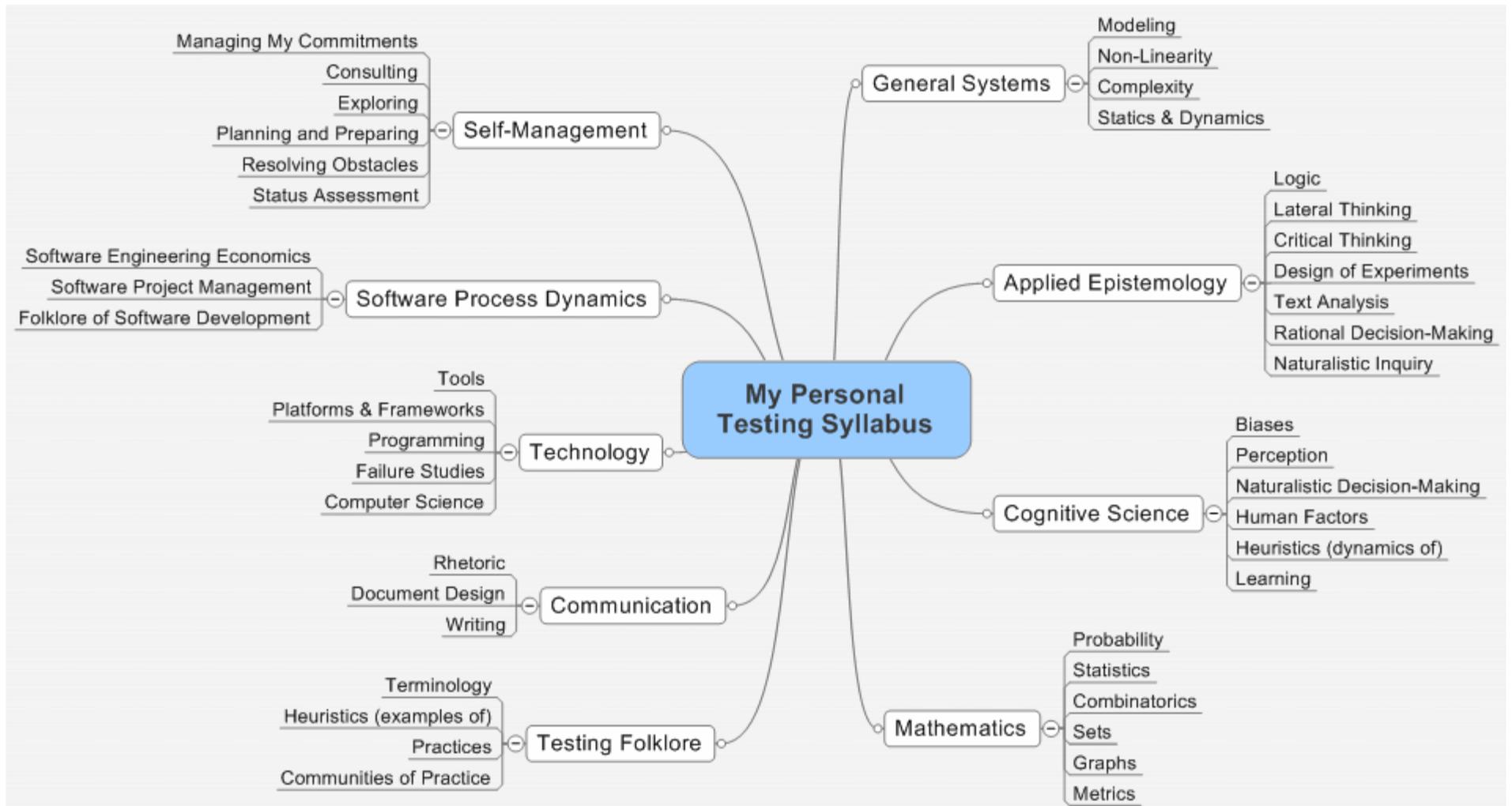
An Alternative Professionalism of Testing

- Testing is a social science that should be studied according to the values and methods appropriate to social science. *We should not let ourselves believe we understand testing until we study how it actually takes place.*
- We are still very early in the history of the craft. We are dominated by folklore and personalities instead of by a critical and rational method.
- There are many different micro-communities and industrial or academic traditions within the testing field. Although we often use the same words, we often think about testing in **VERY DIFFERENT WAYS.**
- It is grossly premature to close down fundamental discussions such as “what is testing?” or “what is a test?” or about how to test without test cases or test documents.

Context-Driven Testing Principles (v1.0)

1. The value of any practice depends on its context.
2. There are good practices in context, but there are no best practices.
3. People, working together, are the most important part of any project's context.
4. Projects unfold over time in ways that are often not predictable.
5. The product is a solution. If the problem isn't solved, the product doesn't work.
6. Good software testing is a challenging intellectual process.
7. Only through judgment and skill, exercised cooperatively throughout the entire project, are we able to do the right things at the right times to effectively test our products.

My (Personal) Testing Syllabus



Exploration Skills

- **Serving Your Clients**

- Chartering your work.
- Reporting your work.

- **Developing Ideas**

- Asking useful questions.
- Creating and testing conjectures.
- Pursuing a line of inquiry.
- Pursuing curiosity.
- Dynamically focusing your attention.
- Branching your work and backtracking.
- Alternating activities to improve productivity.
- Maintaining useful and concise records.
- Generating and elaborating a requisite variety of ideas.
- Overproducing ideas for better selection.

Exploration Skills

- **Developing Ideas (continued...)**
 - Abandoning ideas for faster progress.
 - Recovering or reusing ideas.
 - Creating and using models.
- **Interacting With the World**
 - Collaborating for better ideas.
 - Using Google.
 - Discovering or developing resources.
 - Finding or creating tools.
 - Interacting with your subject.
 - Observing what is there.
 - Observing what is NOT there.

The Science Behind Exploratory Testing

Theories of Exploration

- Heirarchical temporal memory theory
- Curiosity theory
- Bounded rationality & satisficing
- Sampling theory
- Swarm intelligence
- Control theory
- Science as questioning process
- Science as error probing

Direct Study of Exploratory or Scripted Problem-Solving

- A couple of lame studies funded by Microsoft
- A couple of beautiful studies by Herbert Simon
- Studies of Airplane Pilots
- Studies of Doctors
- Education Theory
 - Theory of Play
 - Constructionism
 - Learning from surprise (DLPFC)
 - Ends-in-view problems
 - Questioning methods
 - Physics by Inquiry
- Prospect theory
- Decision theory
- Adaptive expertise vs. routine expertise
- Stress inoculation

Justification of ET vs. Script-Heavy Approach

- Automation bias
- Naturalistic inquiry
- Plausible Reasoning (Polya)
- Exploratory theorem proving (Solow)
- Pervasive heuristics (Koen)
- Studies of decision-making under stress
- Tacit vs. propositional knowledge
- Studies of interpreting instructions

Methodology for Studying ET

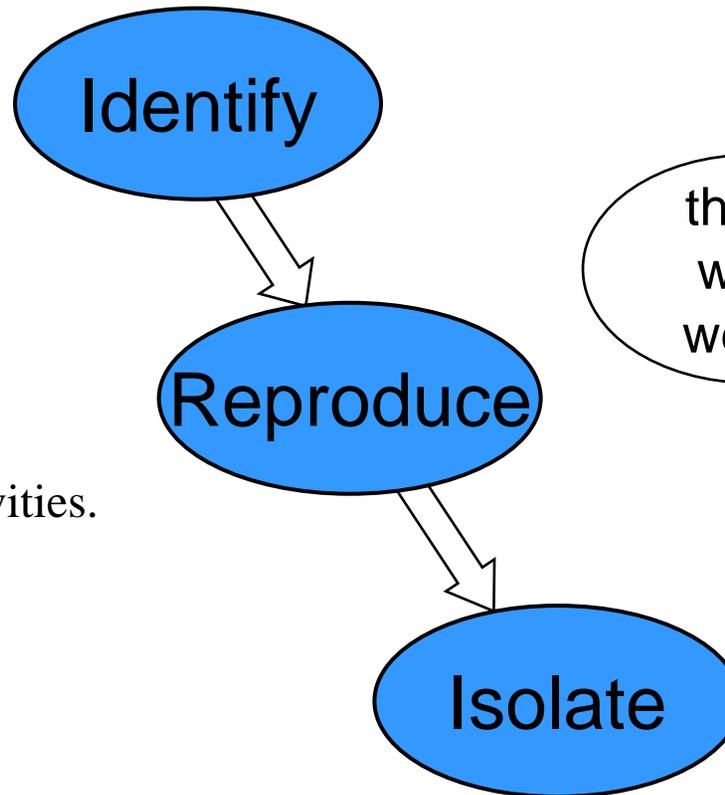
- Qualitative Research
- Naturalistic Inquiry
- Ethnomethodology
- Situated Action Theory
- Distributed Cognition
- Grounded Theory
- Activity Theory
- Symbolic Interactionism
- Exploratory Research Designs
- Brain scans
- Task analysis

Insight into ET Practice

- Identification and study of specific heuristics
- Focusing and defocusing techniques
- Abductive inference
- Critical rationalism (conjecture and refutation)
- Sensemaking (extracted cues)
- Science of design
- Formative evaluation methods
- Enactment

Case: Skilled Bug Investigation (*reported*)

- 1. Identify
 - Notice a problem.
- 2. Reproduce
 - Make it happen again.
- 3. Isolate
 - Cut out non-essential activities.



Skilled Bug Investigation (*more accurate*)

■ Identify

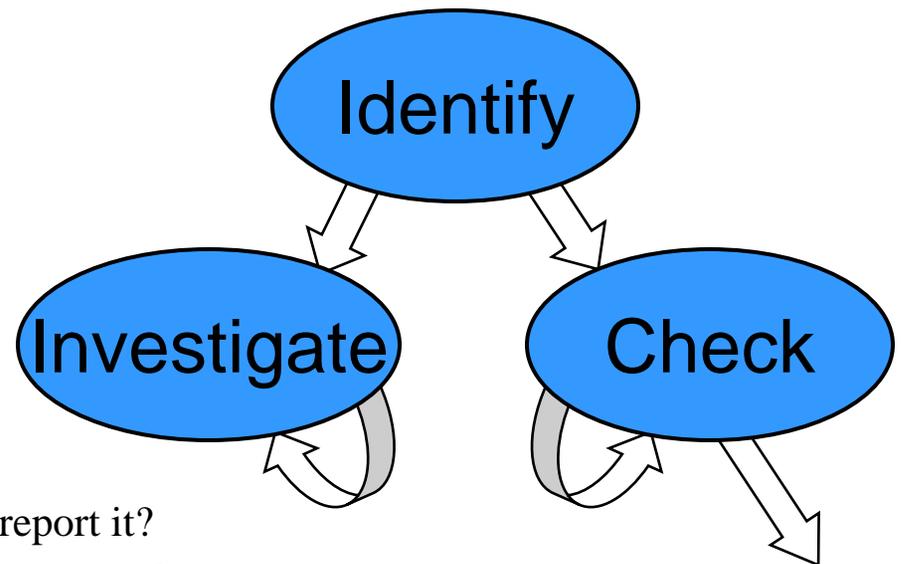
- Notice a problem.
- Recall what you were doing just prior to the problem.
- Examine symptoms of the problem w/o disturbing system state.
- Consider possibility of tester error.

■ Investigate

- How can the problem be reproduced?
- What are the symptoms of the problem?
- How severe could the problem be?
- What might be causing the problem?

■ Reality Check

- Do we know enough about the problem to report it?
- Is it important to investigate this problem right now?
- Is this problem, or any variant of it, already known?
- How do we know this is really a problem?
- Is there someone else who can help us?



Skilled Bug Investigation *(even more accurate, but hard to formalize)*

■ Identify

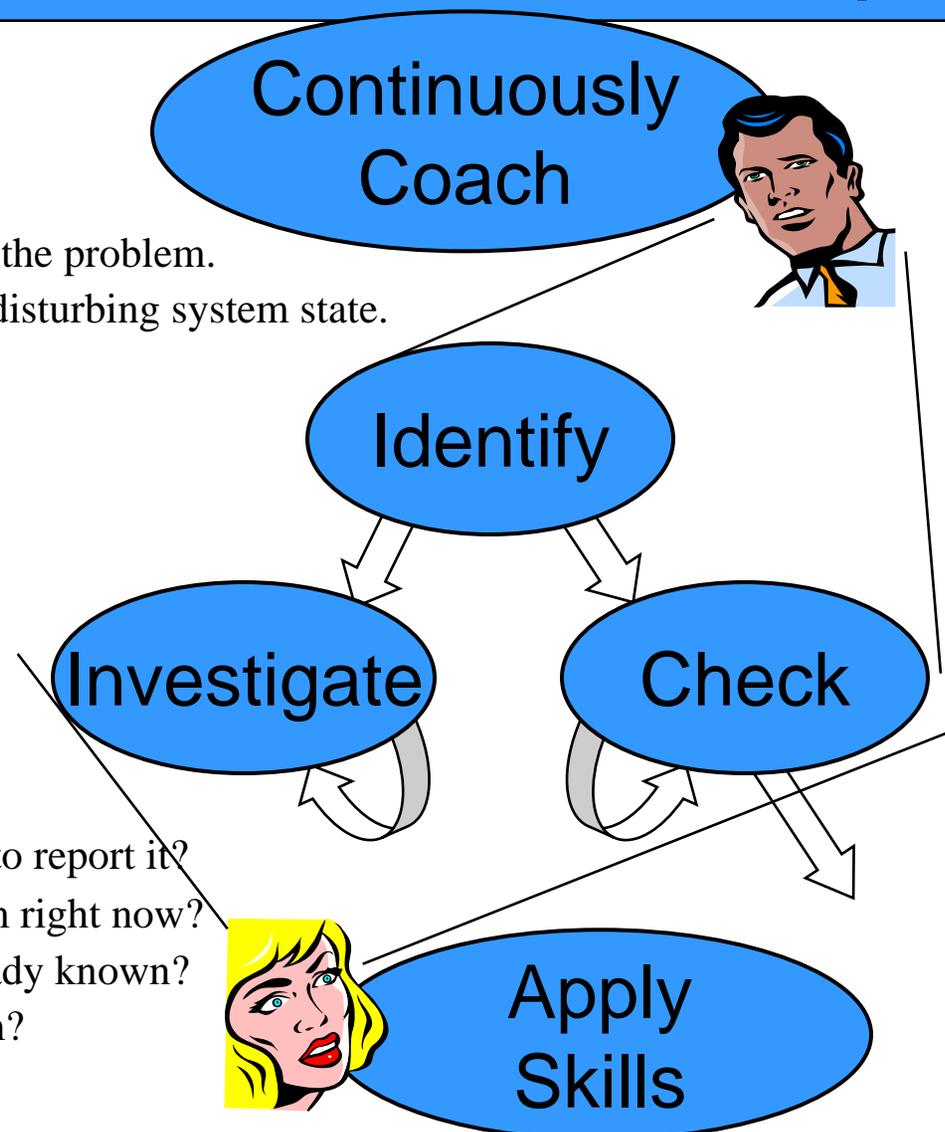
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My Plea

- Keep our craft open and free. Fight the bullies!
- Reject “universalist” certification programs.
- Reject certifications that can be achieved without demonstrating skill over time.
- Embrace a skeptical and inquiring attitude.
- Embrace the wonder and complexity of human cognitive performance.
- Learn your craft, don't just pretend to learn it.
- See Cem Kaner's videos on Google Video, or at my site: <http://www.satisfice.com/moodle>