

Why I Am Not (Yet) Certified

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An Epigram

“The same delusion of
mistaking irreverence for arrogance
makes people confuse skepticism for nihilism.”

--Nassim Nicholas Taleb, Fooled by Randomness

A Demonstration

(in which I show a rapid attack on
Microsoft Word's Insert Page
Number feature)

This is what I do to obtain
credibility as a tester:

I test.

You observe.

We talk.

You decide.

This is *my* principal certification scheme.

Additional Forms of Certification

- I write a column for Better Software magazine
- I reprint my columns, free, on my Web site
- I speak at conferences (like this one)
- I attend peer conferences (WTST, WHET)
- I've started a peer conference (TWST)
- I participate in my local testing association (Toronto Association for System and Software Quality—TASSQ)
- I participate in a national testing association (Association for Software Testing—AST)
- Customers that hire me tend to do so again

Additional Forms of Certification

- I've named a test technique ("blink testing")
- I write (apparently interminably) in software-testing, agile-testing, sw-improve, comp.software.testing
- I blog intermittently
- I've worked in diverse roles, organizations, and projects
- I have a CV that notes all of these things
- I invite everyone to challenge my ideas, and defend them as credibly as I can

People Whom I Respect (and whom I believe to respect me)



Jerry
Weinberg



Cem
Kaner



James
Bach



Ross
Collard



Bart
Broekman



Jonathan
Kohl



Pradeep
Soundararajan



Michael
Hunter



Johanna
Rothman



Scott
Barber

Additional Forms of Certification

- I can also believe I can claim respect from Jonathan Bach, Fiona Charles, Lee Copeland, Jeremy Cruz, Esther Derby, Earl Everett, Pierre Garigue, David Gilbert, Adam Goucher, Don Gray, Dawn Haynes, Shrini Kulkarni, Derek Longmuir, Larry Mayer, Tommas Marchese, Brian Marick, Rob Sabourin, Larry St. Aubin, Dan Spear, Charlie Trainor, Adam White...

Plus...



The screenshot shows a web browser window with the title "LinkedIn: Edit My Profile - Mozilla Firefox". The address bar displays "http://www.linkedin.com/myprofile?trk=tab_pro". The main content area shows a profile section for "Testing Consultant and Trainer at testing field". There is a profile picture of a woman, Norah Bolton, with a small "Edit" button next to it. To the right of the photo, it says "1 visible recommendation for this position:". Below this, there is a quote: "It might seem obvious to recommend Michael. After all, I am his mother. But I have enjoyed watching him grow from a self taught database whiz to a highly skilled presenter and problem solver in a wide range of technology issues. He brings solutions based on deep understanding that go the distance. I'll vouch for him!" dated "October 12, 2007". Below the quote, it lists "Top qualities: Expert, High Integrity, Creative". At the bottom of the recommendation, there is a small icon of a person and the text "Norah Bolton hired Michael as a Business Consultant in 1985".

Norah Bolton
(My Mother)

Why certification?

Certification is about

endorsement
and
respect.

- If asked for testing certification, I would ask people to refer to people whom I respect.
- I respect those people sufficiently to give you their honest evaluation of me.
- *However*, you will judge that certification on whether or not you respect the certifier. That's okay with me.
- Everything is open and personal.

How I Study for My Certification

- I read books and articles about testing
- I question and critique them aggressively
- My principal goal is not to be fooled by tradition or authority

Testing is about
NOT being fooled.

How I Study for My Certification

- I read books and articles that are *not* about testing
 - science and physics
 - mathematics and statistics
 - cognitive psychology and critical thinking
 - computer programming and software design
 - food and cooking
 - general systems
 - medicine
 - economics
 - social sciences
 - history
 - comedy
- I relate these disciplines to testing, and can describe the value of the relationships

How I Study for My Certification

- I practice and teach *testing*
 - whereby I gain experience by succeeding and failing
- I practice critical thinking
 - whereby I try to avoid fooling myself and others
- I practice systems thinking
 - whereby I learn to see the big and small pictures
- I practice programming
 - whereby I obtain humility
- I practice describing my practices
 - orally
 - in writing
 - in presentations (like this one)
- I participate in a community that works this way.

So What's The Problem With Current Certification Schemes?

The Exams Are Trivial

- multiple-choice questions
 - leave no room for context
 - leave no room for interpretation
 - leave no room for legitimate disagreement
- essay questions
 - better, but no room for defense of the answer
 - no evaluation of speaking and listening skills
 - no evaluation of actual bug reporting skills

Neither gives evaluation of testing skills in practice.

More Problems With The Exams

- They test recall
 - I have excellent ability to recall material, thus...
 - I have plenty of experience in the ways that this can fool people into believing I'm clever



Something Is Wrong Here: What?

2.2. Benefits of multiple choice exam

- **Easy** to mark
- **Easy** to distribute across different mediums (online, paper etc)
- **Straight forward** approach
- **Easy** to write and to maintain
- Good test of knowledge
- **Easy** to translate
- **Easily adaptable** for other languages
- Allows for an assessment of a wide range of learning objectives from factual to evaluative understanding
- **Easily administered** to large number of students
- Limits assessment bias caused by poor hand writing skills

These are all benefits to the examiners;
not to the student, not to the craft.

My Biggest Problem With The Exams

**Nobody watches
anybody TESTING.**

Hold On: What IS Testing?

- Testing is questioning a product in order to evaluate it. (Bach)
- An empirical, technical investigation of a product, done on behalf of stakeholders, with the intention of revealing quality-related information of the kind that they seek. (Kaner)

Have we tested the certification schemes?

Today's Testing Certifications Are *Just Like* **Bad Testing**

- They're **trivial**
- They're based on **memorizing prescriptive bodies of knowledge**, not **learning skill and critical thinking**
- They emphasize **ease of asking the question** over the **value of obtaining the answer**
- They're based on **scripted processes**
- They're highly **confirmatory**
- There is no room for **discovery or investigation of unanticipated strengths or weaknesses** of the system (person) under test

Who Guards The Guardians?

- Bug reports on certification schemes have been filed by some of the leading testers in the craft
- The response is often to attack the testers for
 - making things too complicated
 - being philosophers
 - being difficult
 - not being “team players”

**Does this sound familiar?
Ever dealt with programmers?**

Have We Checked In?

- I have spoken to *dozens* of testers who have taken certification exams.
- Of these, *one* thought that it was technically and professionally worthwhile; the rest were going through the motions
- In a public panel discussion, a colleague expressed sympathy for people who were denied jobs, and for people who failed...
- ...but she *really* squirmed when I asked if she felt bad about any people who *passed*

Arguments For The Status Quo

“It’s better than nothing.”

- Are bad standards *really* better than nothing?
- Remember, “nothing” is the certification that the vast majority of testers have now.
- Will certifying them really improve the craft?
- Are the only alternatives the status quo vs. *nothing*?

**Binary thinking is a classic form
of logical fallacy.**

Arguments For (And Against) The Status Quo

“Multiple choice tests are ‘objective’.”

- a) No, they’re not
- b) They’re constrained to single answers
- c) They ignore context
- d) They’re mostly based on folklore (about testing simpler products) that has persisted for 30 years
- e) They’re based on heavyweight approaches, and don’t embrace more responsive processes
- f) They can be passed without serious knowledge or study of the subject

**Is an "objective" trivial test better than
a "subjective" stronger test?**

Arguments For The Status Quo

“A more rigorous exam wouldn’t scale.”

- This *apparently* means that we couldn’t examine as many testers as quickly for the same price
- So let’s reframe that:

**“We couldn’t make as much money
as we do now.”**

A Certification That I Could Certify

Does not test a tester's ability to remember disputed definitions or commonly misunderstood terms.

but instead...

does test a tester's capability to recognize and deal with potential problems related to ambiguity.

A: "I just want to make sure that we're using the same language here –could you explain what you mean by "acceptance test"?"

A Certification That I Could Certify

Does not ask testers merely to name practices or techniques from a memorized catalog

but instead...

does ask for paradigmatic examples of practices or techniques that might be useful in some context.

Q: Identify three examples of stress testing techniques. For each, describe one context in which you would use the technique and one context in which you would not.

A Certification That I Could Certify

Does not accept or promote testing as mere validation, verification, and confirming behaviour.

but instead...

does support the idea that testing is fundamentally about investigation, discovery, and dispelling illusions.

Q: Name and describe five common critical thinking errors that lead to bugs in software. Name and describe three more that lead to tester error.

Use your own names, if you like—the description is what counts.

A Certification That I Could Certify

Does not sit a tester in a hotel conference room, placing marks on a multiple-guess test

but instead...

does sit a tester in front of a computer, actively testing software.

Q: Find as many bugs in this application as you can in 15 minutes. Provide an oral report, supplemented by your notes. For each problem you find, identify and justify the oracle that you used to recognize the problem.

A Certification That I Could Certify

Does not follow the doctrines of
One Right Answer or One Correct Approach

but instead...

does ask a tester to solve real testing problems by whatever means she feels useful and appropriate, and then challenges her to report credibly.

Q: Investigate this puzzling problem over the next three hours. Use any tools you have brought with you on your USB key to assist you. Describe, defend, and justify your approaches, tools, and techniques.

A Descriptive Body of Knowledge

- Recognize that, like English, the language of testing is living and highly ambiguous
- Create a testing glossary based on the Oxford English Dictionary project
- Get volunteers to contribute definitions and citations
- Create a team to evaluate and catalog those definitions, but not to exclude them if they are currently or historically in use

Pop quiz: What does "integer" mean?

Foundation Level

- If we are to have a foundation-level certification test, let's make it *free*.
- This is *entirely* achievable
 - Self-study via video: Black Box Software Testing, Google Tech Talks, etc.
 - Optional: facilitated BBST
 - Online exams via Webcams

*If you want to sell certification courses,
remove the perception of conflict of interest.*

No Barriers to Entry



and if you need a good, quick test...

- You could easily test my “foundation level” Spanish with three minutes of simple conversation. (I would flunk.)

**Can we converse at all?
If so, you can teach me the fancy words,
quickly. And in your dialect.**

...give them a *test*.

- We have many, many testing toys that allow us to assess testers’
 - questioning skills
 - mission focus
 - modeling skills
 - factoring skills
 - problem-solving skills
 - risk assessment
 - testing strategies
 - speaking skills
 - keyboarding skills

Low cost! High value!

Advanced Level

- Take each of the people involved in the current certification schemes
- Have them watch candidates **actually test a product** for three to four hours
- Mark based on **information value**, rather than **mere counts** of bugs or test cases
- Recognize the value of **diversity of approaches** and testing styles
- **Provide feedback**
- Charge the rough equivalent for this, per hour, that one would charge for one of those training courses
- **Cisco can do it; why can't we?**

The Current State of Certification

- When we certify testers based on multiple choice tests...
 - we risk misleading our clients
 - by our own example, we promote **boring**, been-there-done-that testing
 - we put a chill on innovation
 - we therefore trivialize our craft while undermining our credibility

We can do much, much better

I Definitely Won't Get Certified Until We Do It Better

- When I attack certification schemes, the emotional reaction suggests that I'm attacking people's livelihoods and emotional investments
- Don't worry—there's *plenty* of work for people who want to teach testing well
- There are better ideas about certification that would pass my critical tests

Let's make our craft more credible.

What Say You, Project Owners?

- You've heard about the bugs in the program from one skilled tester. Other testers will report these and other bugs.

**Are you gonna fix the bugs?
Or will you just say "Ship it"?**

Questions?

**Please feel free to
join me or challenge me!**