

Lessons

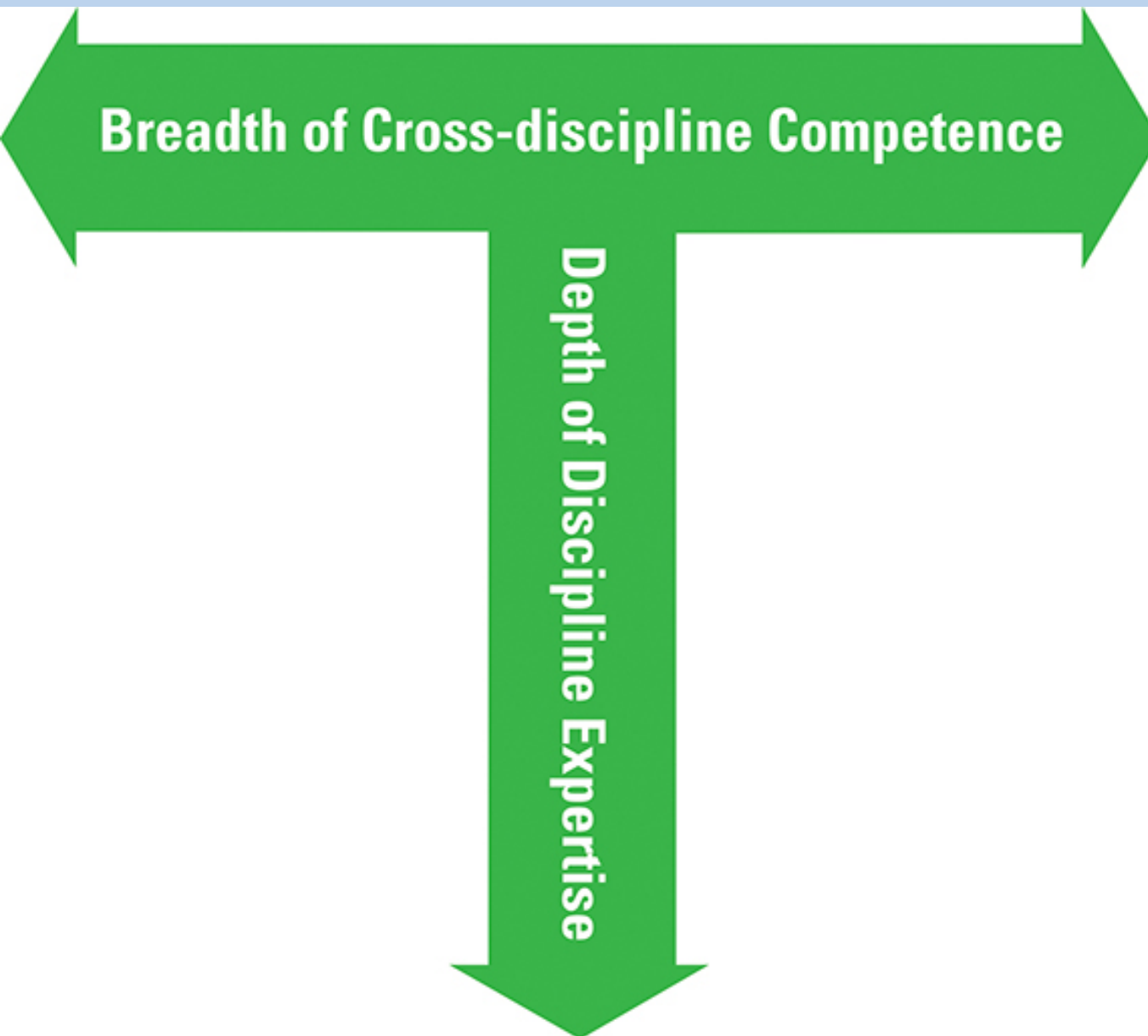
a tester learned
when writing
production code

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Lessons a tester
learned when writing
production code
and test code
and going through
an agile transformation
and learning stuff



T-shaped individuals¹

¹ <http://blog.a-b-c.com/wp-content/uploads/2014/04/T-Shaped.jpg>

Can I build a
feature?



```
tester.learn (code)
```

Against coding testers

- Too much knowledge of the code could bias testing
- Testers who write automated tests won't have time for anything else
- If testers want to learn code, they should become developers

My experiences

- Manual tester for "a little while"
- UI automated tests in a silo
- UI automated tests on agile team
- Manual tester that consulted on automated tests
- Tester that contributes wherever needed

Against coding testers

- Too much knowledge of the code could bias testing
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Too much knowledge of
the code could bias
testing

Cognitive Bias

An error in thinking that causes
flawed judgment.

List of Cognitive Biases²

Name	Description
Ambiguity effect	The tendency to avoid options for which missing information makes the probability seem "unknown". ^[9]
Anchoring or focalism	The tendency to rely too heavily, or "anchor", on one trait or piece of information when making decisions (usually the first piece of information that we acquire on that subject). ^{[10][11]}
Anthropomorphism	The tendency to characterize animals, objects, and abstract concepts as possessing human-like traits, emotions, and intentions. ^[12]
Attentional bias	The tendency of our perception to be affected by our recurring thoughts. ^[13]
Automation bias	The tendency to excessively depend on automated systems which can lead to erroneous automated information overriding correct decisions. ^[14]
Availability heuristic	The tendency to overestimate the likelihood of events with greater "availability" in memory, which can be influenced by how recent the memories are or how unusual or emotionally charged they may be. ^[15]
Availability cascade	A self-reinforcing process in which a collective belief gains more and more plausibility through its increasing repetition in public discourse (or "repeat something long enough and it will become true"). ^[16]
Backfire effect	The reaction to disconfirming evidence by strengthening one's previous beliefs. ^[17] cf. <i>Continued influence effect</i> .
Bandwagon effect	The tendency to do (or believe) things because many other people do (or believe) the same. Related to groupthink and herd behavior . ^[18]
Base rate fallacy or Base rate neglect	The tendency to ignore base rate information (generic, general information) and focus on specific information (information only pertaining to a certain case). ^[19]
Belief bias	An effect where someone's evaluation of the logical strength of an argument is biased by the believability of the conclusion. ^[20]
Bias blind spot	The tendency to see oneself as less biased than other people, or to be able to identify more cognitive biases in others than in oneself. ^[21]
Cheerleader effect	The tendency for people to appear more attractive in a group than in isolation. ^[22]
Choice-supportive bias	The tendency to remember one's choices as better than they actually were. ^[23]
Clustering illusion	The tendency to overestimate the importance of small runs, streaks, or clusters in large samples of random data (that is, seeing phantom patterns). ^[11]
Confirmation bias	The tendency to search for, interpret, focus on and remember information in a way that confirms one's preconceptions. ^[24]
Congruence bias	The tendency to test hypotheses exclusively through direct testing, instead of testing possible alternative hypotheses. ^[11]
Conjunction fallacy	The tendency to assume that specific conditions are more probable than general ones. ^[25]
Conservatism (belief revision)	The tendency to revise one's belief insufficiently when presented with new evidence. ^{[4][26][27]}
Continued influence effect	The tendency to believe previously learned misinformation even after it has been corrected. Misinformation can still influence inferences one generates after a correction has occurred. ^[28] cf. <i>Backfire effect</i>
Contrast effect	The enhancement or reduction of a certain perception's stimuli when compared with a recently observed, contrasting object. ^[29]
Curse of knowledge	When better-informed people find it extremely difficult to think about problems from the perspective of lesser-informed people. ^[30]
	The belief that a society or institution is tending towards decline. Particularly, it is the predisposition to view the past favourably and future

² https://en.wikipedia.org/wiki/List_of_cognitive_biases

Confirmation Bias

"The tendency to search for, interpret, focus on and remember information in a way that confirms one's preconceptions."³

³ Oswald, Margit E.; Grosjean, Stefan (2004). "Confirmation Bias". In Pohl, Rüdiger F. Cognitive Illusions: A Handbook on Fallacies and Biases in Thinking, Judgement and Memory. Hove, UK: Psychology Press. pp. 79–96.

The background features a 3D rendering of the text 'The More You Know' in a blue, blocky font. A bright yellow star is positioned to the right of the text. A colorful, nebula-like trail of red, orange, and green particles extends from the base of the star towards the left, passing behind the text.

**Knowledge is a good
thing!⁴**

⁴ <https://cdn.theatlantic.com/assets/media/img/mt/2014/09/TheMoreYouKnow/leadlarge.png?1430153051>

A few things learned

- How the web framework fits together
- Our logic vs. boilerplate
- Debugging failures
- Writing tests for bugs
- Reading code

Reading code⁵



⁵ <https://blog.codinghorror.com/content/images/uploads/2012/04/6a0120a85dcdae970b016765373659970b-800wi.jpg>

Reading code

- Oversights or bugs

Reading code

- Oversights or bugs
- Integration points

Reading code

- Oversights or bugs
- Integration points
- Eliminate manual tests

Reading code

- Oversights or bugs
- Integration points
- Eliminate manual tests
- Identify gaps in automation

Reading code

- Search the internets
- Ask for help
- Practice at home

A few things learned

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Testers who write
automated tests won't
have time for anything
else

My experience

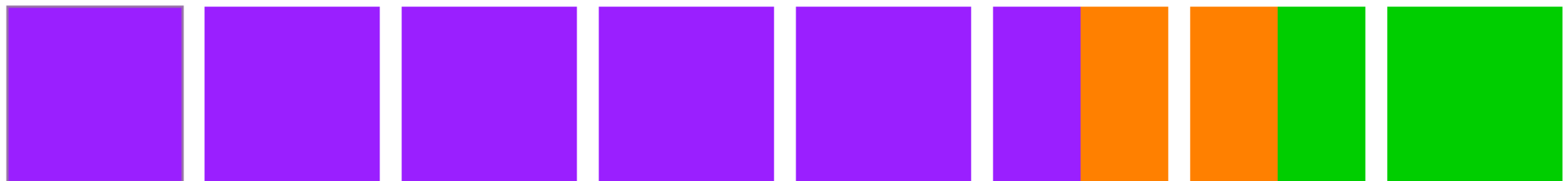
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If 1 day == 8 hours



Representation of 8 hour day

Automating tests in a silo

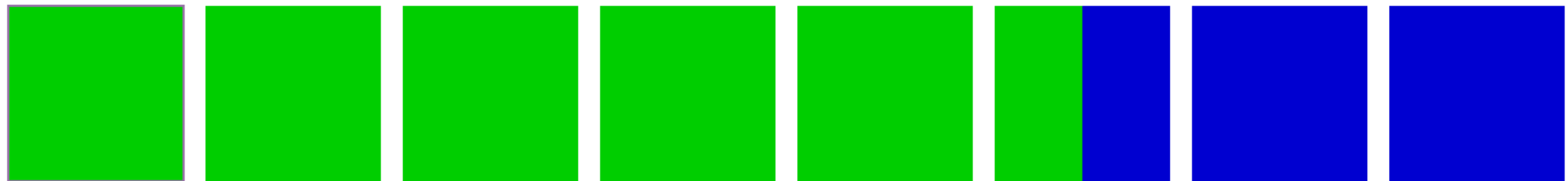


Research via manual testing

Writing new tests

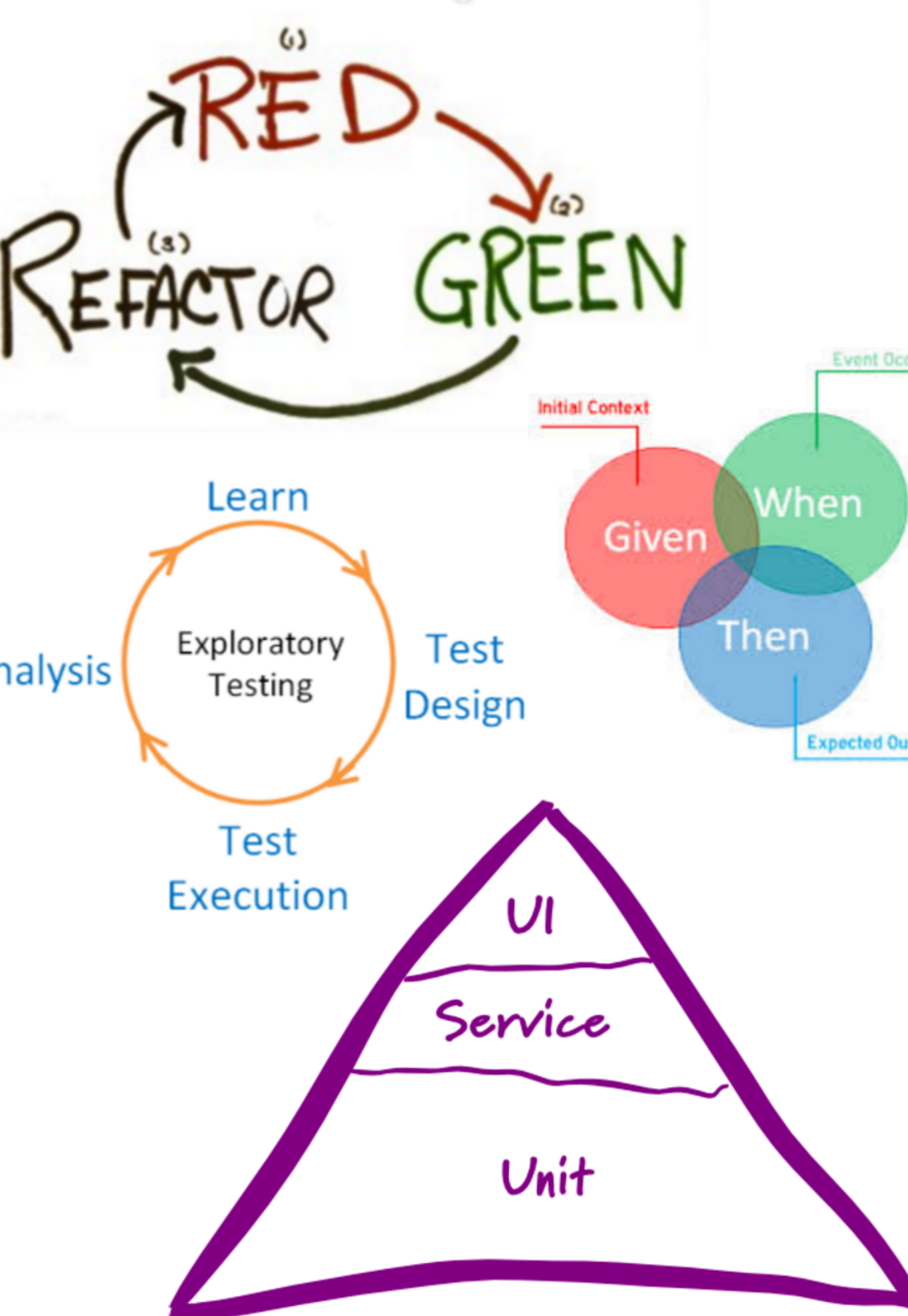
Debug and fix existing tests

Lone test writer



Debug and fix existing tests

Writing new tests



The Happy Path⁶

⁶ https://marcabraham.files.wordpress.com/2012/04/06_red_green_refactor.jpg, <http://martinfowler.com/bliki/images/testPyramid/pyramid.png>, <http://www.testingexcellence.com/wp-content/uploads/2014/12/bdd-guidelines-best-practices.jpg>, <http://swtester.blogspot.com/2012/05/what-is-exploratory-testing.html>

If a tester wants to
learn how to code, he
or she should become a
developer

A few things learned

- How the web framework fits together
- Our logic vs. boilerplate
- Debugging failures
- Writing tests for bugs

Automation in Testing

- SQL
- Cloning customer data
- Build and Installation scripts
- Shell scripts and Command line tools
(cURL, grep, etc.)

Automation in Testing

- Performance testing tools
- Security testing tools
- Keep writing tests for bugs

Against coding testers...review

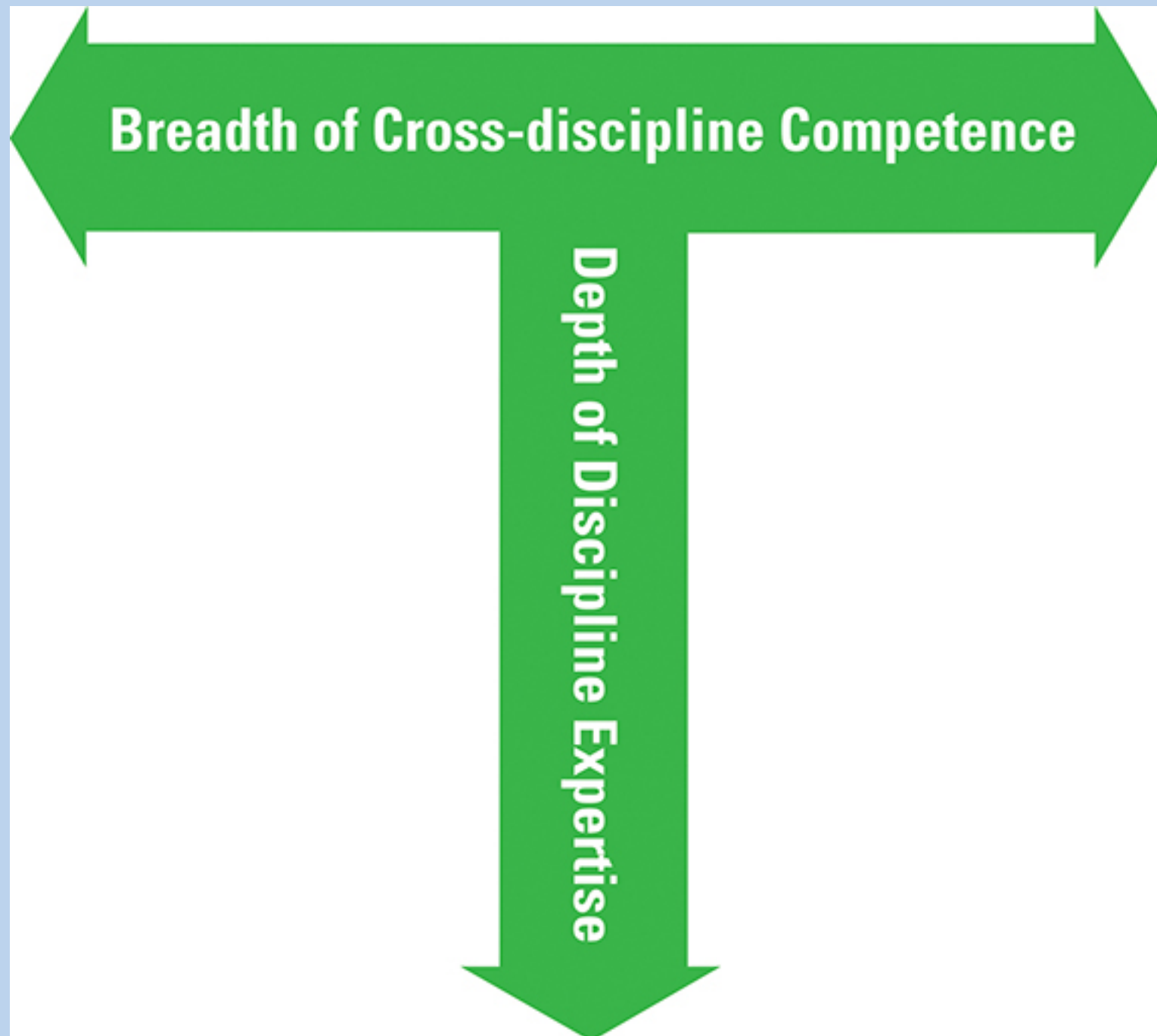
- Too much knowledge of how it works could bias testing
- Testers who write automated tests won't have time for anything else
- If testers want to learn code, they should become developers

Should testers to
learn to code?

Why is this important?

Where do testers fit?

T-shaped individuals



Moving Forward

Moving Forward

- Testers and devs pairing

Moving Forward

- Testers and devs pairing
- Review the automated tests

Moving Forward

- Testers and devs pairing
- Review the automated tests
- Encourage whole team testing

Moving Forward

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- Review the automated tests
- Encourage whole team testing
- Write automated tests for bugs

Moving Forward

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- Encourage whole team testing
- Write automated tests for bugs
- Keep test suite trustworthy and maintainable

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- Encourage whole team testing
- Write automated tests for bugs
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- Security, Performance, etc.

Moving Forward

- Testers and devs pairing
- Review the automated tests
- Encourage whole team testing
- Write automated tests for bugs
- Keep test suite trustworthy and maintainable
- Security, Performance, etc.
- Increase domain and system knowledge

Some folks that talk about
this stuff

- Alan Page
- Katrina Clokie
- Richard Bradshaw
- Elizabeth Hendrickson
- Noah Sussman
- Lisa Crispin
- Janet Gregory

Thank You!

Questions and/or Comments?

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