

Cross Functional Doesn't Mean Everyone Can Do Everything

by Mike Cohn •

43 Comments

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~~Cross Functional Doesn't Mean Everyone Can Do Everything~~

Perhaps the most prevalent and persistent myth in agile is that a cross-functional team is one on which each person possesses every skill necessary to complete the work.

This is simply not true.

A cross-functional team has members with a variety of skills, but that does not mean each member has all of the skills.

Specialists Are Acceptable on Agile Teams

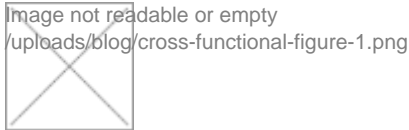
It is perfectly acceptable to have specialists on an agile team. And I suspect a lot of productivity has been lost by teams pursuing some false holy grail of having each team member able to do everything.

If my team includes the world's greatest database developer, I want that person doing amazing things with our database. I don't need the world's greatest database developer to learn JavaScript.

Specialists Make It Hard to Balance Work

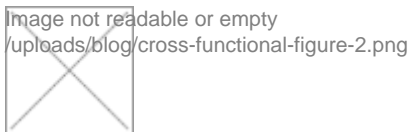
However, specialists can cause problems on any team using an iterative and incremental approach such as agile. Specialists make it hard to balance the types of work done by a team. If your team does have the world's greatest database developer, how do you ensure your team always brings into an iteration the right amount of work for that person without bringing in too much for the programmers, the testers, or others?

To better see the impact of specialists, let's look at a few examples. In Figure 1, we see a four-person team where each person is a specialist. Persons 1 and 2 are programmers and can only program. This is indicated by the red squares and the coding prompt icon within them. Persons 3 and 4 are testers who do nothing but test. They are indicated by the green square and the pencil and ruler icons within those. You can imagine any skills you'd like, but for these examples I'll use programmers (red) and testers (green).

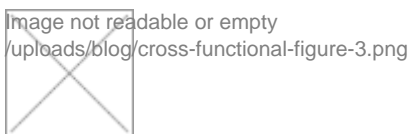


The four-person team in Figure 1 is capable of completing four red tasks in an iteration and four green tasks in an iteration. They cannot do five red tasks or five green tasks.

But if their work is distributed across two product backlog items as shown in Figure 2, this team will be able to finish that work in an iteration.



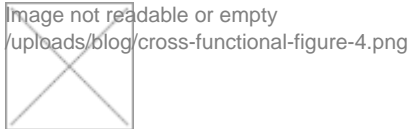
But, any allocation of work that is not evenly split between blue and green work will be impossible for this team to complete. This means the specialist team of Figure 1 could not complete the work in any of the allocations shown in Figure 3.



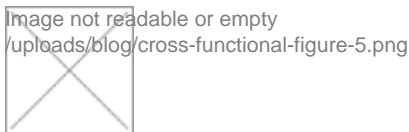
The Impact of Multi-Skilled Team Members

Next, let's consider how the situation is changed if two of the specialist team members of Figure 1 are now each able to do both red and green work. I refer to such team members as *multi-skilled individuals*. Such team members are sometimes called *generalists*, but I find that misleading. We don't need someone to be able to do *everything*. It is often enough to have a team member or two who has a couple of the skills a team needs rather than *all* of the skills.

Figure 4 shows this team. Persons 1 and 2 remain specialists, only able to do one type of work each. But now, Persons 3 and 4 are multi-skilled and each can do either red or green work.



This team can complete many more allocations of work than could the specialist team of Figure 1. Figure 5 shows all the possible allocations that become possible when two multi-skilled members are added to the team.



By replacing just a couple of specialists with multi-skilled members, the team is able to complete any allocation of work except work that would require 0 or 1 unit of either skill. In most cases, a team can avoid planning an iteration that is so heavily skewed simply through [careful selection of the product backlog items](#) to be worked on. In this example, if the first product backlog item selected was heavily green, the team would not select a second item [that was also heavily green](#).

The Role of Specialists on an Agile Team

From this, we can see that specialists can exist on high-performing agile teams. But, it is the multi-skilled team members who allow that to be possible. There is nothing wrong with having a very talented specialist on a team--and there are actually many good reasons to value such experts.

But a good agile team will also include multi-skilled individuals. These individuals can smooth

out the workload when a team needs to do more or less of a particular type of work in an iteration. Such individuals may also benefit a team in bringing more balanced perspectives to design discussions.

Evidence from My Local Grocery Store

As evidence that specialists are acceptable as long as they are balanced by multi-skilled team members, consider your local grocery store. A typical store will have cashiers who scan items and accept payment. The store will also have people who bag the groceries for you. If the bagger gets behind, the cashier shifts and helps bag items. The multi-skilled cashier/bagger allows the store to use fewer specialist baggers per shift.

What Role Do Specialists Play on Your Team?

What role do specialists play on your team? What techniques do you use to allow specialists to specialize? Please share your thoughts in the comments below.

Posted: February 28, 2017

Tagged: [scrum teams](#)

About the Author

As the founder of Mountain Goat Software, Mike Cohn specializes in helping companies adopt and improve their use of agile processes and techniques to build extremely high-performance teams. He is the author of *User Stories Applied for Agile Software Development*, *Agile Estimating and Planning*, and *Succeeding with Agile*. Mike is a founding member of the Agile Alliance and Scrum Alliance. Mike can be reached at hello@mountaingoatsoftware.com. If you want to succeed with agile, you can also [have Mike email you a short tip](#) each week.
