

Reappraising Failure: Making Failure Work for You Case Study Handout

By [John Simons](#), Fortune writer
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Daria Hazuda is leading the team ushering Merck's promising experimental HIV drug, MK-0518, into its final phase of lab testing. The new drug prevents HIV from replicating its DNA by blocking an enzyme known as integrase. It is said to work faster and more effectively than existing therapies in difficult-to-treat patients.

"For me, a failed experiment is actually a rich source of information. People tend to focus on positive results. But if you look at people in the drug-discovery businesses who are successful, it is [often] those who also learn from the negative. They take all that information and synthesize it in a holistic way."

One of Hazuda's fellow researchers at Merck, Amy Espeseth, says, "What's unique about Daria is that she's a very creative, nonlinear thinker. A lot of people in science do things in a step-by-step way. With Daria, it's kind of like a chess game; her moves show she's thinking a few steps ahead of everyone else. She had a leap no one else had – and they were all looking at the same data."

For her part, Hazuda says she begins with simple curiosity. "I really try to understand the basic biology and chemistry of how integrase enzymes work. There were dozens of publications on these enzymes that other researchers had discovered, but none of them worked against the HIV virus. I was trying to learn from what some really fantastic scientists had done. I tried to understand why those approaches weren't successful, and then I used those lessons to develop a different approach.

"I am always trying to figure out how the pieces of the puzzle fit together. I took all these inhibitors and asked the question, 'What do they do biochemically, how do they actually work?' If we understand that, we can figure out why they don't work against the virus. Integrase is a three-step reaction. We found that the integrase inhibitors all worked on the first step in this complex process, and none of them worked on the last step in the reaction. So we focused our efforts on the last step. We found that you could identify compounds that work only on the last step and not the first. It was by taking all the information that existed and using it in a unique way to define why that approach was a failed approach."

Reflection Questions:



- a. What does the above case demonstrate about reappraising failure?
- b. What does the case tell us about the nature of failures and their value in learning and improvement?
- c. How might you apply some of the principles/steps taken by Daria Hazuda in reappraising your own failed attempts?

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