A Funny Thing Happened on the Way to Stockholm

Tags: *#mentoring*
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Dialogue

What was accidental?

You've always loved learning -- you would sometimes fake illness as a child to stay home and read books all day.

Former student -- how could you make a better case?

Teach trainees to build their careers around problems, not techniques

Tell us about that distinction.

What's technical courage?

Point: One of the best things we can do is to model it.

Encourage Focus

You had an old telescope when you were a medical student.

> I realized that my most crucial job as a mentor is to manage my trainees in the same way I managed my old medical school microscope: by constantly exerting just the right amount of pressure to keep things in focus.

How to balance focus with risk-taking...

> Later in my career, I realized that this is often how research works: you experience nothing but failure for weeks or months, and then suddenly you overcome a technical hurdle...and suddenly everything starts moving like wildfire.

It's easy to get distracted by the bigger, better deal. Lots of people move around. You had a good deal at Duke and you stuck to it.

Empower trainees

> People achieve their maximum level of motivation when they feel ownership over their work. For this reason, I want every person in my lab to feel like they are pursuing their own ideas, as opposed to working on a project cooked up by me or someone else.

How do you create that kind of ownership?

> Inevitably, mentors who micromanage produce few if any trainees who later achieve success as principal investigators, as those trainees were never allowed to spread their intellectual wings during their training period and thus didn't learn how to develop projects. Moreover, even when such micromanaged trainees make good progress under their mentor's close guidance, they never develop the confidence that comes from knowing that they were truly the ones responsible for their own success.

Did you struggle with this? When you see this in others, what helps?

Promote risk-taking

A certain amount of chutzpah is essential for mentors. There's an art here between promoting risk taking and going on wild goose chases.

How do you balance that with trainees?

Emphasize storytelling

Chatting with patients themselves...

Some would say: Scientists don't tell stories -- they seek out data. You had an interaction with him early in your career that was a big learning moment.

Dr. Bader:

> "Many people think data tell a story, but nothing could be further from the truth. Data are just data. A story is something you impose on the data."

How does story come into your work with trainees?

Respect your own mentors

> Everyone needs mentoring, even seasoned mentors.

> Some of my fellow interns made clear to the nurses that they did not appreciate being corrected, but I was always grateful for the help. I viewed these senior nurses like mentors, and appreciated the way they tried to instruct me without showing me up. Later in my career, when I became a mentor, I tried to take a similarly positive approach with my trainees, as I never forgot how much such encouragement meant to me when I was a struggling intern.

What have you changed you mind on?

Quotes

> I realized that my most crucial job as a mentor is to manage my trainees in the same way I managed my old medical school microscope: by constantly exerting just the right amount of pressure to keep things in focus.

> Teach trainees to build their careers around problems, not techniques. Sometimes trainees learn a new technique and then spend the next few months or years, or in some cases their entire careers, looking for other problems to which they can apply their newly learned technique over and over again. This is exactly the wrong approach for developing a career in science, or indeed in any creative field. Techniques are always changing as new technologies evolve. Thus, mentors should advise their trainees to ask big-picture questions about important problems, and then try to answer those questions using whatever techniques are necessary.

> Each year around the holidays, I per- form an annual review of every research direction in my lab, and when I'm done I compare my notes to those from previous years. One year, a colleague walked into my office while I was performing this end-of-year analysis. When I explained what I was doing, he began to enthuse about the great year his lab had just completed. "Yeah, I'd say about 90 percent of my lab's projects this year worked out," he said with a satisfied smile. "How about you?" "Well, according to my analysis, about 20 percent of my lab's research directions this year yielded fruit," I replied. "The other 80 percent have thus far flamed out." My colleague's jaw dropped. "I'm actually thrilled

with that number," I continued. "If the percentage of successful projects in my lab gets too close to 50 percent, then it means we're not taking enough risks."

Bader's insight was crucial to my development as a clinician and even more critical to my eventual evolution as a scientist. When I have meetings with my trainees, I don't just want them to show me their data: I also want to hear a story that explains the data. Ideally, I want my students to present multiple stories that might explain the data, and then propose future studies that will help to discern which narrative is closer to the truth.

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References