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Goal-Setting Strategies for Scientific and Career Success

By Cynthia N. Fuhrmann, Jennifer A. Hobin, Philip S. Clifford, Bill Lindstaedt | Dec. 3, 2013 , 12:15 PM

This is the 10th article* in a series designed to help you create an Individual Development Plan (IDP) using myIDP, a new Web-based career-planning tool created to help graduate students and postdocs in the sciences define and pursue their career goals. To learn more about myIDP and begin the career-planning process, please visit: http://myIDP.sciencecareers.org

During graduate school, Xiao began to realize that a career in science writing could be the best fit for her—but how to get there? In every discussion she had with science writers, she was struck by how much

writing experience they'd had before getting their first job. Xiao realized that she would need to publish more and further refine her writing skills if she wanted to be competitive in her future job search.

> **Every time you revise a goal, learn something from the process. This self-reflection will improve your ability to set realistic goals and manage your time—an important skill in itself that will serve you well throughout your career.**

With 2 years left in her Ph.D. training, Xiao had time to gain more experience before she would have to go out onto the job market. But how would she fit anything more into her already heavy schedule?

An obvious first step is to create an IDP, which will help her chart a course that will allow her to meet these critical career advancement and skills development goals while also making progress on her research projects.

What will *you* do in the next 6 to12 months to promote your own career advancement? What will you do to develop your skills? What research projects do you need to work on during this time? Together, these three types of short-term goals—career advancement, skills development, and project goals—constitute the core of your IDP. In this article, we'll share strategies for creating a 6-month or 12-month calendar of goals that is realistic, prioritizes your most important goals, and holds you accountable.

Use the "SMART" principle

Have you ever told yourself, "I need to finish writing that manuscript," but months later you still don't have a draft? Such large goals can often feel—and therefore become—insurmountable. As one student puts it, "It took me 2 months to write the first draft of my first paper. Some delay was procrastination, because the initial blank sheet of paper felt so daunting. When I set goals that were more specifically defined, with realistic deadlines, I could approach each goal more confidently. As a result, my writing progressed much more efficiently overall."

As you set goals, we recommend following the SMART principle:

S – Specific – Is it focused and unambiguous?

M – Measureable – Could someone determine whether or not you achieved it?

A – Action-oriented – Did you specify the action you will take?

R – Realistic – Considering difficulty and timeframe, is it attainable?

T – Time-bound – Did you specify a deadline?

Use this strategy: First identify an overarching goal, and then create an action plan to achieve it. For example, if you want to **build your professional network**, then you may have three SMART goals for the year: (1) attend one event per month (for example, your departmental social hour or an industry networking event) and talk with at least two people at each; (2) present a poster at a conference in your field; and (3) do four **informational interviews**.

Develop your skills: train, practice, get feedback

Improving your skills is a key part of your professional development. The skills you choose to work on may be skills that you need to build now for future success (presentation skills for future job talks, for example), or skills necessary for success in your current training (such as particular research skills, writing skills, and so on). If you focus on improving one to three specific skills this year, and then do the same during each year of your training, then you will be much better prepared for your next career move (and likely more successful during your training).

Setting skill-development goals is like creating your own curriculum. In a course, an instructor decides what material to cover, provides training, gives students an opportunity to practice, and then assesses their learning. Similarly, for each skill that you want to improve, you can set SMART goals for how you will get training, practice the skill, and get feedback. To become a more engaging speaker, for example, you may want to attend a workshop on how to give a strong research talk. Then, to maximize your development of this skill, you can practice the techniques you learn in the workshop by giving practice talks, student seminars, conference presentations, and presentations in group meetings. You can then get feedback from trusted colleagues, your adviser, or whoever is available and willing.

To achieve long-term improvement of a skill, it's a good idea to move through this cycle of training-practice-feedback several times over several months. You may be able to take advantage of existing opportunities to practice, or you can carve out small amounts of time on a regular basis. It need not take a lot of time from your research.

As you develop your own IDP, you can set skill development goals that fit within your time and budget. Box 1 lists some creative ways to get training, practice, and feedback in a time- and resource-efficient manner.

Strategies for developing skills

1. Get training.

- Participate in a course or workshop (local or online).
- Watch a recorded workshop or seminar. (The **NIH Office of Intramural Training and Education** and the **Khan Academy** have posted many skills seminars online.)
- Read an article, chapter, or book focused on the skill.
- Observe others who excel at the skill.
- Discuss strategies with a mentor or peer who excels at the skill.

2. Practice.

- Do assignments in the context of a course.
- Be aware of when you use the skill in your day-to-day schedule and consciously practice particular

techniques in each instance.

- Schedule protected time to practice (for example, you could practice your writing skills by free-writing every Friday morning for 15 minutes after breakfast, or practice assay measurements using a set of standards.)

- Volunteer for additional activities (for example, you could offer to make an extra journal club presentation).

3. Get feedback.

- Complete an assessment in the context of a course.

- Ask anyone who excels at the skill to give you feedback; it could be an outside source, your mentor, or a peer.

- Define criteria for success and then assess your own improvement. (For example, watch a video of yourself giving a talk.)

Have a strategy for staying accountable

It can be very difficult to protect time to work toward goals that are important but not urgent. Career advancement and skills development goals often fall into this category. It can be helpful to have someone to keep you accountable, perhaps a peer mentoring group (in which you hold each other accountable to goals), or a "project buddy" that you identify for a particular goal: Share your goal with your buddy and ask them to meet with you so you can demonstrate your progress toward that goal. Choosing someone you hold in high esteem is a good idea; you'll be more likely to do whatever it takes to reach your goal in order to make a good impression. Choose someone who is not invested in your other goals; even if your principal investigator (PI) is a fantastic mentor, she or he is unlikely to push you to work to meet a skill-development goal when there is a pressing grant or manuscript deadline.

Write them down

Thinking about your goals is *not* enough. You need to write them on paper (or **type them into myIDP**). **Lee Iacocca**, a well-known business guru from the 1980s, said,

The discipline of writing something down is the first step toward making it happen. In conversation you can get away with all kinds of vagueness and nonsense, often without even realizing it. But there's something about putting your thoughts on paper that forces you to get down to specifics. That way, it's harder to deceive yourself or anybody else.[1]

The strategy Iacocca proposes has been shown to help research trainees. **A 2006 study**[2] identified a structured plan as one of the few factors that significantly improved the postdoc participants' training experience. Postdocs who had a structured plan and discussed it with their mentors were more satisfied

with their postdoctoral experience, more satisfied with their relationships with their PIs, and more productive (30% more first-author papers and 25% more grant proposals) than those without a plan.

Evaluate your plan

As you look over your IDP, make sure your goals for this year are not biased toward urgent projects. As discussed above, career-advancement and skill-development goals may not feel urgent, but they are important and should be a part of your overall plan.

Next, merge your goals for the year onto a single timeline. myIDP does this automatically, in the printed summary at the end of the process. Take a look at the goals you have set for each month; is your plan feasible? You may want to shift start or completion dates for some goals so that your expectations for any 1 month are realistic.

Translate your goals to a daily calendar

When creating your IDP, don't let perfection and detail stall the process. The short-term goals in your IDP should give you a big-picture plan for the coming year. If you want to break these SMART goals into smaller subgoals, consider doing so as part of your weekly planning process. Once Xiao created her IDP, she considered how she could coordinate her IDP with her daily calendar, which she managed electronically using Google Calendar. She wanted to have a constant reminder of her overall, big-picture goals. To do this, she printed her **myIDP Goals Summary** and taped it on the wall next to her desk. Then she entered each SMART goal from her IDP into her Google Calendar. As she approached the start to each month, she looked ahead to see what IDP goals she'd set for that month. Then she thought about how to break that SMART goal into subtasks and blocked out time for those subtasks on her daily calendar. When she was finished, her to-dos for each day were listed on her daily calendar 1 to 4 weeks in advance. This gave her a sense of how long it would take to complete each task and empowered her to say "no" to additional requests that arose.

Revise your plan as you move forward

As you progress through your plan, celebrate each goal you achieve. In science, where rewards are sometimes few and far between, the simple act of checking off a SMART goal from your list should provide a sense of progress. Experiments can be unpredictable, but when it comes to your career advancement and skill development goals, you are in control. Use these goals, and the satisfaction of meeting them, as a mechanism to enhance your wellbeing (and career development) during times of scientific struggle.

Though there will be celebrations, you will also have to revise some goals. Things happen. Experiments don't work; a new critical deadline arises; your goals change. If you do need to revise a goal, ask yourself: Why am I changing this goal? Was the original goal unrealistic? Am I managing my time effectively enough? Am I prioritizing my goals and projects appropriately? Are urgent tasks overwhelming my professional development goals? If so, what can I do to ensure that my professional development remains

on track?

Every time you revise a goal, learn something from the process. This self-reflection will improve your ability to set realistic goals and manage your time—an important skill in itself that will serve you well throughout your career.

Setting goals in an IDP structures your dreams and guides your development as a professional. It may not be easy at first, because setting goals effectively is itself a skill. As you move ahead, though, your ability to set and achieve goals will improve. Your time management will improve, too. As a result, you are likely to achieve more of your own career development goals, and also become more productive in your science.

[1] L. Iacocca, W. Novak, *An Autobiography (*Bantam Books, New York, 1984).

[2]G. Davis, "Improving the Postdoctoral Experience: An Empirical Approach", in *The Science and Engineering Workforce in the United States,* R. Freeman, D. Goroff, Eds. (NBER/Univ. of Chicago Press, Chicago, IL, 2006).

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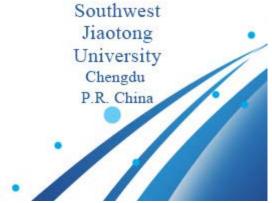
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