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Worksheet

Measuring Your Progress

The Monthly Progress Monitor

The monthly progress monitor consists of four questions you should answer once a month. In this exercise you will answer these questions for the current state of affairs of your PhD project in order to try the method.

Tasks:

- Read the (slightly abridged) article by Noordam and Gosling[1].
  Discuss questions in your group.
- Interview a volunteer from your group with the four 'monitor questions' (first paragraph, first page) and discuss his/her statements. Don't forget to consider the comments on the questions in the rest of the text.
- Keep in mind that for today's exercise, time is limited. The aim is to try the method, see if it fits your needs, clarify ambiguities and exchange ideas on how to approach difficulties in finding meaningful answers.

Afterwards discuss in the group:

- What do you expect to be different when you repeat the procedure one month later?
- Is this method feasible for you? Will you try it for your work?
- Do you think your supervisor will support you in such a progress monitor?

[1] *Mastering Your PhD.: Running in Place*, Noordam and Gosling, Science Careers, Nov. 2006

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Home > Mastering Your Ph.D.: Running in Place

November 10, 2006, Bart Noordam, Patricia Gosling

[...]

Monthly progress monitor: Four questions to keep you on track

For a monthly evaluation scheme to be effective, it should be simple and easy to use. So we've developed a form that requires you to answer only four questions. Tested extensively in various research groups in several countries, this method has been used with excellent results, as attested to by the participating graduate students. The four questions are:

- Of the results I obtained last month, which are the most important?
- Did I deviate from last month's planning? If so, why?
- What are my most important goals for the upcoming month?
- How do I overcome potential hurdles?

These questions are meant to help you understand patterns inherent in your working style that might hold you back. First, on your own, write down on a single page the answers to these four questions. Later, discuss the answers with your adviser. For a valid evaluation of the previous month (questions 1 and 2) you may need your supervisor's insights. Moreover, by discussing a realistic plan for the coming month (questions 3 and 4), you will be able to manage your supervisor's expectations.

We suggest you fill out the form every month throughout your doctoral studies. More frequently is not practical and too much of a burden on your--and your adviser's--time. Less frequently will make your objectives too vague for direct action and practical solutions. Although it is likely that only a few advisers will take the initiative to work with you on a structured evaluation scheme such as the monthly progress monitor, most advisers should at least be willing to cooperate with you on such a project--especially if you have filled out the forms on your own so that the evaluation takes only a limited amount of your adviser's time. If your adviser does not want to be bothered with your planning and evaluation, the monthly progress monitor can still be of help. In that case, you may have to discuss the insights obtained with a colleague, for instance a fellow Ph.D. student in your group.

What have you achieved in the past month?

At first, you may think that you've done so many things in the last month that it will be hard to summarize them. But if you focus on the really important issues--the real accomplishments that directly pertain to your thesis--you'll be able to come up with a short list. Some months, even the most successful students will have to admit that the past month's efforts barely contributed

anything that might go into their thesis. It can be a bit shocking to realize how much time you spent last month on trivial issues. An honest evaluation can help you to minimize those activities.

There is a second category of seemingly unproductive activities: Most newly minted Ph.D.s agree, with the power of hindsight, that they could have obtained their degree much faster if they had only followed the paths that were productive. Of course, the very essence of research is that you do not know the answers--nor which pathways are most productive--beforehand. You have to accept that not all your lines of inquiry will work out. But prioritizing your work can still do a lot of good.

What went wrong last month?

Now for the tough part. Compare the answer to question 1 of this month's evaluation (what you have done) to the answer to question 3 of the previous evaluation (what you planned to do). Most likely you will have accomplished only a fraction of last month's ambitious plans. Try to figure out--and write down--why you weren't able to accomplish more. By rereading the answers to question 2 over the last few months, you will start to see patterns in how you work. You might learn, for instance, that you are too eager to lend a hand to others in your lab, thereby interrupting your own project too often. Or perhaps you have changed research strategies too often and have not put sufficient effort into a particular approach to have reaped any scientific results. Recognizing the problems in your working style is often the first (and most difficult) step toward greater productivity.

An actionable plan for next month: If you fail to plan, you plan to fail.

Being an ambitious sort, you probably have numerous plans for the coming months. But after having studied the answers to question 2, you have perhaps become more realistic in your goals and wiser about how to meet them. Your list of goals for next month should now be rather short: Think quality, not quantity; otherwise you'll end up with the same long list of projects that were started but not finished.

What you are doing now is explicitly prioritizing your projects for the next month. Because prioritization seems so obvious, it is often not done explicitly. Inadequate prioritization is one of the main obstacles to progress on the road to getting a Ph.D.

And be sure to make your goals for the coming month truly actionable. For instance, 'understanding more about quantum computers' is too vague. A more measurable target might be to read and understand five recent articles in that field. The reading part of this action is straightforward and quantifiable, but it requires honest reflection on your part about to what extent you understood the articles. You could, for instance, evaluate how these articles contributed to your newly formulated hypothesis and then design of a good approach for testing the hypothesis. It will most likely take a few extra minutes to come up with such a refined plan of action. Don't hesitate to consult your adviser if you need guidance in making an actionable and realistic plan for the coming month.

Include in your planning sufficient time for reflection. Moreover, allow yourself the time to explore a few (relevant) diversions. By planning your activities too rigidly, you risk missing out on the accidental discovery. Planning is important, but be sure to allow room for serendipity and intuitive discovery in your working habits.

Staying ahead of the problem

You are a pro when you've mastered the answers to question 4. Being aware of the potential hurdles and obstacles in the coming month is far from easy. Finding solutions to circumvent these hurdles is even more difficult. Spending time anticipating the hurdles and taking proper measures to keep them from stopping you dead in your tracks is a very rewarding part of the research process. Your Ph.D. project is the perfect opportunity to learn the key skill of advanced project planning: *staying ahead of the problem*. Although project planning is not an exact science, avoiding potentially wasted effort will save you an enormous amount of time. Then make sure you *properly use* the time you have saved by being more efficient. Balance this extra time between: a) working fewer hours in the lab (an hour in the gym can be more efficient than another hour at the lab bench); b) thinking of other potential hurdles and how to circumvent them; and c) doing a little extra work on the relevant problems.

Lessons learned

Once you've been using the Monthly Progress Monitor for a few months, you should go over the old forms again (file them properly; they make a great record of your research progress). Your experience may match some of these typical findings: In the beginning, planned work in the month to come tends to exceed the progress made in the previous month. After using the monitor a few times, your planning will become more realistic. Expectations and achievements are brought in line, and you become more skilled at managing your adviser's expectations, thereby reducing conflicts. With the timely identification of possible hurdles, the progress of your project will improve.

Above all, be honest with yourself as you go through the evaluation process. An honest evaluation will help you identify the work patterns and obstacles that are slowing you down. If you have the courage to do so--as this will necessarily involve discussing weaknesses in your working style--discuss the big picture that comes out of these forms with your adviser or a trusted co-worker.

Not every month will be a blockbuster, but the advances you make as a Ph.D. student should speed up once you learn how to make realistic plans on a monthly time scale and identify and stay ahead of potential hurdles. Enjoy learning and honing this skill. It will be a valuable asset throughout your career.

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