Rob's Advice for Undergraduates*

Rob Hagiwara
University of Manitoba

Introduction

This document is a work in progress, with advice I wish that undergraduates would be given before they enter the university classroom. The advice here is based on the experiences of myself and others, both as students and as teachers. Most of the examples are from my own experience.

I've had the benefit of a lot of really good teachers, both in high school and in university, and now that I've had experience at various levels of undergraduate and early graduate teaching, I really think young undergrads need to have heard this advice.

The list

I've been trying to massage the list down into a small number of items, but occasionally people suggest things that are important and not obviously foldable into a previously existing item. I've also been trying to put them in order of importance, but except for the first two, which are sort of like 'the greatest commandments of them all', the others are all equally important.

Here is the current list, in no particular order

1. Take responsibility for your own education
2. Know your learning style
3. Read critically
4. Listen actively
5. Take real notes
6. Learn how and when to question
7. Prioritize your time and energy

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This document can be found at http://home.cc.umanitoba.ca/~robh/files/ugadvice.pdf. Questions and comments may be directed to robh@cc.umanitoba.ca.

Taken together, these directives are powerful. Most are pretty obvious, but they apply to undergraduate study in ways you may not see at first glance, and combine in ways you may not appreciate until you learn the lessons and take them to heart.

1 Take responsibility for your own education

This really is 'greatest commandment of them all', in the sense that all of the others are technically applications of this idea. As a piece of advice, it means three basic things. First, it means that you need to realize that it is your job to learn stuff, but it's not our job to teach you stuff. Understand that university faculty do not get rewarded or promoted for outstanding teaching of undergraduates. It's stupid, but there it is. So the only one in the long run who cares what you get out of a class or program is you.

Secondly, it means that you end up having to decide what you want out of a class, and how important it is to you to do so. If the content of a course is important to you, or interesting, then you bring more to the table. If it's not, then you so you have to decide what (and how much) to put into it to get what you want out of it. Again, the only one who's going to know the difference is you. You are responsible for making sure you complete your degree program, general requirements, getting your prerequisites put in. It's no one's job to stand over your shoulder and make you're on track. That's part of your job. It's also part of your job to understand your responsibilities in courses. There are deadlines and procedures for appealing grades. Know them. After the final exam is not the time to start whining about how you didn't know about the first homework.

If you don't take an active interest in your own education, only you are going to suffer consequences as a result.

Just as an editorial aside, I want to suggest you also take time to have some fun and do something that is personally fulfilling. University is not like vocational training where everything you do has to be directly and immediately relevant to some kind of job. University is about learning to be a *person* in a society rather than a cog in a machine. That means learning how to deal with people of different backgrounds and points of view. It means learning about art and history and all the things that make a culture valuable. I hate to use another aphorism here, but you have to contribute something to society, beyond being an anonymous corporate drone. Part of studying at University is to consider alternative explanations, evaluate information and sources of information. The more experience you have in more areas, the better you'll be at doing it, and the better we'll all be as a society.

Also, university is the last opportunity many of us have to take a class in some area just because we're interested. So while it is important to keep track of all the requirements, it's also your responsibility to decide if you'll be a better **person** if you take this history class, or that art class, or this science class, just because you can, than if you just suffer through something you *think* someone else believes would be a 'good idea'.

2 Know your learning style

Everybody learns differently. Everybody learns stuff they find interesting better and easier than stuff they don't. But some people learn better by doing. Some better by reading, some better by talking. Some better in groups, some better alone. Some better in silence, some better with some noise—for some the noise has to be talk and for others it has to be music or it's just a distraction. Some by handling things, or by visualizing. or by physicalizing, others by thinking about things or by solving problems. Some people need to study 'the big picture' and the details just follow obviously from there, others need to 'sweat the details' and the big

picture takes care of itself. Whatever your learning style, the more you know about it, the better you'll be able to adapt to new learning situations.

For instance, I find I don't learn from reading. Reading something critically (see 'Read Critically') so that I understand it is one of the biggest challenges I face day-to-day. On the other hand, if somebody tells me about something, for some reason it makes sense to me. For this reason, I tend to get my news from TV and radio rather than from written sources. Not the best sources from the point of getting a lot of information, but if I depended on newspapers I wouldn't get any news at all.

I've learned that it makes much more efficient use of time if I hear about stuff first, and then read about it. Other people have to read first. Hearing about stuff doesn't make any sense unless they've read it all first. So, this means I don't waste a lot of time reading before class. I do it (again see 'Read Critically'), but it's not something I concentrate on. Once I've heard about something in class, then I go back and read about it. I find I can then bring to bear the critical questions on the experience of reading that I can't the first time around. And then I work through the problems and examples, because I find that concepts make more sense if they follow from how they are used than if I try to memorize definitions and hope I can get them to work out for me. But that's just me.

I've also found, more than anything else, I learn best if I know I have to teach it to someone else. Part of it is just motivation—it turns out I'll do things for others that I would never do it just for myself. But part of it is that when I started teaching I stumbled onto another part of my learning style—just like 'hearing it' makes more sense for me than 'reading it', 'talking it' makes more sense than 'doing it'.

It takes a long time to discover these things. I wish somebody would find a way to screen six-year-olds and tell them their best learning style (for different subject areas) from the beginning. But they don't, so you have to figure it out for yourself. And only you will know the difference if you do or don't.

3 Read critically

Critical reading doesn't mean picking apart something you're reading for everything that might be wrong with it. Critical reading is about bringing all your resources to *understanding* what you're reading. And I mean 'understanding' in a deep sense, not 'knowing' in a shallow sense.

I've worked out a strategy I called 'three reads' that works for me. First, I read whatever it is through quickly. I concentrate on the abstract if there is one, the introduction and the conclusion. What is the point of this paper? What point of view is the author trying to develop or defend? What path is the author going to take to get there? What evidence or techniques will the author use to get there? Then I go to class. And listen (see 'Listen Actively').

Once I have a better idea of what I was supposed to get out of it, I go for my second read. This is the 'real' read, for content. I take notes during this read. I don't underline or highlight. I find that I don't understand enough to be sure what's going to be important forever to highlight stuff during my second read, and if I do it my eye always travels to that thing, whether it ended up being important or not. So I end up highlighting everything, and then what's the point? Never mind having an ounce of consideration for the next poor schnook who has to read that book. But anyway, I take real notes—keywords, key concepts, critical examples, summaries. With page and paragraph annotations, if I'm being really careful.

During a second read, it's helpful to keep in mind a set of questions you should have figured out the answers to by the time you're done. You may want to dream up these questions first, write them down at the top of your notes, and then go back occasionally while you read and see how much of an answer you have to each of them.

For papers that are essays, and argue for some viewpoint or interpretation of something, some questions to start with are:

- What is the author trying to convince me of?
- What does the author assume I believe?
- What does the author believe as assumptions?
- How does the author's point of view (or world view) affect his/her interpretation of any facts s/he presents?
- What is the content of each argument the author uses?
- How does each argument fit into the big picture the author is arguing for?
- What weaknesses or counter arguments present themselves as I read?
- What evidence has the author not considered?

For papers that present experimental or observational data, you may want to think about:

- What hypothesis is the author trying to test?
- What theory/model is the author assuming?
- What would it mean to the theory/model if the hypothesis were true or false?
- What methodology was used to test the hypothesis?
- If the hypothesis is true, what should the results look like? If it's false?
- How does the data collected relate to the basic hypothesis being tested?
- What are the results and how does the author interpret them?
- Do any problems present themselves—was the methodology or interpretation flawed in some way?

Notice that the vast majority of these questions relate to the intent of the author and the presentation of the material. Only at the end do I begin to consider problems or alternative explanations. As you get better at answering these kinds of questions while you read, you'll be able to 'hold more of them in mind' and work on them sort of simultaneously.

In the beginning, you may need to read for content several times, with a different question or set of related questions in mind each time.

Finally, I have my third (and subsequent) reads, for review. Is there anything I missed the first time, or anything that I need to clear up that has come up since? Is there anything in my notes I need to confirm or clarify? Later, when you're writing a paper or something, you'll go back to your notes, and probably do focused, careful reading of *sections* of the paper, just to get the facts and numbers straight. And if you go on in the subject area, you'll want to revisit all these old papers again and again, and having clear notes and (at least the memory) of clear understanding will help you.

In life, critical reading comes in handy in doing all those societal 'evaluation of sources' that's so important. In news reports, political speeches, that sort of thing, it's important to think about what people are saying, why they're saying it, what they are *avoiding* saying, and so on. This isn't just about learning stuff for classes. It's a skill that will serve you well in life.

4 Listen actively

This is just the auditory counterpart to critical reading. The things you ask yourself while you read are the same things you should be asking yourself when you're listening to a lecture or a panel discussion, or for that matter a film, or a news report, or anything else. Some additional questions to think about while you're listening include:

- Is this concept new?
- How does it relate to the overall topic? the preceding topic? the text?
- How does it fit into my understanding of the material?
- How do I use this concept, or fit this argument into, the subject matter?
- How do I fit this idea into my world view?

The point is, you're *listening* rather than simply *hearing*. You are paying attention and not just letting things go in one ear and out the other. You are actively trying to understand what's happening *while it's happening*.

5 Take real notes

Real notes are not detailed minutes of everything that is said, or everything that is written. Real notes consist of keywords, major concepts, relationships among concepts, and key examples. Real notes do not contain detailed definitions of things, nor large tables of specific data. Notes are supposed to help you *recall* the main points of the listening or reading experience. They do not re-create that experience from scratch. They supplement active listening or critical reading. They do not take their place.

Most people find that when they really learn to listen actively, they don't really need a lot of notes. You got most of it the first time. In linguistics especially, it's a complete waste of time to copy down the data. Data isn't interesting. Data are shown to you in order to demonstrate some concept, or pattern, or procedure for working something out. Concentrate on the concept, or the pattern, or the procedure. No one is ever going to ask you what the second person plural of 'run' was in some language you saw for exactly 30 seconds one day. On the other hand, there was something about the morphology or phonology or syntax of that form that illustrated some concept. You'll be asked to apply that concept to some other set of data.

Similarly, there's a lot of terminology in linguistics that is new to most students. I see students all the time writing down what they think the definition is, even copying down a definition of something. I'm never (well, rarely) going task you to repeat back a definition of something. Don't bother writing down the definition. The time you waste writing down the

definition is time you could have been listening to the *illustration* of the concept, or watched it being applied to some linguistic problem. Definitions are important, but you can usually look them up later if they aren't clear from how the concept is valuable in dealing with the material.

Remember my 'three reads' strategy? I take notes during my second read: keywords, concepts, main points. And just like any note-taking situation, I follow that with some summary and review, often rewriting my notes to make them clearer. I add details where I need them, and remove irrelevancies or redundancies as I find them. I frame questions and discussion points.

I always follow my second read, or sitting through an important lecture, by reviewing my notes and adding some kind of summary. In the old days, I just did it in my head. Lately, I've been writing them, and I've been encouraging my students to do so. 250-500 words of summary, which is very limited. Basically, my summary contains the answers to the questions I was asking myself during my first read—what was the point, how did the author get there—with some evaluation here and there as appropriate. And I make a list of questions, either that I or the author need further work on—what if the experiment had been done this way, what if the subjects had been selected differently, how does this view fit in with other stuff I think I know from other papers or classes? It's written mostly from memory and my notes. Notes are valuable, but they don't take the place of reading or listening.

6 Learn how and went to question

This one's rough, because the rules are very different depending on the situation and the field, and the instructor for that matter. So here are my recommendations, for me as an instructor.

While you're actively listening, you should be aware that really important concepts don't usually come up just once, but again and again. So if something went past you, *keep listening*. Don't ask me to repeat something I just said. Chances are I was improvising and frankly have no idea what I just *said*. On the other hand, I do know what I was just talking *about*. And chances are I want to go on talking about it. So sit back and wait. While you're listening actively, and trying to understand, it isn't necessary to understand absolutely everything. Make *notes* about questions that come up as they come up. Then *wait* and keep listening. If they come up again, you've got your answer to the question. If they don't, you have a record of what you wanted to know *and the context in which you wanted to know it*, which will help you ask about it later. Having already read through the book, you probably also have a good grasp of what's there, and what's not. Really important concepts are probably in the readings. So look them up.

Finally, if they're really important, they're going to come up again. And again. And indeed again. See if you can *figure out* what the concept was all about.

If it's still a mystery, ask. The next day. Or in office hours. Or by e-mail. Chances are, if it wasn't that important, it won't come up again, and missing it out isn't going to effect you in any meaningful way in the long run. But ask specifically, with as much relevant context as possible. "Yesterday you said something about X. What was that again?" is not an informed question.

The Dean's Offices are on the third floor of the building where I work. It's all open-concept cubicles, so after office hours, they lock down the floor. There are signs in the elevator that say "This elevator does not stop on the third floor outside of regular office hours." Every year, someone, I assume a new undergraduate, scribbles "Why?" on the elevator

door. I have to fight down the urge to write back, "Now that you're in university, maybe you could take 30 seconds out of your life and try to figure it out. Do some investigation. Ask someone who might know. Rather than vandalizing a perfectly good elevator and expecting someone to spoon feed you answers for the rest of your life."

All that said, don't be afraid to ask good questions. Questions that relate to things we're doing. Offer other examples to see if you've really understood. Once you see how things are supposed to fit together, and have tried to figure out how they do, ask about your interpretation, and ask for guidance (rather than 'answers') to fitting them together the right way. Do ask compare/contrast kinds of questions. (Is that the same thing as...? Does that work the same way as ...? So it's different from (whatever) because ...?)

Above all, try to ask questions that will move the topic forward, rather than stop it dead. You priority here (see 'Prioritize your time and energy') is to understand *deeply*. Knowing definitions of things and rigid procedures for solving problems is not deep understanding. Seeing how everything fits together and trying to apply it to new situations, or re-evaluating old ones, is deeper understanding. Don't sell yourself short. If the class/subject matter is important to you, don't settle for shallow, superficial, 'factual' knowledge.

7 Prioritize your time and energy

I'm not going to say that there's never going to be a time when going skiing won't be more important than going to class. I'm just saying that having decided skiing is more important, you then have to accept the consequences. Remember taking responsibility for your own education?

So when you decide to blow off class, who's going to know the difference? Who's going to care whether you pass or fail a test? Who's going to care when you sit down to write a paper

you've been procrastinating on for three weeks and then run out of time? Who's going to care whether you spent 20 hours cramming to get from 91% to 93% in some class, or spend 10 hours trying to get from 60% to 75% in some other class.

I don't care who died, who committed suicide, who needs a kidney transplant, or what colour your mucous is. If you miss my class, you miss my class. That said, if you really are cleaning up the mess, or are in bed waiting for the fever to break and the room to stop spinning and your sore throat to clear up enough that you might be able to inhale without thinking your going to die, I'm probably going to be willing to meet you half way when it comes to making up an exam or finding some other remedy. But if I'm not, well, in 20 years, is it really going to make that much of a difference? What's more important, staying home and getting over strep throat, or infecting the rest of us with your microbes?

On the other hand, you have two hours free this week. You can read for next week's class, or you can talk to your boyfriend or girlfriend on the phone. You can go out drinking this weekend, or you can catch up on your homework. You can have a life or you can ace an exam. Depending on your priorities, any of these decisions is perfectly valid. You're a grown up. It's not my job to stand over you and make sure you do your homework.

Sometimes, spending 20 excruciating hours trying to finish your taxes the night before taxes are due, instead of going to your grandmother's funeral, probably isn't the best choice. Sometimes, it's worth the monetary penalties to just skip it for a few weeks and pay your respects to the family. But you will pay the penalties. On the other hand there may be a time when that $35 means the difference between little Tommy's insulin and a honking big hospital bill (and frankly a lot of unnecessary wear and tear on little Tommy). Grandma would probably understand.

But think about this. Little Tommy's insulin is important. So is Grandma's funeral. If you'd been making good decisions all along, you wouldn't be *starting* your taxes at 10pm on April 29th to begin with. Make the best decisions you can with the information you're given. You decide what's important, what's worth how much time and how much energy. And as far as classes go, you know the rules. And the remedies. So make your choices. And accept the consequences.

Concluding words

I don't really believe you're going to believe me. But you will learn. This is the problem with wisdom, is that when you're young, you can't appreciate it, and when you're old, it's too late for it to do any good. But I've done my best. I think The List is important. I think the advice it provides is valuable. So here it is again, in case you missed it the first two times. (See? If it's important, it comes up again and again...)

1. Take responsibility for your own education
2. Know your learning style
3. Read critically
4. Listen actively
5. Take real notes
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7. Prioritize your time and energy

There's two more, but it's not specific to undergrads. 'Have fun' and 'get involved'. Many sources suggest getting involved in *something* outside of the classroom. Whether it's student government or sports or hobbies or community service or whatever. But it's not my job to tell you how to have fun. But you'll get more out of everything if you have some balance in your life.

So there you go. My advice for undergrads. Take it now for what it's worth, or you'll regret it later. Trust me. I know what I'm talking about.