6. End of Module Wrap-up

by Jonathan Y. H. Sim (jyhsim@nus.edu.sg)

If you wish to cite this reading in any of your written assignments (including the online forum), please cite this reading as follows:

Sim, Jonathan Y. H. "End of Module Wrap-up." Supplementary Readings for *GEQ1000 Asking Questions*. National University of Singapore. 2019.

Hi everyone,
First of all, let me say that I am very pleased with so many of you. Based on the forum posts, the written assignments, and your tutorial discussions over the semester, I have seen many of you grow in just a couple of weeks to become more critical in your thought processes. That is pretty amazing! Good job to all of you! :)

1. Wicked Problems

Here I'd like to do a module wrap-up with some food for thought. I started the first tutorial and ended the last tutorial with this statement:

> "A carpenter trained to use a hammer sees every problem as a nail."
> – Abraham Maslow

That is true even for myself. My training in philosophy compels me to find philosophical problems: problems of ethics, of existence, of identity, of theorising, etc. If you had another tutor with a different training, your GEQ experience might have been different, because that tutor would have used his/her own disciplinary hammer to identify other sets of problems to discuss. If you noticed, the issues I brought up in class and on the forums are often not covered or taught in Computing or Engineering, or any discipline outside the humanities. That in many ways is a reflection of the problems with dividing our studies by departments and disciplines. By creating a Department of X, all the professors and students are concerned with X-related problems. Your training will be focused primarily on X. It's not well-rounded.

One of the things we didn't get to talk about (but was covered briefly in the Philosophy video lectures), is the question about the divide between the disciplines. How do you draw a line between Philosophy and Science? Or how do you draw the line between Engineering and Science? These lines are in fact very arbitrary. If you push a problem hard enough, you find yourself in another discipline. For example, if you push a problem in the sciences hard enough, you find yourself in philosophy. Or if you push an engineering problem hard enough, you find yourself in physics. Even in my own area of research, by pushing hard on a philosophical problem, I find myself dealing with economics and computing!

This leads to interesting questions: Why then do we need to divide our disciplines the way we do here in NUS? Is this beneficial or detrimental to our learning? Will this affect our society for better or for worse?

Some students in the last semester said that we need specialists for our fast-paced modern society to thrive. For example, we need very specialised engineers to do very specific things that a generalist cannot do. So that's why we cut up these skills into different departments. I don't disagree with this. Our society works because of a division of labour. But the question is, why can't we have specialists who are also somewhat well-versed (but not a specialist) in another area? If the various disciplinary modes of questioning and are complementary to one another, won't our specialists be better off learning something else as well?

This is an issue that has no definite answer. But it's worth noting that some universities around the world have started questioning the point of such arbitrary divides in departments, and they have been working to do away with these divisions. The idea is that every department imposes KPI (key performance indicators) on professors and students to only explore within their own discipline, and so that harms the way we question and develop solutions. So by reorganising their universities according to research themes instead, we can create synergies between people from different backgrounds. You can solve a problem with multiple hammers, so to speak.

The need to look at issues with multiple "hammers" is all the more important as many of the contemporary problems of today's world are what policy-makers refer to as "wicked problems," problems that require a multi-disciplinary, multi-agency approach to resolve. No one discipline can adequately treat it. I'll give you one example that's relevant to Singapore. Personal mobility devices (PMD) was an initiative started by the Ministry of Transport, as a way of stimulating solutions for the last-mile problem. The last mile problem refers to the remaining part of your journey from your workplace back to home, where you have to take a bus down one or two stops from the MRT station, or walk for about 5-10 minutes from the bus stop (or MRT station) back to home. This initiative, however, conflicts with the goals of the Ministry of Health. While PMDs make it easier for pedestrians to return home quickly and conveniently, these devices are bad for health as it would discourage people from walking (and that's bad for health). The Ministry of Health is quite concerned about this as such lifestyle habits would lead to more chronic diseases in the long term.

Here we have a situation where we solve a problem in one way, but we create an entirely different problem.

Let me just cite one more example:

AirBNB is an app that was created to provide travellers with a means for finding cheap vacation stays by doing short-term rentals at other people's homes. This is a great solution for travellers and home-owners looking to make extra money. But on a grander scale, AirBNB created a huge problem for communities. It was rapidly changing neighbourhoods and altering communities. A lively community of neighbours and familiar faces quickly degraded into a noisy neighbourhood of strangers. In areas where AirBNB rental prices were popular and expensive, many home-owners made their homes into permanent rental flats as a way of generating a steady source of income. Or in some places, landlords would evict all their long-term tenants and replaced them with a regular stream of short-term AirBNB tenants. As the people living in the area changed, the market demands within the neighbourhood changed as

well. Businesses are forced to close because none of these travellers (the AirBNB tenants) require their services, and other businesses (like 24h convenient shops) would take their place. In a matter of months, an entire neighbourhood's landscape would change. The effect has been so bad that many states have been forced to apply strong regulations to protect what remains of their cities and neighbourhoods.

What's common between these two problems are that the problems were too narrowly defined without a broad understanding of how the solution can have consequences in other areas, just like how the Grandma App in the Computational Thinking tutorial could encourage more neglect on grandma. What we need are more wholesome solutions informed by other disciplines, and questioned using the conceptual tools of disciplines beyond our very own.

But then again, it's worth asking: What do we lose in the process of specialising in one specific discipline, or what do we gain from it? And conversely, what we do we gain from pursuing a multidisciplinary angle, or what do we lose from it? There's no simple answer to this.

Nonetheless, we are here in NUS and we're stuck with its own way of organising a university. It's worth thinking about the way we name things here. Notice how we don't call it the College or School of X, the way other universities do? Instead, we call them, the FACULTY of Engineering, the FACULTY of Arts and Social Sciences, the FACULTY of Science, etc. What's up with the word, "faculty"? Faculty comes from the Latin word, "facultas," which means: power, ability, or capability. In the academic sense, it refers to mental powers, mental skills.

In so many ways, we have exposed you, in this module, to many of the powers and skills utilised all over our university in the various disciplines. While it's just an introduction and a sampling of the various tools and mental powers you can achieve in your time here, I do sincerely hope that you'll make good use of your time here to hone not just the faculties (the power) of your own major, but of other disciplines as well.

2. Is Common Sense Common?

Years ago when I was an undergraduate, Prof. Holbo taught me in my first year (that kinda makes him your grand-teacher). In one class, he said:

> "Common sense is common only because no one dares admit to not having any."
> – Prof. John Holbo

The more you expose yourself to people from different walks of life, the more you'll realise how "common sense" is not common at all. Our background gives us very different assumptions about the world, about solving problems, about understanding things. And it's because we're so exposed to people of similar backgrounds as us (same faculty, same socio-economic background, same hall, etc.) that it's easy to think that everyone around us share the same views about the world. So, what is common sense or apparent to us, is not apparent to others.

I'd like to share an example. I was involved in a project where a team of science writers were engaged to edit a series of lectures by science Nobel Laureates, meant for the general public. But their work was rejected by the Nobel Laureates. The problem? Too much technical jargon. The team of science writers (with their science training) had taken for granted that the general public would be familiar with the various biological terms. We can imagine similar problems happening elsewhere, where policy makers and their researchers are too comfortable with their own jargon and way of thinking that they don't know how to translate it in a way where everyone else can understand - not just understand but to be able to understand and see it as something reasonable and rational.

All these problems boil down to sticking to a single discipline and not venturing out, of being too comfortable with what we think we know, and being too comfortable in thinking that we know what we in fact do not know.

This brings me back to one of the points I made at the beginning about Socrates. Socrates was wise because he realised that he knew nothing. There is a saying attributed to Socrates (but none of the written records actually have him saying it), but I thought it's nice to share it here anyway:

> "The only true wisdom is in knowing that you know nothing."
> – Not Actually Socrates

But in order to get to that stage, we need to constantly examine ourselves – what we know and what we think we know – by constantly putting ourselves to the question. And that is why Socrates himself said (he actually said this):

> "The unexamined life is not worth living."
> – Socrates in Plato, *Apology* (38a5-6)

I do hope that this module has helped you get the hang of the uncertainty that questioning poses, and how it can help us in so many ways. I hope that this module has exposed you to the powers of each discipline, and built-up your questioning toolkit. I hope that the tutorial discussions have helped you gain deeper insights into the way people from other disciplines think. And I hope that you've grown in this journey with me through one semester, and sharpened your metacognitive abilities.

With that, always keep questioning! And I wish you all the best for the rest of your university education. :)

Kind regards,
Jonathan