12 Lessons From 12 Weeks of the Laidlaw Research and Leadership Programme

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1. Document your process.

What gets measured gets managed. In the case of research, you can measure the robustness and soundness of your research project through documentation. First, it commits the underlying logic behind every decision made, both the minor and major ones, to paper. Second, in doing so, the documentation puts methodology up to critical scrutiny. Third, it prepares drafts for manuscript publications way it advance.

Documentation, is a process akin to reflection. As I write, I find myself questioning aspects of the project, be it the feasibility of its scope or the strength of its methodology. What follows is yet another flurry of research to justify or modify the current methods, which then strengthens the project's overall approach. Document everything: how you conducted your literature review, the search terms you used, your sampling methodology, the reason why you picked one interview question over another etc. Documentation facilitates a research project's iterative process in a way that pilot tests do not.

Re-search, more like re-learn

What has drawn me to research, and what has been keeping me thoroughly engaged throughout has been its continuous cycle of relearning. As knowledge workers, researchers ask questions, make justified conjectures, and investigate to test the strength of their claims.

No process has made the notion of 'constant relearning' more evident than research. For one, getting to the 'truth' often means having to dig deeper whenever I come across literature that contradict one other. Further, the need to read articles that span multiple disciplines (i.e political science, psychology, sociology, medicine, public health etc) means that I routinely re-learn concepts, each time from the perspective of a different field of study. Research work hence demands for a curiosity to uncover the truth and an open-mindedness to ideas.

Build a knowledge management workflow

Research is all about diving deep into a specialised field of knowledge. As I went about my search, I found myself literally drowning in the amount of information to be processed. I learned this especially when I realised that the 'literature review' stage is an intense, ongoing process throughout the lifespan of the project. How am I to assemble all that information into a coherent narrative? Further, how do I easily retrieve the specific information I want?

I learned to use the Zettelkasten method to make notes for the literature that I have reviewed, as well as to create a repository of all the information that I've learned. Roam Research, a note-taking app modelled after the Zettelkasten philosophy, is a tool that other academics have found incredibly helpful. And I have to agree . Here is a glimpse into my process:

1. Download relevant journal article. Rename article to: *Article Title*
2. Highlight most relevant insights.

3. Create a new document for my literature notes. Title the document as such: **Literature notes: Article Title (Author(s), year published)**
4. Create a section called 'Highlights'. Copy and paste highlights here.
5. Create a section called 'Notes'. Here, I re-organise the most important highlights into usable chunks of information **in my own words**. This is so that when I develop my own narrative regarding the topic that is **relevant to my own project.** My notes here are especially helpful when I write my report later because I do not have to spend time paraphrasing to avoid plagiarism.
6. Create a section called 'Personal Notes'. Here, I indicate how I intend to use the information from highlights and notes. For example, I may wish to refute a particular argument stated in the paper, or use data collected in the paper to make my case. I sometimes forget why I found a particular paper insightful. My personal notes here help me easily extract the information for a well-thought purpose even after revisiting the content after a while.

Learning the ropes of social networks analysis (SNA)

I've long questioned the social sciences' aversion to quantitatively rigorous methods of analysis, so I was excited to learn that social networks analysis (SNA), despite having its roots in sociology, is heavily steeped in mathematics. In my opinion, disciplines stand to gain the most when they learn from one another. Hence, I loved that a key part of my research experience was picking up the skills to conduct SNA.

SNA is a set of methodological tools deployed to map and analyse the social relationships between individuals, groups of individuals or organisations (Blanchet & James, 2012). Such social relationships can range from friendship or collaborative ties to sentiments such as love or trust, or resource dissemination in the form of knowledge transmission (Folke et al., 2002). Unlike conventional methods of analysis, the unit of analysis in SNA is the relationship tie

between actors instead of the characteristics of actors. Hence, not only is SNA useful in understanding the nature of ties that connect actors within a system, it is also useful in understanding how the very same ties that shape the structure of the system (Borgatti et al., 2009; Webb & Bodin, 2008). Beyond that, the methodology is highly useful in revealing the most influential actors within a system (Valente & Pumpuang, 2007).

Therefore, in trying to understand how AMR research networks in Asia self-organise, SNA is helpful in eliciting insights about how the process of tie formation within the network influences AMR research in the region as a whole, as well as how the current network structure influences the process of tie formation. Further, thanks to SNA's ability to uncover the most influential actors within a network, the findings from this study can help inform policy formulation to best facilitate collaboration among actors in order to address research priorities. The findings offer valuable insight for all stakeholders, including research coordinators, policymakers and funders that can be used to promote collaboration and build stronger research networks to realise the region's AMR research priorities.

In my project, I am conducting an SNA coupled with in-depth interviews, which is just one way to leverage on the strengths of both quantitative and qualitative methods. While we can infer correlations with SNA, in-depth interviews help explain why those correlations exist.

Take qualitative interviews online

The COVID-19 pandemic meant that interviews had to go online. There are some difficulties with conducting interviews online. For instance, you miss the nuances of body language when all you're working with is your interviewee's face on the screen. It is easy to talk over one another without the help of visual cues and body gestures usually used in face-to-face. I had an interview participant from the Philippines, and it was difficult to know when to cut in with a question.

Difficulties aside, it has been most rewarding learning from my research participants. I am thankful for the honour of learning their views from them directly. Here are some skills that I'd like to take forward:

- Always clarify key concepts because they may take on different meanings in other countries.
- Should your research project rely on the snowballing technique, keep in mind to build rapport as the interview progresses, such that the interviewee is more likely to nominate other potential research participants.
- Practise active listening over zoom by nodding, smiling and if time permits, paraphrase or summarise their key points back to them.
- Be patient, empathetic and reserve judgement throughout the interview. It helps to respond with neutral terms such as "that's very interesting", "that's a very important point" as you see fit.
- When necessary, probe in a socially acceptable and sensitive manner.

Bridging cultures with friendship

As part of the Laidlaw programme, I was given the opportunity to embark on a week-long student exchange trip Chu Kochen College at Zhejiang University (ZJU) in Hangzhou, China. The trip was centred around the theme: Strategic Leadership, Innovation and Society in China, a theme of utmost importance in today's context.

It was a great honour to attend classes conducted by professors who were highly distinguished in their respective fields. My favourites included Prof. Bao Aimin's lecture on the debate about neurobiology's association with one's sexuality and cognitive ability and the need

for empathy. I also enjoyed Prof. Ren Kui's lecture on the internet of things, cloud and wireless security and the challenges facing the governance of rapidly advancing technology. Some of the more thought-provoking discussions surrounded the following topics:

- A tension exists when biological evolution favours genetic variety but society doesn't. How can we then care for society's marginalised i.e criminals and the disabled, whose genetic makeup may either predispose them to deviant behaviours or isolate them from the benefits of the advances in science and technology?
- How can regulations keep up with the exponential advances in science and technology, especially so when they threaten national security as well as institutions such as family, work and education?

While the bulk of the trip's content was delivered via classroom lectures, I felt that I learned the most through interviews with the professors and discussions with my new friends at ZJU over lunch, dinner and WeChat.

There concept that constantly recurred throughout the lectures and in my interactions with the ZJU students was the importance of cross-cultural understanding. Before visiting ZJU, I had my own notions about China and Chinese culture. As I engaged with my new friends, I found myself inclined to insist on my own ideas, to fall back into my preconceived notions and familiar stereotypes whenever we had disagreed. Afterall, it is easy to disregard the views of someone from a culturally different background and retreat into familiar territory. Such difficulties usually arose during our discussions about more sensitive topics, be it about the differences between Singapore and China's legal systems, our attitudes towards censorship and surveillance or the implications of China's Belt and Road Initiative (BRI). But doing so does not make for conducive exchanges.

Hence, the most important lesson for me was that in order to understand perspectives different from mine, I must first be open-minded, culturally sensitive and sincere in my effort to

understand culturally different views in context. Sure enough, the most fulfilling conversations took place when all parties were willing to learn from one another.

Growing as a leader of self

I only get one life to live. What better way to live it than to master the medium through which life is experienced i.e myself? I am thankful to all of Growthbeans' workshops for teaching me some tools I could use.

My first key takeaway was understanding what motivates me as a leader. After conducting a series of reflections on my past leadership experiences, I realized that having a personal connection to my team and being able to work towards a meaningful end-goal had always been key motivating factors. Hence, to engineer a greater stake in the project for myself, I intend to work on becoming a leader that motivates my team and walks beside them in tough times. Doing so would help me establish deeper connections with my team and find intrinsic motivation in our collective endeavours.

Stress management. For some, stress can be a great motivator for work. But for me, stress cripples. I can't sleep well. My quality of work suffers. I make a million Plan B's in my head throughout the day. It takes a toll on me.

My next takeaway was learning about a novel way of stress management, where I learned to re-frame stress as an indicator of unmet needs. To manage stress then, I'd first identify the needs that my emotions are signalling to me. Next, I'd identify what I can I can do to fulfil those needs. Finally, I'd work towards a behavioural or mindset change to fulfil that need.

Halfway through the 10-week programme, I was anxious about the outcome of my project. This was because it was still pending ethical approval. During this time, I had identified a clear

need: a need for certainty that I would be able to finish this project in time. However, certainty was a luxury at the point in time. I had to learn to be okay with the uncertainty. Accepting uncertainty meant that I had to come up with alternative plans that will produce results substantial enough by the deadline. Hence, instead of eliciting insights from primary data that I will not have time to collect, I drew preliminary inferences from secondary data that was publicly available from the net. To make full use of my time, I also produced interview guides in advance, improved the project's methodology using insights I've learned from working with secondary data and more adept at networks analysis so I can help my team out later.

Approach someone willing to take a bet on you

It was my mentor who made it possible for me to attend my first conference. At the conference, I got to speak with people spearheading AMR surveillance, research and mitigation. I am so grateful I got to meet Peng Wu and Olivia Ho, an epidemiologist and veterinarian from Hong Kong University; Lo Ying-Ru Jacqueline who was coordinating AMR at the policy level at the World Health Organization; and Karina Gin, a professor of civil and environmental engineering from NUS who works on mitigating AMR in Singapore's waters. It was also thanks to Prof Helena that I was able to work with her team and attend a course to learn how to conduct SNA.

I am deeply grateful to her for taking me under her wing. I have been incredibly lucky. It was through this programme that I realised the importance of doing my due research when looking for mentors. Above all, the most important things to consider are whether (1) they invest in your growth; (2) you share chemistry; (3) they make time for you. As such, I am deeply grateful to her for, despite her already hectic schedule, being willing to take a bet on me.

Coping with uncertainty

You can plan and have back-up plans but in extraordinary times they can still fall apart. As COVID-19 loomed over the world, lockdowns and travel restrictions rendered my original research plan naught. Drawing closer to the ten weeks, my Prof asked if I'd like to work on something COVID-related instead. Absolutely not, I replied, for AMR will only become more important as the world shifts its attention to COVID-19.

Due to the influx of COVID-19 studies during this time, my project only received ethical approval on the 9th week of the programme. Interviews were hard to schedule because my target group of research participants were the ones deployed to handle COVID-19-related work.

Meanwhile, I tried my best to fill up time by doing research that will be helpful to cement my understanding of AMR and facilitate interviews. When it came to SNA, I decided to work with publicly available information. This will constitute part of a preliminary network analysis that may provide an added analytical dimension once primary network data is collected.

It was from this experience that I learned that preliminary analyses, or pilot tests for data collection go a long way. They reveal how data for the project should be best cleaned and managed to facilitate the analytical processes later. When it comes to dealing with uncertainty, re-directing my attention to other areas of research need can help alleviate some of the anxiety while contributing valuable output for use in future stages of the project.

Teamwork and mentorship

Throughout the ten weeks, my direct supervisor was busy fighting the pandemic in Spain (which was 6 hours behind Singapore). This meant that I did most of my learning from other members of the team. I am eternally grateful to them for their patience guidance, who had

to grapple with a new mentorship role thrust onto them amidst their busy schedules. Scheduling consults with them were much easier, since they were situated either in Singapore or India.

I'd like to take the following skills forward:

- Be curious, ask lots of questions.
- Be proactive, always take the initiative to provide value.

Use 'opportunity-stacking' to stretch for growth

During the second part of Growthbeans' leadership workshop, we learned about leveraging on opportunities and becoming ready for the future of work. As I navigated the research landscape with the help of my supervisor, I realised that I needed a heuristic to make better decisions when picking opportunities for growth next time.

We've heard of skill stacking, but what about opportunity stacking? Opportunities are in abundance, but they are not created equal. Some have more potential for growth than others. I personally found the Laidlaw Programme to be an opportunity for immense growth, and hence developed a mental checklist of questions for myself should I weigh opportunities next time.

- What are the skills Opportunity X promises to help me develop?
- Will these skills promise great return in my field of work? In other words, how valuable are these skills?
- What skills or specific knowledge do you aspire to learn? To what extent is it possible to leverage on Opportunity X to learn them?

- Who are the people that I will meet during and after my involvement? You'll want to think long-term, of the second-order consequences due to the network effect.
- Who are the people I will be working closely with? Are they the sort of company that will stretch me ?
    - As a rule of thumb, being able to work with an optimistic and ambitious team that loves what it does is always a good bet. To maximise your prospects for growth, you probably want a team that's willing to teach, share or even go out of their way to mentor you. Most importantly, you want to **enjoy** going to work.

Final thoughts

Having gone through twelve weeks of the research programme, I've come to respect academics deeply. Their relentless pursuit to better understand our world is an incredible commitment. The commitment must also be deeply satisfying. Not only because research is tremendously difficult work, but also because it involves collaboration, extended periods of deep learning, as well as the ultimate hope of impacting positive change in society.

Above all, I am truly grateful for the opportunity to learn from academics that inspire me, and to leave the programme with greater self-awareness, as well as an arsenal specific knowledge and skills that will prove valuable in both my personal and professional life moving forward.

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