



Laidlaw Final Submission – Reflective Report

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1. Before

“I feed the cat and talk to her./I take the milk away and begin to forget/ and the cat stares at the missing milk./ Billions of snowflakes in between,/and the befores that follow the first before.” - Before, Khaled Mattawa

I had heard about the Laidlaw programme in first-year of college, when I was roaming the arts block and saw a particularly well-placed poster. It was there that I first read about the Laidlaw programme, what it entailed and decided that it was something I was going to try my hardest to become a part of. As I read down the document on the notice board, which contained details about both the leadership and research of the programme as well as application details, I grew more and more invested, until reaching the snag: first-year students could not apply. I vowed to apply the following year and, well aware of my terrible memory, set a reminder on my phone for September of the following year to “look into laidlaw programme”.

From speaking to other Laidlaw scholars, it seems that many are attracted to the programme by the research element and then grow to appreciate the importance of the leadership training while in the programme. Although the opportunity to do research over the summer was a massive draw for me as I was seriously considering pursuing a PhD, I was intrigued by the leadership aspect from the start. I wasn't fully sure what the leadership would entail, but had felt that moving to Dublin and starting college had dealt hits to my self-esteem and I felt that even if I wasn't fully sure of what the leadership training would involve, it was sure to be something that would improve my confidence. Becoming more confident was an aim that felt so nebulous and intangible that I didn't even know how to go about doing it myself, which made the structured organised feel of the programme even more reassuring.

Of course, that isn't to say that the research element of the programme wasn't incredibly exciting to me. I grew up on science fairs: from BT Young Scientist to Scifest to Coder Dojo hackathons, I loved the feeling of participating in projects where I was able to get stuck in and get my hands dirty. I loved the feeling of learning something new and being able to immediately apply it, whether that was through code or experiments or analysis, in order to fulfil the aims that I had. I really missed that extra-curricular research hobby in college, as there were no third-level equivalents to fill that void, and any research I did do, just for fun, never made it beyond my computer screen because I didn't know who to approach. The thought of having a supervisor who I could learn from, converse with and collaborate with to do research again (but *real* research this time) felt exciting.



My issue was that I didn't know who I should approach regarding the supervision. I knew that I wanted to do something in maths that was applicable to the real world, something that had both mathematical and computational elements that I could use to solve a problem, or at least contribute to the understanding. However, the modules I had studied to date were almost entirely of the pure maths variety: beautiful, rigorous, and almost entirely unapplied. However, a few days after applications for the Laidlaw programme opened I was volunteering at the maths stand at the TCD Open Day, where I got chatting to a professor at the stand about his research, which was in applied maths. I found listening to him fascinating and we arranged to meet again so he could recommend resources for me to learn more about the techniques he was telling me about. I decided to go out on a limb and ask him if he would supervise my project, expecting a rejection. Instead, I was pleasantly surprised when he happily agreed to. This pushing myself beyond my comfort zone was to become a common theme throughout my time on the programme.

2. During

Before you can learn the trees, you have to learn/ The language of the trees. That's done indoors,/ Out of a book"- Learning The Trees, Howard Nemerov

(a) What I Learned

I could have written this entire report on the things I learned during this programme and still not have covered everything! From research skills (such as MATLAB, new mathematical techniques in applied numerical analysis and report writing) to leadership skills (such as giving a presentation, developing a leadership style and elevator pitching), I always felt that I came away from my research weeks and leadership days with so much new information and skills that I could apply to my course, my research and my life.

Definitely the highlight of the leadership programme for me was the talk given by Prof Linda Doyle during the second Leadership day. It was such an inspiring look at the world of research and the potential it has to do good in the world. Her words on interdisciplinary research really excited me and made me want to develop the interdisciplinary aspect of my project. Although it already was an interdisciplinary project between the School of Maths and the School of Ecology, the talk made me think more about the impact of my research in other areas, such as geography, economics, sociology and anthropology. Although I didn't have enough time during my research periods to delve into these topics, I did a lot of reading around them that further solidified the importance of the research I was doing and made me think more about how this research doesn't exist in a vacuum: these issues affect people's day to day lives, and will only continue to disrupt them more if something is not done about it.

This 'research is not a vacuum' lesson is one that I learned time and time again throughout the programme, and one that I think perhaps many academics would benefit from learning!



Doyle's exercise about explaining your research to a non-expert audience was highly enjoyable, but also made me think about the importance of clearly communicating research results and relevance to the general public, since often it is their money that is funding said research. Academic jargon is often unnecessary and I've learned that it is always possible to communicate what you are researching to someone with limited or no knowledge on the topic at hand: it's all in the communication.

I also learned just how valuable it is to hear about other people's personal experiences and development. The panel at the November leadership day and the Leadership Experiences of an Entrepreneur talk at the Laidlaw Conference at UCL were both prime examples of this, where I felt like I learned so much from just listening to their speakers, and their journeys to becoming leaders, experts and innovators in their fields. It was so reassuring to hear the many and varied paths people took to end up at their current career, and definitely made me feel like I didn't need to have all the details figured out, and that it was much more important to develop transferable skills that I can apply to any area of work (and life) rather than feeling pressured to pick a specific career trajectory.

(b) What I Developed

I wrote above that my lack of confidence was a big draw to the programme for me, and I really did find that the Leadership days taught me a lot about becoming more self-assured - or at least convincing other people that I was more so than I seemed! From the public speaking workshop to the Leading Yourself With Determination talk, I felt that throughout the programme I have been equipped with many skills that have helped me to become a more confident person overall. However, I do think that even outside of developing my skills like public speaking, networking, mindfulness and motivation, my confidence improved more intangibly as well.

Even getting accepted into the Programme did wonders for my self-esteem, but I definitely suffered from imposter's syndrome at the beginning and felt like I had cheated someone else out of a place. However, throughout the research periods and leadership training, and especially through discussions with the rest of the cohort, I came to realise that almost everyone felt the same way I did.

I learned that the point of research is that nobody knows all the answers, and so it is the perfect place to try, fail and try again. I became a lot more forgiving of myself and through the research periods began to see the value in making mistakes, as that was the only way I had to refine and improve my research techniques. I found that the leadership training really complimented this: I had expected a more 'corporate' approach, but all of the sessions were really holistic, dealing with hard, tangible skills alongside emotional intelligence, mindfulness and resilience. I did find that the research and leadership aspects complimented each other in this regard, as I was able to apply what I learned from one to the other and I think this did make me better at both.



I feel that the leadership training, as well as speaking to the other scholars, helped me in my personal journey in feelings of failure, unworthiness and fraud, to coming to a place where I don't feel that everything I achieve is as a result of some terrible mistake. Learning to accept that my own feelings of inferiority don't mean that I don't deserve opportunities I receive has been a huge area of growth for me that I feel would not have happened without the Laidlaw programme, and has definitely been a huge part of developing and improving my confidence.

I also feel like I have developed a really wonderful network of like-minded peers who are similarly excited by research and discovery. As I mentioned above with relation to confidence, the networking workshop that took place on our very first weekend was extremely helpful, but it wasn't till we went to the Laidlaw Conference in London and met scholars from the programme in different universities that I felt that I got to truly put those skills into practice. I also feel that I have developed an especially close and supportive network with the other Laidlaw Scholars in this cohort. Having the opportunity to learn and develop with them has been wonderful, and it was such a supportive experience every step of the way. The trip to the Laidlaw Conference at UCL and the residential retreat was especially helpful in this regard as it had been difficult to arrange meetups between everyone outside of the leadership training hours, so it was a great opportunity to get to know everyone better and develop that supportive network. I found that everyone was so generous with their time and expertise when it came to any aspect of the leadership and research training - even writing this report! I strongly believe that this network will continue to support and help each other and that has definitely been one of the most valuable things I have developed from this programme.

(c) What I Discovered

There were many things that I discovered throughout this programme, both about myself and in the field I was doing research.

I discovered that I was much more adaptable than I gave myself credit for. I was initially extremely apprehensive about having to work from home for the second summer research period. However, after some initial blips and challenges, I managed to do work that I was truly proud of that also yielded important results.

I also discovered just how flexible a person you have to be when it comes to research. Everything changed so much with every new result or development, and I knew that my plan for the week could have to be scrapped and rewritten at any given moment depending on the results I was getting. Although this was exciting, it was also massively stressful and made it difficult to plan in advance. Plans changed, hypotheses were proved and disproved, and everything took so much longer than I expected!

In terms of my project, I discovered a result that I had as a main aim for the project: I found out what structural properties must be present in the population and the population matrix in order for them to follow 'Pattern B', which refers to plant populations which initially appear to



move away from the stable state before changing direction and converging. This was such an important result for me that I was really really proud of, and showed me just how fulfilling research can be.

I also discovered just how lonely researching can be. Perhaps this was specific to my project, since I was based in a library rather than a lab, but I found the days of working alone quite challenging. Although I got better at dealing with this by the end of my first research period, it was definitely an aspect of research that I had never considered before that I am glad I am aware of now

In terms of myself, I discovered that this programme made me quite a lot more apprehensive about pursuing a PhD. Although I loved the researching aspect of the programme, the other parts of the programme made me realise that there are other ways to do research than academia. It has made me consider that I might enjoy researching in industry more and that I might like to pursue something in science and research communication. Although this has potentially made me feel even more confused when it comes to settling on my chosen career, I feel really lucky to have learned that PhDs are not the only way to research and that there are other things I can pursue that would be equally, if not more, fulfilling. And though I do not have a career chosen to present as a conclusion to this part of the report, I feel like this programme has not only made me more open to pursuing other fields, but has provided me with so many transferable skills that I feel like I can apply to a wide variety of roles now and in the future.

3. After

“Purpose and failure and purpose still/ Steadily moved by a quiet will - / Layer on layer in sturdy way” - Purpose, Amos Russell Wells.

Looking back at my time on the programme, I feel that I have gained so much, in skills, experience and personal growth. The Programme has definitely been a highlight of my time in College and I would really love to stay involved in helping to promote the programme in an alumni capacity. I would be happy to help out at future events or act as a point of contact for applicants who have questions or queries. If the programme were to ever involve some sort of mentorship aspect, where past scholars could mentor the current scholars and share their advice and personal experience of the programme, that would be something I'd love to be involved in.

Overall, I feel that the programme is fantastic and there are no glaring areas for improvement. I would potentially have liked a bit more connection to current researchers in Trinity through the leadership days - I found the tour of the Institute of Neuroscience in the Lloyd very inspiring and I think that more communication from researchers in College would have enhanced and broadened my perspective. I also think that, although the programme already heavily emphasises interdisciplinary research, some further workshops on this topic during the leadership days would have been great - for example, a task where students



studying STEM fields had to identify a humanities-based implication or further research question of their research, and vice versa. I think this would also have helped the cohort to appreciate and understand the difficulties involved with both STEM and humanities research: although both are challenging, the challenges faced are quite different and I think I would have liked to have learned more about that.

This Programme is undoubtedly going to benefit me in more ways than I know now. Even already, I have found when applying to both postgraduate degrees and graduate jobs that the skills I have learned on the programme are so helpful when filling out applications and completing employment assessment centres. As I mentioned previously, it has undoubtedly made me more confused about what career area I want to pursue but I don't think this is a bad thing. Instead, I feel like I have more options open to me than I ever thought I would, and I have the confidence to put myself out there and apply for them.

I have learned how to fail and how to use that failure to improve and grow, and that is not something I ever thought I would be able to do. I still don't deal with it perfectly, but I have learned that that is also okay, and that I am constantly learning and growing to do better. I have learned that a leader is not someone who knows all the answers, but rather someone who is willing to listen and learn when they don't. The confidence I have gained from the programme has already helped me so much, and while I don't think I'll ever be truly rid of imposter syndrome, I now feel more able to take up space and say to myself: 'Even if I feel like I don't belong here, I deserve to be here.'

On a more practical note, I hope to tie up the loose ends of my research and seek publication. At the start of the programme, if you had said that that was where I was going to be, I would have thought that that must be the crowning achievement of the programme, and the aspect I would be most proud of. However, as I hope I've made clear above, it is actually my personal development from partaking in this programme that I am the proudest of. And I think that maybe that is the most important lesson I have learned of them all: being successful isn't always tangible, and achievements in and of themselves pale when considered in the context of the personal journey you undertook to achieve them.