

Introduction¹

Of course, I did not apply for this scholarship with leadership in mind – sure, that is nice, but I definitely applied for the research element. This hasn't quite changed today, though I think I have a broader understanding of what leadership is and have managed to apply them – if only parts – in surprisingly unusual ways that I never imagined would happen. However, I still think I struggle with several aspects of leadership, which I describe further here.

The first summer

The leadership report written back then explains this in more detail (not public on the Scholars Network).

It was clear to me that they were looking for those with leadership skills from the essay questions themselves that I had to answer before applying for the scholarship. This was further corroborated with the interviews for the second stage – I still remember being caught off-guard when my first question was to define “self-leadership” – and by the end of the interview, I was convinced that I had learned something useful even if I did not get the scholarship in the end.

The first *leadership weekend* was also a new experience for me. I hadn't known what DICS meant (other than I was asked to fill up a questionnaire before the event), but that report showed interesting insight about what my strengths were and how I could improve when interacting with people of a different nature. The activities were also interesting, and overall, even if I did not do everything well, it was still an interesting and insightful experience.

The summer activities there were also interesting. Meeting with other scholars for Action Learning Sets and learning more about their issues and understand what they did to solve it, and also the events for the summer where I leaned about various leadership ideas. The unofficial social sessions by other scholars were also interesting and I frequently popped there.

[Report 5](#) was also published at the end of the summer, which chronicled my Laidlaw research (and some leadership) in one long report.

Leadership in study abroad

For those who do not know me well or haven't read [Report 6](#), I spent my third year abroad at Purdue University. Perhaps surprisingly, I managed to navigate the unfamiliar territory of Purdue and use my leadership skills there as well. Below I describe two prominent examples:

- The MA261 resource database (<https://github.com/Leader-board/Purdue/tree/master/MA261>)

¹ V1.0, RTM. Released on September 2nd 2020.

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Exam quizzes.md	Update Exam quizzes.md	2 months ago
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MA261 resources

This section contains the resources that I (and others) have created for MA261.

Note:- Nothing in this section may be released to any third-party platform without my (or the original author's) explicit permission. Also if you cheat in the midterm, well, you're cheating yourself. No one but yourself is responsible for what you do.

Looking for group chats for your next math course (Spring 2020)? You can find them here: [MA262](#) [MA265](#) [MA266](#) [MA351](#)

This resource was originally intended to help students who were taking this course in Fall 2019, as I was also taking the course at that time. That being said I have no plans to take this resource down, and students taking this course in Spring 2020 and beyond are welcome to use these resources. If anyone wants to contribute by adding more resources (i.e. solutions to more past papers), **please let me know** either on GroupMe or by **email**, and I can give you pull access. The same applies if you need any help with any part of the course - just email me.

MA261 (Calculus 3) at Purdue is known to be a challenging course, and hence I used my leadership skills to create a database that consisted of homework solutions, written explanations to past exams, and so on. This ended up helping several hundred of students who took the course in Fall 2019 and beyond and is an unusual example of using ideas at St Andrews (where I created the *Module Database*) to help students in a different context.

- CPSTA (Competitive Programming St Andrews) (<https://github.com/Leader-board/St-Andrews-Competitive-Programming>)

This is a club dedicated to the art of competitive programming that I started after seeing the presence of a similar club at Purdue. One of my best friends was irritated that there wasn't a club or community for competitive programming at St Andrews. Naturally we thought of filling in this void – and the result was the creation of a new club CPSTA. Initially it was a small Messenger group with a few other like-minded students discussing competitive programming ideas. Early on in Semester 2, I felt that it was the right time to expand and out we went public, creating weekly coding contests that are still done to this date, and expanding to help all St Andrews students in coding interviews for instance.

This should not be underestimated – I used my Purdue study abroad experience to improve the experience of students at St Andrews (that are interested in competitive programming) – and this, to me, is the successful application of leadership in an unfamiliar context.

Note that my going abroad has meant that I was unable to attend the two leadership days in October 2019 and March 2020 that I would have normally attended.

The second summer

The coronavirus meant that I had to decide quickly on any changes required to my research for that summer. Fortunately, my research was not affected that much, thanks to the cloud.

The global induction session, while useful, was catered mainly for new scholars (i.e, 2020 cohort), and while it was interesting learning about some of the scholar's experiences, I found the breakout sessions more interesting where I could chat with other scholars from different universities and from a variety of different backgrounds.

The other events were also useful in different ways, especially the one that gave us useful tips in working through the required poster submissions.

The Laidlaw Scholars Network is a very useful way of reading other scholars' ideas, thoughts and research, from around the world. This is something I found useful – it was interesting reading their ideas and plans in mind, even if it had little, if any, to do with the research I was working on.

And what about the research itself? It threw up challenges of its own. For instance, there was a very nasty problem on Linux that meant that it would crash with an out of resource error. Handling that was very difficult, mainly because of the inconsistent documentation on the internet that, while helpful on its own, couldn't unblock the myriad of limits that the kernel felt was appropriate to impose on me. This was quite serious as it meant that data couldn't properly be obtained – and it was bad enough for me to discuss this during the virtual Action Learning Set. I decided to pursue a split approach – while trying to look for alternatives for the problem, I looked at other interesting aspects (such as testing various schedulers). And that's an aspect of leadership – because research is always uncertain and it is impossible to predict what would come our way. I have also decided to consider publishing a paper from scratch, which is another element of leadership being demonstrated.

Going further

One of the aims of the Laidlaw Scholarship is *leadership* – like they care so much about it that most 2020 cohorts are going to be doing a project linked to that. Hence a natural question is – *have I achieved that aim?*

Looking back to when I heard about the scholarship in October 2018 and today, I think it's safe to say that I've improved in that I have a better understanding of *what* leadership is, and how something that might not look like one actually be disguised as a clever application of leadership. I can now better recognise that my ideas and projects I took care of (for instance the competitive programming one) can be construed as the application of leadership.

However, I do *not* think that I've quite achieved the ideal aim that the Laidlaw Programme would expect from me, and I think I still have a long way to go. For instance, I horribly messed up at a hackathon, with the contribution from my side being basically non-existent than that of my teammates. Naturally, this triggered a review – *why did this go so wrong? What did I not do correctly, and what should I do to fix it?* Digging deeper made me realise that I did not apply leadership properly – for instance – I didn't take the initiative to learn something new quickly – something that is sorely needed in today's world. Even if the project and concepts were completely unfamiliar to me, I made a large error by trying to rigidly stick to what I knew.

Even in other contexts, I think I could still do better, because I still do not do well in some of the "core" aspects that one would expect a leader of today to follow. For instance, I *still* struggle to maintain eye contact, something that my parents have repeatedly pointed out. Even with the team-based events that I think have helped me improve in core teamwork aspects, I think I could do a lot better, and given a team-based project and an individual project, I would most likely pick the latter. Finally, I still have to be very careful before saying something – as someone who was informed *twice* of being blunt or otherwise

potentially hurtful – while I have improved a lot, I still must do better, because if I make such a mistake at the wrong time, this could be highly detrimental. I must note that the above criticism is levelled on myself with a aim to improve from them, and is not in any way against the Laidlaw Scholarship (in fact I probably wouldn't have identified my flaws as well and penned them here had it not been for this).

However, the research component has been enjoyable despite challenging, and it hence actually makes me a bit unhappy that the 2020 cohort are going to do a *leadership in action* project – despite my personal niggles with the aspect of leadership – I personally think that there is enough leadership opportunities that are already being offered, though St Andrews and though the Laidlaw Scholars Network, without having to “force” students for an entire summer.

It's harder to get the research opportunity, and I am very grateful to the Laidlaw Foundation for the opportunity to get two research summers – especially since my internship plans didn't go to plan – in fact, it has encouraged me to seriously consider applying for PhDs for 2021. If you had told me this in 2018, I would have most likely thrown such an idea out. I am *dead* glad curiosity got the better of me and made me apply for the scholarship. Especially with my own topics that I was very curious about – and learned a lot – and encouraged me to continue research in CS.

Would I recommend the Laidlaw Scholarship? For what us 2019 scholars got, an **empathetic yes**. This is because the combination of two summers of interesting research is something that no other scholarship that I am aware of till date does, and it is still possible to fit an internship if one *really* wants to, with the other leadership sessions being a real icing on the cake.

For what the 2020 scholars would do, I'd still say a clear yes, but with a disclaimer that their second summer is unlikely to be purely research-based. Travelling to Fiji sounds less exciting than working on a nice research project, at least for someone like me, and as a CS student where getting an internship is often considered as essential, would have to weigh the possibility of being unable to go for one as a result.