**Handling Criticism at Work as a Data Scientist**

Reflection and lessons from my performance review as a first-year data scientist



Photo by [Nate Johnston](https://unsplash.com/@natejohnston?utm_source=medium&utm_medium=referral) on [Unsplash](https://unsplash.com/?utm_source=medium&utm_medium=referral)

“Pain plus reflection equals progress”: a famous [quote](https://www.youtube.com/watch?v=Y1OpbDWp8KY) by Ray Dalio, investor and founder of the largest hedge fund in the world.

The quote implies the pursuit of truth at all costs, or in other words, having an open mind and disconnecting ourselves from our ego when listening to other people’s criticism about us. It is the only way that we can truly learn from our mistakes and objectively assess our own strengths and weaknesses.

It is with this in mind that I dedicate this blog post as a reflection on the performance review that I received recently which marks the end of my first year working as a graduate data scientist.

The aim of this blog post is to not only document my own journey as a data science professional, but more importantly, I hope by being transparent, this post can enable young aspiring data scientists to get an idea of what it takes to be successful in this field. I will also be sharing some tips and tricks that were given to me by my performance manager to address my own personal shortcomings.

**Capability framework**

Before we dive into my performance review, I think it is helpful to first set a point of reference for what is expected of a graduate data scientist, i.e. what an analyst straight out of university is expected to be able to do. In the team that I was in, there is a framework that highlights exactly this.

The capability framework highlights the 3 key areas that constitute what is considered a well-rounded data scientist at each career level: problem-solving, communicating, and relating.

Here, I will outline the capability framework for a graduate analyst:

**1. Problem-solving**

* Framing: basic work planning, ability to break down a problem into actionable analytical steps, understanding of how to prioritise tasks
* Analysing: sound quantitative analysis which includes collecting data, sense-checking, as well as core Excel and SQL skills
* Assessing: ability to succinctly summarise output in the format of a table or chart

**2. Communicating**

* Written: ability to write an effective email or PowerPoint slide
* Oral: use effective task-based communications

**3. Relating**

* External: ability to work well with clients on-site
* Internal: effective contribution in team settings or meetings

**Performance review**

The review came a few months following my project working with a state government on their COVID response initiatives. Specifically, we supported the client in developing and operating dashboards that presented information on the state of public health. In addition to dashboards, we also helped with ad-hoc analysis when needed.

Prior to the review session, I was instructed by my performance manager to jot down a list of things that I thought I did well over the course of the project, along with things that I did not do so well or need to improve on.

The purpose of this exercise (unknown to me at the time) was to gauge my level of self-awareness and whether or not my list aligned with the feedback given to me by my colleagues on the project. And for the most part, my self-assessment did align.

Coming off a similar dashboard project, I was confident that I performed well in the technical aspects of this project such as writing SQL code as well as building and fixing Power BI dashboards. However, I struggled more with personal motivation in this project. This was a result of feeling like I wasn’t learning anything new, which consequently had a negative impact on my collaboration and engagement levels during team meetings.

Here is a summary of the feedback that I received in my performance review:

**Strengths**

* Able to code up complex logic
* Effective analysis and capable of producing quality SQL work
* Can be trusted to create and fix dashboards

**Weaknesses**

* Refine sense-checking answers and best practice coding e.g. writing more descriptive comments in code
* Learn to think deeper about a problem and form hypotheses
* Be more collaborative and engaged in team meetings and discussions

**Lessons and reflection**

As much as I had anticipated hearing those negative feedback, it still hurt.

However, throughout the session, I repeatedly reminded myself that this is the only way that I am going to get better. By recognizing and acknowledging the areas that I am lacking, I now know what I need to work on in order to improve going forward.

Pain plus reflection equals progress.

Now, let’s talk about the performance review in more detail.

According to my performance manager, my feedback was largely similar to what most analysts straight out of university would receive. We are excellent in our technical abilities like being able to learn new concepts or a new programming language quickly, but lack the softer skills like communication and working in team environments.

In my case, because I had previously learned how to use SQL and Power BI, I was able to immediately contribute my technical knowledge to this project, and judging from the feedback that I got back, my team would agree that I did decently well in this area.

However, as for the negative side, I think most of them were driven by my lack of motivation during the project, which is a separate problem altogether that I won’t get into in this blog post.

For example, I could have been more diligent in writing comments in my code so that other team members who pick up my work can understand clearly what I am trying to do.

Furthermore, I also struggled to form hypotheses, sense-checking my answers, as well as thinking a few steps ahead when doing a piece of analysis. To put it another way, I merely did what I was told and did not take the initiative to dive deeper into the problem, ask questions, or at the very least sense-check that my calculations were accurate.

This is a crucial skill to develop as a data scientist as it is not always just about getting the answers quickly but making sure they are correct, thorough, and actually add value to the project.

Last but not least, my poor habit of not taking notes during meetings has many times caused me to lose focus and become disengaged.

Towards the end of the review session, my manager gave me a few pieces of advice to help me address this feedback. For instance, to help me become more thoughtful in my analysis in the future, he recommended always starting out with a high-level plan of what I need to do before I even begin doing any sort of coding.

As a young data scientist, I often find myself diving straight into writing code without first having an overall understanding of what I need to do or what exactly the problem is. By first setting out a plan, it will not only reinforce my interpretation of the problem but provide a structured step-by-step approach on how to solve it.

This method also serves an additional benefit where my colleagues will get the opportunity to give feedback on the plan. In the event of flaws or things that I might have missed, this is where they can help guide me back on the right track before I actually start doing the work.

On a similar note, to improve my engagement levels during meetings, my manager suggested repeating back to my colleagues at the end of meetings what I have understood from the discussion. This way, in addition to forcing me to pay attention throughout the meeting, it also allows others to know that I have fully understood the tasks at hand.

I hope in this brief blog post, you have learned the importance of being open-minded to feedback as well as got some insights from the advice that was given to me by my performance manager.

Feedback is how we learn more about ourselves, our mistakes, as well as our strengths and weaknesses. Being receptive to criticism not only helps us avoid the same mistakes again but enable us to grow to become better data scientists.

If you found any value from this article and are not yet a Medium member, it would mean a lot to me as well as the other writers on this platform if you sign up for membership using the link below. It encourages us to continue putting out high-quality and informative content just like this one — thank you in advance!