Individual Reflection

Reflections on Developing Data Visualisation
and Analytical Skills:
A Personal and Professional Journey

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Introduction

Throughout this module, my approach to data, analysis, and communication has developed considerably. Using Rolfe et al.'s (2001) model (*What? So What? Now What?*) and the Johari Window framework (Luft & Ingham, 1955), this reflection explores my learning, challenges, and professional growth, while outlining areas for future development.

I documented this journey through my ePortfolio, which I refer to throughout this reflection. It can be accessed via the following link: https://valentinamercieca.github.io/visualising_data.html

WHAT: Learning Experience and Challenges

At the start of this module, I had experience in R and some exposure to Python but lacked confidence in applying these tools to real-world visualisation tasks. While I was familiar with `ggplot2`, I had not had many opportunities to apply it in a practical context. This module offered a valuable chance to revisit and deepen those skills through regular hands-on exercises (ePortfolio Units 3-7), helping me refine my visualisations and interpret them with greater confidence. I found this particularly helpful during the EDA assignment (Unit 8), where my ability to visualise and explain data relationships became a real asset. In contrast, using Python's Plotly library was entirely new to me. While I had some Python knowledge, this was my first time working with interactive visualisations. I found Plotly powerful yet accessible, and I now plan to use it for future projects requiring interactive or web-based outputs (Unit 9).

A particularly frustrating moment came during the EDA assignment. I expected a clear, linear process but the literature revealed multiple approaches and no universal sequence. This ambiguity was initially unsettling – was I doing it 'right'? A conversation with my tutor reassured me that clarity and completeness were more important than following a strict order. This helped me trust my judgement and become less dependent on prescriptive structures.

Another challenge was sourcing a dataset for the Tableau dashboard. I wanted to go beyond typical executive or sales examples, but finding a reliable, real-world dataset aligned with my vision proved difficult. After considerable searching, I eventually found a suitable dataset from a study by Antonio, de Almeida, and Nunes (2019), which became the foundation for my dashboard (Unit 12). This taught me that dataset selection is not just a technical decision, but a creative one that requires persistence.

Finally, adapting to Tableau as a first-time user was a learning curve. The interface felt overwhelming at first, but the module's tutorials and resources were extremely helpful. While intuitive in many ways, Tableau still required sustained effort and experimentation to use effectively. Ultimately, I came to appreciate its ability to quickly transform data into compelling visuals, particularly for business audiences.

SO WHAT: Emotional Response, Feedback, and Personal Insight

Reflecting through the lens of the Johari Window, I can map my growth across all four quadrants. Initially, much of my mindset sat within the “blind self.” I considered myself technically competent in R and Python, yet I was unaware of how limited my perspective was when it came to designing with users in mind. This became clear through tutor feedback, particularly on my dashboard design draft (Unit 9) which highlighted that even aesthetically polished dashboards could fail if they lacked clarity, accessibility, or alignment with user needs. This pushed me to engage more deeply with HCI principles and design practices, transforming how I approached visual communication.

Simultaneously, I became more aware of my “hidden self.” I carried private doubts, especially around my Tableau work. At times, I hesitated to share early drafts or ask questions, concerned about appearing underprepared. However, peer collaboration played a major role in shifting that mindset. For example, when working in R, a colleague shared annotated Jupyter notebooks on classification models (Unit 6), which significantly improved my understanding. This experience reminded me of the value of knowledge-sharing and how learning can be amplified through collective effort (Ahmad and Karim, 2019). This also helped me to open up since I realised that others shared similar struggles. As I became more engaged in group discussions, I began contributing more regularly by offering suggestions and asking questions related to the course material, new concepts, and the assignments we were working on. These moments helped move parts of my hidden self into the open and showed me that confidence often grows from active participation (Clark and Gakuru, 2014).

My “open self” became more defined as the course progressed. I became increasingly aware of the areas where I felt comfortable – such as structuring workflows in R or interpreting visual patterns – and began to share those contributions more openly during peer discussions and collaborative exercises. These were not skills I had seen as standout strengths before, but through small moments of feedback and collaboration, I started to see how they added value to others' learning. I began to see myself as a contributor, someone who could support and learn alongside others while gradually building more confidence in my own voice.

Finally, parts of my “unknown self” surfaced during moments of challenge, especially when navigating ambiguity in the EDA process or seeking an unconventional dataset for my dashboard. Through trial, error, and reflection, I discovered a deeper resilience and adaptability than I had previously acknowledged. These moments revealed strengths I had not known I possessed, and they have now become part of the self I will continue to develop going forward.

NOW WHAT: Transferable Skills, Application, and Future Plan

This module has significantly shaped my professional development. I now possess a more integrated skillset that spans data preparation, statistical analysis, visual storytelling, and dashboard design. These skills are directly transferable to roles in business intelligence, data science, and UX analytics. Importantly, I also developed soft skills like critical reflection, time management, and collaboration, that I previously might not had given enough importance to.

To ensure continued growth, I have developed a Professional Development Action Plan (Table p.4). It includes short-term and long-term goals, inspired from skill frameworks (SFIA, 2025; BCS, 2025).

My goal is to become not just a technically proficient data scientist, but one who can effectively bridge the gap between data and decision-makers. This reflection has helped clarify that ambition. Long-term, I aim to take part in projects that integrate visual analytics with strategic planning – possibly even using emerging technologies like AR/VR, which I explored during the final formative task (Unit 12).

In summary, this module helped me evolve from a technical data user into a thoughtful visual storyteller. It gave me the tools, frameworks, and confidence to present data in a way that inspires action.

Skill Area	Current Level	Target Level	Action(s)	Resources/Tools	Timeline	Status
Tableau Design Proficiency	Beginner	Intermediate (basic interactivity)	Follow instructional videos	YouTube, Tableau	2 weeks	Achieved
Advanced Tableau Design	Intermediate (basic interactivity)	Advanced (multi-layered dashboards)	Complete Coursera Advanced Tableau course	Coursera, YouTube, Tableau	4–6 weeks	Not Started
Power BI Proficiency	Beginner	Intermediate	Enrol in Power BI beginner-to-intermediate course	Microsoft Learn	3 weeks	Not Started
Presentation Skills	Developing	Confident	Record 3 practice presentations; get feedback from relatives/peers/mentor	Zoom, OBS, Peer Review	Monthly check-ins	In Progress
Data Storytelling	Adequate	Proficient (portfolio-ready)	Build 2–3 case studies using real-world data; publish on GitHub	GitHub, Public datasets	2–3 months	Not Started
Industry Awareness	Passive	Actively informed	Follow 3 trusted data science/tech/news sources weekly	Wired, HBR, Towards Data Science	Ongoing (weekly)	Ongoing
Collaboration & Feedback	Reactive	Proactive	Initiate 1 peer feedback session per project	Zoom, in-class discussions	Ongoing	In Progress
Time Management	Inconsistent	Structured & Prioritised	Use time-blocking to structure study/project hours; reflect weekly on usage	Google Calendar, Self-reflection	Weekly review	Achieved
Critical Reflection	Developing	Habitual & Insightful	Maintain a weekly reflection log after project work or learning sessions	Journal, Word Document	Ongoing	In Progress
Communication (Written)	Adequate	Clear and Professional	Summarising findings in written reports/blogs for formative exercises	Journal articles, Books, Feedback from peers	Ongoing	Achieved
Communication (Verbal)	Developing	Confident Presenter	Participate in at least 2 group presentations/discussions	Zoom, Class discussions	Per unit	Achieved
Problem-Solving Approach	Task-oriented	Strategic and Adaptive	Reflect on problem-solving process after technical tasks	Reflection log, Peer feedback	After each task	Ongoing

Conclusion

This module has been transformational, not just in the technical sense but also in how I view myself as a data professional. I have grown from someone who viewed data visualisation as a final step in the pipeline to someone who sees it as central to analysis and storytelling. I now understand that visualisation is not just a skill, it is a language for insight, persuasion, and clarity.

I have also learned that growth is not linear; there were setbacks, doubts, and “aha” moments. Through feedback, collaboration, and reflection, I have developed resilience and a deeper curiosity about data’s role in decision-making. I feel better prepared not just for future academic work, but for the professional challenges ahead.

References

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