

# Final Reflection

**E-Portfolio Link:** <https://alkuwari91.github.io/MarwaAlkuwari/>

## WHAT?

This module introduced me to the structured, ethical, and methodological foundations of academic research within the computing discipline. Through 12 progressive units, I engaged in reflective learning, hands-on activities, and peer interactions that collectively shaped my understanding of research design, data analysis, and professional conduct.

One of the first turning points came during **Collaborative Discussion Forum 1**, where we explored the “Codes of Ethics and Professional Conduct.” The forum fostered deep engagement with real-world issues such as AI accountability and data privacy. This encouraged me to link theory to practice and critically evaluate ethical standards like the BCS Code of Conduct. Tutor feedback highlighted my ability to contextualize these ethical considerations in computing applications, affirming my alignment with Learning Outcome 1 (*Professional, legal, ethical, social and cultural issues in computing*).

Later, in **Collaborative Discussion Forum 2**, I reflected on a case study concerning the *accuracy of information*. This prompted me to think critically about biases in data collection, a theme we revisited in Units 6 and 7. My initial post addressed how flawed surveys can produce misleading generalizations, and tutor feedback pushed me to explore further the role of responsible reporting and hypothesis testing (LO2 & LO3).

Beyond discussions, I submitted multiple artefacts: literature reviews, proposal outlines, and statistical worksheets using Excel. I also presented a proposal titled “*AI-Driven Learning Support*”, where I received structured feedback that improved my awareness of audience engagement and academic presentation (Unit 10).

One of the most insightful moments came while completing the **Literature Review Outline** in Unit 4 and refining it after receiving feedback. I initially struggled with narrowing down sources and integrating critique, but the tutor’s comments helped me improve both the structure and argumentation in my revised work.

Another critical artefact was the **Professional Skills Matrix and Action Plan** in Unit 11. This task helped me identify skill gaps and outline realistic, personalized development goals—including improving my statistical confidence, time management during analysis, and application of research tools like Power BI.

## SO WHAT?

Reflecting on these experiences, I’ve realized that research is not a linear process but a dynamic one—shaped by context, data, and ethical considerations. Previously, I approached research as a technical task. Now, I see it as a nuanced process that blends critical thinking, decision-making, and professional responsibility.

This module sharpened my **quantitative reasoning**, especially through Units 6–9. I learned how to:

- Differentiate levels of data (nominal, ordinal, interval, ratio)
- Use summary statistics to describe trends
- Perform **hypothesis testing using Excel**

- Visualize results to support or reject assumptions

I was initially intimidated by statistics, but completing the **Inference Worksheet** and **Hypothesis Testing task** allowed me to build confidence in using numerical evidence to support arguments. These are core components of Learning Outcome 3. Equally valuable was the **reflection-based learning**. The module encouraged me to question my biases, particularly during the ethics sessions and seminar discussions. I began to connect academic theories with broader societal implications—such as how poorly designed surveys can impact vulnerable communities or how unethical data use in AI can lead to discrimination.

Feedback from tutors was a consistent driver of growth. It revealed blind spots I hadn't noticed and confirmed areas where I had demonstrated critical understanding. For example, I was praised for linking ethical theories to practical computing dilemmas, which motivated me to expand on this further in my Reflective Activity 1 on *Ethics in the Age of Generative AI*.

This module also enhanced my **professional skills**—specifically in:

- Time Management: meeting weekly submission targets
- Communication: presenting research clearly and concisely
- Critical Reflection: identifying personal growth areas
- Commercial Awareness: understanding research's value to industry
- Digital Literacy: using GitHub Pages, Excel, and e-portfolio tools effectively

## NOW WHAT?

Moving forward, I am committed to carrying the research and professional skills I have acquired throughout this module into both academic and applied contexts. The ability to formulate a researchable question, design an appropriate methodology, test hypotheses, and ethically communicate findings is not just confined to academic environments—it is an essential toolkit for leadership, strategic decision-making, policy analysis, and innovation in the education and technology sectors.

Reflecting through the model proposed by Rolfe et al. (2001)—*What? So What? Now What?*—has helped me understand that learning does not end with the completion of a module.

Specifically, I intend to:

- Pursue professional certification in Power BI and advanced data analysis.

This aligns with my strategic objective to lead data-informed initiatives within Qatar's educational system. By enhancing my technical competence in data visualization and business intelligence platforms, I will be better positioned to make evidence-based decisions that can influence institutional improvement, policy reforms, and student learning outcomes. As *The University of Edinburgh's Reflection Toolkit* emphasizes, transforming reflection into forward action is the mark of effective professional development—and for me, this means translating statistics into real-world impact.

- Develop and submit a conference paper based on the refined version of my research proposal, which focuses on the role of AI in enhancing student support systems. I have already received constructive feedback on this proposal through both my literature review and tutor comments, and I now

recognize the value of sharing these findings with a broader academic audience. Doing so will not only extend my contributions to the field but also strengthen my academic writing and critical evaluation skills—supporting Learning Outcomes 2 and 3.

- Continue applying reflective practices in both academic work and leadership responsibilities. The *Reflection Toolkit* encourages the use of structured models such as Rolfe's, Gibbs', or Kolb's to deepen learning. I found Rolfe's model particularly effective because of its simple but powerful structure. I plan to incorporate structured reflection at the end of each major task or project—asking what I did, what I learned, and how I can improve—to inform future decisions and foster continuous growth.
- Act as a peer mentor in the area of ethical research practice, especially regarding AI, data privacy, and digital ethics. The discussions in Unit 1, particularly around the BCS Code of Conduct and *Deckard's (2023)* article on *Ethics in AI*, have made me more conscious of the growing ethical complexities that come with emerging technologies.

One of the most important lessons I am taking away from this module is the understanding that research must be inclusive, transparent, and transformative. It is not enough to follow a rigid methodological path. Research must address real-world challenges with integrity and sensitivity, especially in culturally diverse environments such as Qatar.

As Rolfe et al. (2001) assert, critical reflection must move beyond mere introspection. It should result in actions that not only inform our individual practices but also transform the communities we are part of. This module has helped me

bridge the gap between theory and application, equipping me to become not only a more capable researcher but also a more ethical leader and proactive change-maker.

## References

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