

# Reflection

Throughout the Research Methods and Professional Practice module, my understanding of what it means to conduct research has evolved considerably. In the early stages of the module, my view of research was largely procedural — a sequence of tasks to be completed: defining a question, gathering information, analyzing data, and reporting results. However, as the weeks progressed, and as I engaged more deeply with the exercises, the literature, and the reflective activities, it became clear that research is not merely a technical activity. It is a dynamic, iterative, and highly contextualized process that demands critical thinking, ethical sensitivity, adaptability, and continuous self-assessment.

The practical exercises played an essential role in developing my technical competence. Working on hypothesis testing using the Diets dataset, analyzing categorical data with the Brand Preferences study, and conducting regression analysis offered invaluable hands-on experience. I became more comfortable with statistical methods, not just at the surface level but also in understanding their assumptions, limitations, and appropriate applications.

Similarly, analyzing categorical data using chi-square tests, and working with linear regression models to explore relationships between variables, strengthened my ability to approach different types of research problems with the right tools. It became evident that the selection of an appropriate method is as important as the analysis itself, and that careless methodological choices can undermine the validity of research findings. These realizations have permanently changed the way I approach quantitative analysis, pushing me toward greater rigor and reflection in all future work.

The reflective exercises, collaborative discussions, and research development activities deepened my understanding of the ethical and professional responsibilities that come with conducting research. In particular, developing the literature review on Challenges and Ethical Considerations in Developing Deep Learning-Based Text Summarization Systems forced me to confront the real-world impacts of emerging technologies. It was through reviewing academic work on bias, misinformation, data privacy breaches, and accountability issues that I began to fully appreciate the ethical stakes involved in seemingly technical innovations. This realization was sobering and transformative. It shifted my perspective from focusing solely on performance and efficiency to considering the broader social consequences of technological advancement.

The process of designing my research proposal further consolidated these insights. Creating a practical plan for developing an ethical evaluation framework and artefact for text summarization systems required me to balance theoretical ambition with practical feasibility. I had to design a project scope that was challenging yet achievable, define validation strategies that were both meaningful and realistic, and anticipate potential risks such as model opacity, data set bias, and difficulties in measuring subjective qualities like fairness or transparency. Working through this exercise taught me that research planning is not a static process; it involves constant trade-offs between ideal goals and real-world constraints.

Managing the multiple components of the e-portfolio simultaneously further enhanced my project management skills. I needed to plan, prioritize, cross-reference, and reflect continuously to ensure that all pieces fit together into a coherent whole. This experience reinforced the importance of systematic organization, self-discipline, and proactive time management. I learned that maintaining momentum over a sustained period is crucial to producing high-quality work. These are skills that I will undoubtedly draw upon as I move into larger research projects, including my MSc dissertation and future professional projects.

The collaborative learning discussions added another layer to this developmental process. I saw firsthand how different methodological choices, theoretical frameworks, and ethical priorities can shape research projects in profoundly different ways. This experience taught me to value intellectual diversity and to remain open-minded when evaluating different research approaches. It also highlighted the importance of clear communication: explaining one's research choices to others in a way that is accessible and persuasive is a critical professional skill, one that requires clarity, empathy, and critical self-awareness.

There were moments of difficulty as well. Early on, I found it challenging to move beyond technical execution to broader interpretation. I sometimes focused too narrowly on correct calculations without fully considering what the results meant in a real-world context. Through repeated practice, feedback, and self-reflection, I gradually developed a more integrated approach, where technical findings are not endpoints but starting points for deeper inquiry into meaning, relevance, and actionability. This shift in thinking is one of the most valuable outcomes of the module for me.

In reflecting on the skills and mindsets I have developed, I recognize that the transformation extends beyond academic capabilities. I now approach research problems with a critical, questioning attitude rather than a mechanical one. I am more

aware of the ethical dimensions inherent in every research decision, from data collection and analysis to reporting and dissemination. I am better prepared to manage complex, multifaceted projects independently while seeking out collaboration and feedback when needed. I also have a much greater appreciation for the value of transparent, accessible communication — the ability to translate complex findings into meaningful insights that can inform decision-making, policy development, or further research.

This module has fundamentally reshaped my understanding of what it means to be a researcher and a professional practitioner. Research is not a sterile, isolated activity. It is a living, evolving process that connects technical skill with ethical judgment, independent thinking with collaborative learning, ambition with humility. It requires constant adaptation, critical reflection, and a genuine commitment to contributing positively to society.

As I move forward into the next stages of my academic and professional journey, I carry with me the lessons of this module not just as knowledge, but as an integrated part of how I work, think, and engage with the world. I am confident that the skills, insights, and values cultivated here will continue to shape my development as a researcher, a technologist, and a responsible contributor to the communities I work with.

Ultimately, this module has been much more than a module; it has been a redefinition of my approach to knowledge, responsibility, and professional growth. It has given me the tools not just to conduct research, but to do so thoughtfully, critically, and ethically — a foundation that I am both grateful for and excited to build upon in the future.