Reflective Piece: Research Methods and Professional Practice Module

Introduction

About three months ago, I began studying the Research Methods and Professional Practice Module. The primary aim of this module was to provide a solid foundation in standard research practices, which would allow me to strengthen essential skills such as project planning, conducting critical literature reviews, and research design. Throughout this module, I combined theoretical knowledge of research methods with practical tasks and formative exercises. While this was at times challenging, it allowed me to grow both as a researcher and a data professional. Additionally, I explored important topics such as ethical considerations in research, which broadened my understanding of responsible professional practices. In this reflective piece, I will discuss my experiences with the content and tasks of the module, the challenges I faced, the skills I gained, and how I plan to apply these lessons in the future. As Bryman (2016) suggests, reflection is not merely a tool for personal development but a vital aspect of effective research practice, enabling researchers to critically assess their own assumptions and methods.

Module Details

The module was structured to cover various essential topics for conducting scientific research, including data collection methods, literature reviews, and research

proposal design. A significant focus was placed on understanding the legal, social, and ethical considerations that researchers must address, especially in the field of computing. For instance, in the first units, collaborative discussions and case studies centred on data privacy and ethics in AI One of the most impactful aspects of this module was the focus on research methodologies. According to Creswell (2018), aligning research questions with appropriate methodologies ensures a coherent approach to data collection and analysis. This concept was reinforced throughout the module as I learned about the three primary types of research: qualitative, quantitative, and mixed methods. The module helped me understand how to select the appropriate method for a research project based on the nature of the investigation. I also learned about data visualization techniques, including creating dashboards, which are useful for clearly presenting research findings The following units delved deeper into the application of descriptive and inferential statistics in quantitative research. I developed a stronger understanding of how statistical analysis can be used to analyze data and draw meaningful conclusions.. Topics on research writing, project management, and risk management were also covered, all of which are integral to conducting high-quality research projects.

My Experience

This module was primarily research-based and largely consisted of independent study. As part of my coursework, I conducted extensive research on a range of topics, including ethical issues in research, machine learning models, and data privacy concerns. One of the key skills I developed was the ability to conduct thorough research while adhering to academic integrity standards. I learned how to

properly cite sources and avoid plagiarism, which is vital in maintaining the credibility of my work. In addition to the independent study, there were several seminars conducted by my module tutor. These seminars clarified various aspects of the module, including how to properly approach the literature review, research proposal, and e-portfolio assignments. The most useful aspect of the module, for me, was the series of worksheets focused on inferential statistics, hypothesis testing, and data visualization. These real-world applications of theoretical concepts helped me build practical skills that I can apply in future research projects. The most challenging part of the module was managing the amount of research required, especially given the constraints of an online degree program. Balancing work, personal life, and academic responsibilities made it difficult to devote enough time to thorough research. However, I learned an important lesson: it is crucial to plan research-intensive coursework carefully and allocate adequate time to complete tasks to a high standard.

Skills Gained and Future Applications

Over the course of this module, I gained a variety of valuable skills that I can apply in both academic and professional settings. One of the most important skills I gained was how to critically evaluate existing literature for a given research topic, and in the future the knowledge I gained in this module will help me tackle future research projects more effectively. I now have a clearer understanding of how to select the appropriate data collection methods and how to create a research methodology. The ethical codes of conduct which I explored will also guide my future work, ensuring that I conduct research responsibly and in line with professional standards.

Conclusion

In conclusion, the Research Methods and Professional Practice module has been an invaluable part of my academic and professional development. While the module presented challenges, particularly in managing the time demands of independent study, it has ultimately made me a more confident researcher. The lessons I have learned will undoubtedly be useful in my future career, particularly as I pursue research for my Capstone Project

References

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