

## HOW TO DESIGN A DATA SCIENCE PROJECT THAT CONTRIBUTES TO TRUTH AND RECONCILIATION IN A DIVERSE CLASSROOM?

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### INTRODUCTION

The Truth and Reconciliation Commission of Canada's calls to action highlighted the importance of educating students about the challenges that Indigenous People face on their lands including social and environmental justice issues. This raises the question of whether and how data analysis courses could contribute to this cause. In a Landscape Ecology course, we explored the knowledge gap in the relationships between Indigenous Peoples and the settler society, and how this relates to Landscape Ecology.

### PROJECT DESIGN

We developed a case-study that explored the challenges of a First Nation community in Ontario, Canada in accessing various public services. Here we reflect on: (1) How we designed the case-study in the context of Truth and Reconciliation; (2) What made the student experience meaningful; and (3) What were key success factors. To learn about the challenges and benefit from the insights of the First Nation, we invited a community member to watch a video about their specific situation with the class and to share their perspective. We designed the case-study to align with the course learning objectives, starting with an introduction to R with Jupyter Notebook, exploring spatial data types, modeling least-cost paths, analyzing spatial data, map design, and project presentations. The project allowed students to compare their own experience accessing public services to the challenges faced by the First Nation community.

### LEARNING OUTCOMES AND CONCLUSION

This approach helped the students: (1) understand the bigger picture of social and environmental justice issues of Indigenous Peoples; (2) contrast their personal experience and diverse backgrounds with the lived experience of an Indigenous community; and (3) appreciate the value of inclusion and knowledge sharing in data science projects. Course evaluations reflected the success of our project in creating a unique, respectful, and mutually enjoyable learning experience that contributes to the process of Truth and Reconciliation in a real-world data science project.