CHOOSE YOUR OWN ADVENTURE: EXPERIENCING RESEARCH THROUGH FIRST-YEAR GROUP PROJECTS IN DATA SCIENCE

Diana Warren[a], Samantha Clarke[b]

Presenting Author: Dr Diana Warren (diana.warren@sydney.edu.au)
[a]School of Mathematics and Statistics, University of Sydney, Sydney NSW 2006, Australia
[b]Educational Innovation Team, DVC(E) Portfolio, University of Sydney, Sydney NSW 2006, Australia

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ABSTRACT

Traditionally, an undergraduate's first experience of statistics has been intentionally sanitised, with well-defined research questions on very clean or contrived datasets. As a result, the learning experience is not only dull, but students are quarantined from the authentic research experience of problem solving with data.

Responding to the seminal *Guidelines for Assessment and Instruction in Statistics Education* (GAISE) recommendations (Carver et al., 2016; Franklin et al., 2007), our new data science curriculum allows thousands of students to experience the messy but exhilarating process of independent data discovery from day one.

Through the introduction of an integrated series of collaborative group data-projects, students experience genuine data science research within a scaffolded environment that supports their learning experience. Moving through different data types (sourced data, survey data, client data), students choose their own adventure by constructing their own research questions and then presenting their unique findings to their tutor and peers for interrogation. The use of reproducible RMarkdown documents enables collaboration and the production of professional reports, consistent with any research environment. Though challenging, students report their research experience as satisfying and motivating for their statistics study, as well as transferring to other domains.

REFERENCES

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