

Department	School of Engineering and the Built Environment
Supervisors	Dr Khristin Fabian
Project Title	Assessing the early impact of data skills training initiatives
<p>PROJECT DESCRIPTION</p> <p>Data has become ubiquitous and harnessing data to drive innovation forms a key pillar for driving growth. In the UK, initiatives such as the Q-step Programme were established to develop quantitatively skilled social science graduates for data-led professions (Nuffield Foundation, 2014). Evaluation of the Q-step programme identified that it is addressing the shortage of graduates in research and professional settings. However, this is just one aspect of the digital competence revolution. One of the recommended actions to make the UK a leading data science research nation is to develop foundational knowledge and skills from school to degree level (Royal Society, 2019). In Scotland, Data Skills Gateway has been setup to provide training across all stages to provide routes into work that increasingly demand data and digital skills.</p> <p>Findings from job studies point to the promising role of incorporating data science training into the curriculum. Digital skills such as data analysis and technical fluency are no longer exclusive to jobs in IT (Sigelman et al., 2022) and that skills-based hiring is on the rise (Fuller et al., 2022). These job trends suggest that training in developing data science skills across subjects and levels outside of data science programmes is a positive response to changing job market requirements.</p> <p>As these initiatives require a significant investment, and much of these initiatives are on-going, there is a need to identify what works and what could make it better. Through engagement with employers and previous participants of data skills training, this research will explore early impacts of data science education outside the data-led professions (i.e. healthcare or engineering).</p> <p>Academic qualifications A first degree (at least a 2.1) ideally in education or STEM with a good fundamental knowledge of data science education.</p> <p>English language requirement IELTS score must be at least 6.5 (with not less than 6.0 in each of the four components). Other, equivalent qualifications will be accepted. Full details of the University's policy are available online.</p> <p>Essential attributes:</p> <ul style="list-style-type: none"> • Experience of fundamental concepts surrounding data science education • Competent in basic statistics and qualitative research techniques • Knowledge of data science • Good written and oral communication skills • Strong motivation, with evidence of independent research skills relevant to the project • Good time management 	
Indicative Bibliography	Bonnell, J., Ogihara, M., & Yesha, Y. (2022). Challenges and Issues in Data Science Education. <i>Computer</i> , 55(2), 63-66.

	<p>Fuller, J. B., Langer, C., Nitschke, J., O'Kane, L., Sigelman, M., & Taska, B. (2022). The Emerging Degree Reset. The+Emerging+Degree+Reset+(22.02)Final.pdf (squarespace.com)</p> <p>Nuffield Foundation (nd). Q-Step. https://www.nuffieldfoundation.org/students-teachers/q-step</p> <p>Royal Society. (2019). Dynamics of data science skills: how can all sectors benefit from data science talent? https://royalsociety.org/topics-policy/projects/dynamics-of-data-science/</p> <p>Sigelman, M., Taska, B., O'Kane, L., Nitschke, J., Strack, R., Baier, J., ... & Kotsis, Á. (2022). Shifting Skills, Moving Targets, and Remaking the Workforce. https://web-assets.bcg.com/c1/c0/649ce92247c48f4efdbf9e38797a/bcg-shifting-skills-moving-targets-and-remaking-the-workforce-may-2022.pdf</p> <p>Schwab-McCoy, A., Baker, C. M., & Gasper, R. E. (2021). Data science in 2020: Computing, curricula, and challenges for the next 10 years. <i>Journal of Statistics and Data Science Education</i>, 29(sup1), S40-S50.</p>
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Web page	https://www.napier.ac.uk/research-and-innovation/research-degrees/application-process