

## Submissions Abstract Book - All Papers (Included Submissions)

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Evaluating Quantitative Skills Training in the Social Sciences

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**Research Domain:** Learning, teaching and assessment (LTA)

**Abstract:** This paper analyses quantitative methods training across undergraduate and taught-postgraduate social science degrees. Few applicants with quantitative skills take doctoral training and few social science graduates have numerical skills. Concerns about a shortage of capacity for statistical and numerical analysis skills have prompted a range of reports and initiatives to improve provision. This study evaluates this effort in two steps. First, it analyses QAA subject benchmarks across the social sciences and finds that, outside of business, there is no required training in the social sciences. Second, it surveys undergraduate degree requirements in business, politics, and sociology as well as postgraduate degrees in international relations, politics, public policy, sociology, and social research across all universities. The results suggest that only business and sociology provide consistent training for undergraduates. Postgraduate training is particularly weak across all but specialist research degrees, suggesting a continuing problem.

**Paper:** There has been a growing concern over quantitative skills within the social sciences and humanities. Several reports have concluded that there is insufficient proficiency in numeric and statistical analysis (British Academy, 2011, 2015; Nuffield Foundation, 2012; Wiles, Durant, De Broe, & Powell, 2009). This deficit is UK-wide, with official reports showing similar patterns in Scotland<sup>3</sup> and Wales (McVie et al. 2008; Maio et al. 2008).

This problem begins in the schools. The UK uniquely allows students to cease all study of mathematics at the age of sixteen. As a result, England, Wales and Northern Ireland had lower levels of participation in upper secondary mathematics than any other OECD country and were the only countries in which fewer than 20% of upper secondary students study mathematics (MacInnes 2010).

In response to these concerns, a range of bodies, including the ESRC, HEFCE, Nuffield Foundation, and British Academy have initiated a number of efforts to improve the situation. Most prominently, the £19.8m million Q-Step programme calls for a “step-change” in quantitative methods training for social science undergraduates. This programme funded 15 specialist centres to embed quantitative skills in undergraduate curricula and help bring a strategic shift in the importance of quantitative skills in the social sciences (MacInnes 2015).

Surveys of instructors suggest that method teaching is well-embedded in the social sciences. It was also noted that QAA benchmarks were being revised to emphasise the importance of quantitative skills, so the picture may be improving and not as bleak as previously argued (MacInnes 2015). However, previous research found that surveys of methods instructors can overestimate the extent

of quantitative training (Parker 2010).

This project analyses how much undergraduate degrees have embedded quantitative methods through three analyses. First, subject benchmarks are surveyed to measure whether quantitative training is an expectation in degrees for each subject. Second, undergraduate programme specifications across all universities in the subjects of business, politics, and sociology are analysed to see how many explicitly require quantitative methods. Finally, postgraduate taught programmes across all universities in the subjects of international relations, politics, public policy, sociology and social research are analysed to measure how many require quantitative methods. These three approaches indicate the state of methods training beyond the 'model' subjects of economics and psychology (MacInnes 2015).

Subject benchmarks in Business and Management, Education Studies, Criminology, International Relations, Politics, Social Policy, and Sociology are analysed for quantitative methods requirements. Only the benchmark for Business contained required quantitative training as part of the degree as a minimum requirement for all students. The other social sciences contained no requirements for quantitative methods, merely appropriate methods for analysing phenomenon in the discipline. In fact, some, such as Criminology, have even reduced or removed such requirements.

Requirements for undergraduate degrees in Business, Politics, and Sociology were then analysed across all UK universities. Business was the only subject to require quantitative methods in a majority of degrees. Sociology required this training in under half of degrees and Politics was the last with less than 20% requiring quantitative methods as part of the degree. Clearly, there are large differences between subjects in their commitment to teaching quantitative methods. While all pay lip service to the importance of quantitative literacy among students, few make it a requirement of their degrees.

Postgraduate degrees demonstrated even less support. In Politics and International Relations only 7 of 72 degrees require any quantitative methods and none required more than one module. A similar picture emerges in public policy, where only one of eighteen degrees requires one module in quantitative methods. Sociology was slightly higher with 38% requiring quantitative methods. Clearly, postgraduate taught programmes in the social science disciplines do not put much emphasis on methods training.

There is an additional subcategory of postgraduate degrees that concentrate upon research, and these degrees also show more concern for methods training. Twenty of thirty degrees that are MRes degrees in politics, sociology, social sciences, or social research require quantitative methods training. One could argue about whether this result indicates a strength or weakness, with one-third of MRes degrees requiring no quantitative methods training, but it certainly demonstrates more support than MA degrees. These degrees are also more explicitly research oriented, so they would also attract students more likely to pursue doctoral study, but they are also a much smaller subset of degrees.

These results suggest that the state of quantitative methods training in the social sciences remains weak and lacks support throughout the individual disciplines.

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