Exam Results and Riots: Teaching Sociology via Authentic Contemporary Data

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There has been a sea change in UK social sciences towards embracing more quantitative methods; however, there are real barriers in the form of restricted curricula and teacher knowledge. Many sociology teachers are weak mathematically, and so are lacking in both quantitative skills, and in the pedagogic content knowledge associated with such skills. The need for quantitative skills is becoming increasing important in the light of cultural and technological developments such as the emergence of the semantic web (e.g. data.gov in the USA) where major data providers are making huge data sets available for public use, and the 'big data' movement where tools are being invented to access and analyse web traffic for a variety of purposes. These developments also pose problems for statistical thinking – data are multidimensional, variables interact, and there are non-linear relationships. 'Big data' raises issues about sampling, deep measurement issues, and questions about analysis. Here, we report a programme where current, authentic data are presented in multivariate displays to facilitate the learning of sociology in pre-university courses. Our data visualisations are easy to use and run in internet browsers, and so no special software is needed. Curriculum materials include teacher notes on how the material might be used in class, questions the data can be used to answer, and a commentary highlighting some of the important features of the data. They focus on education, public disorder and health. Data on educational attainment at the end of compulsory schooling is broken down by ethnicity, sex, and eligibility for free school meals (FSM) – an interesting socio-economic indicator. These data show some startling results (white boys on FSM do far worse that black boys on FSM), and almost every 'soundbite' statement is wrong (e.g. 'pupils on FSM do worse than pupils who are not on FSM').
Data on public social disorder (including the recent London riots) are an excellent provocation for discussions about data quality, the politics of data, sampling and biased reporting. We will describe some of the barriers to the introduction of contemporary data into classrooms, that range from high stakes assessment systems that lock the curriculum in undesirable ways, through to teacher discomfort when faced with empirical evidence. We will show examples of materials, and student responses, along with a brief *précis* of an external evaluation of these resources by the Teaching Group of the British Sociological Association.

Key Words: data visualisation, school curricula, multivariate data