



Examining the Impact of Visual Teaching and Learning Strategies on Undergraduate Students Self-reported experience of Quantitative Research Methods teaching: Update from the Loughborough Project

“Exploring visual aspects of data helps students to learn basic statistics concepts”.

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Visualisation and teaching quantitative research methods to Sociology and Criminology students
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Outline

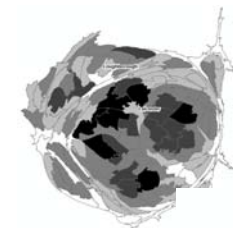
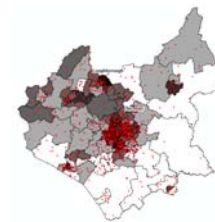
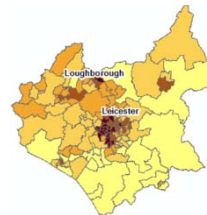
- * Background
- * Progress summary
- * Example of visualization
- * Emerging key messages
- * Next stages
- * Questions?

Background

- * Social Science Students and Maths Confidence.
 - * International Benchmarking Review of Best Practice in the Provision of Undergraduate Teaching in QM in the SS (2008); MacInnes (2009; 2012)
- * “Exploring visual aspects of data helps students to learn basic statistics concepts”.
 - * Focusing on Visualisation and Learning Statistics
- * QM Induction Course
- * Data Collection

Progress Summary

- * Data Collection and Research Partners Update
- * Induction Module Design and Portfolio-based assessment
- * ArcGIS and Hypothesis Generation:
 - * Thematic mapping,
 - * Multivariate mapping,
 - * Cartograms, and
 - * Cluster analysis;
- * Piloting the ArcGIS Crime Analysis Case Study



Key Messages

- * Loughborough Baseline Data:
 - * Anxiety but willingness to learn, and appreciation of relevance;
 - * Current statistics self-efficacy: no confidence at all or a little confidence;
 - * Confidence in learning: slightly better than confidence in current ability.
 - * Visualisation would help them learn statistics.
- * ArcMAP Pilot
 - * Involve students in the pedagogic development process;
 - * Guide students in the learning process using a visual approach (rather than expect them to learn by just looking at data);
 - * Ensure visual technology facilitates rather than hamper learning.

Next Steps

- * Data Collection
- * ArcMap Pilot 2 and Module Finalization for 2013/14 academic year.
- * Visualization may help students to prepare for a QM module.
- * Any questions?