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Director's Corner

Sue Heath, Deputy Director



This edition of *Methods/News* focuses on the important issue of research methods training. The provision of high quality training is a central element of the work of NCRM - and indeed of related ESRC investments, such as the Research Methods Programme and the Researcher Development Initiative.

Through working together to provide a broad programme of training and capacity building activities, targeted at a variety of different audiences, we seek to achieve the much talked about 'step change' in the quality and range of methodological skills used by the UK social science community. The training needs assessment recently carried out by the Centre (see Viewpoint) confirms the high level of demand amongst the research community for the provision of training opportunities, particularly amongst postdoctoral researchers just starting out on their research careers and perhaps moving into new methodological terrain for the first time.

Each of the NCRM's six Nodes has a particularly critical role to play here through the dissemination of cutting edge methodological developments arising from their research programmes. Having recently compiled the NCRM's Annual Report, I have been impressed by the sheer range of opportunities that now exist across the Centre: face to face training sessions, on-line courses and follow-up, mentoring schemes, placements, roadshows, summer schools, expert seminars... the list goes on, as does the range of topics covered by each of these opportunities. In combination with the programme of complementary training opportunities organised by the Hub, and the wide-ranging training activities of the Research Methods Programme and the Researcher Development Initiative, there has probably never been a better moment to seek out high quality research methods training in the UK.

Viewpoint

Rose Wiles, NCRM Principal Research Fellow

NCRM Training Needs Assessment

Building on an initial consultation exercise conducted in December 2003, the NCRM has carried out an assessment of training needs among the academic research community. The assessment focused on a broad range of academic researchers across the career trajectory. It comprised a questionnaire survey of all PhD students, ESRC project researchers and ESRC fellowship holders, ESRC Centre Directors and holders of large ESRC grants. In addition an analysis of questionnaires distributed at NCRM events and of the person specifications of job descriptions for academic social science staff was conducted.

The surveys indicated an increasing demand for training in quantitative methods, relative to qualitative methods, with increasing seniority; researchers identified a need for training in qualitative methods of data collection and analysis at the start of their careers (especially at PhD level), but there was a recognition of an increasing need for skills in advanced quantitative methods as their career progressed through to senior level.

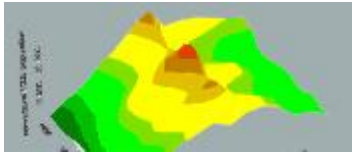
Researchers identified training needs in fairly broad, general topics and, in the main, in traditional areas of methods indicating that the mass of researchers feel they lack skills in traditional methods (at a range of levels) and are either unaware or uninterested in training in more innovative methods. Specific issues emerging from the researcher survey as common training needs were: interviewing; qualitative analysis (including CAQDAS); statistics/quantitative methods (at all levels); use of statistical software; and, longitudinal data analysis.

In terms of training delivery, there was considerable demand for regional training. Traditional face-to-face short courses were identified as the preferred type of training event and there was only limited support for on-line training. Lack of funding was identified as the primary reason for contract researchers

being unable to access training and lack of time as the primary reasons for more senior research staff.

These findings were discussed at the annual centre meeting in January 2006 and will be used to inform the strategic direction of the Centre in relation to training provision over the next period.

Focus on the Nodes



*Brian Francis, Lancaster/
Warwick node, Lancaster
University*

The Lancaster Warwick node is focusing on statistical

modelling - developing innovative statistical modelling approaches and disseminating them to the social science community. Directed by Brian Francis (Lancaster) and co-directed by David Firth (Warwick), the team consists of 14 academics and researchers across the two sites. Quantitative methods are being developed for a range of current and topical problems in the social sciences which are related to the concept of development and change. We are addressing three broad substantive research strands, all of which relate to social and developmental change. The broad aim is to make innovative advances in both the methodology and in the substantive topics.

The **Criminology** research strand (led by Keith Soothill, Lancaster) is concerned with changing criminal activity over the life course. Our approach moves away from looking at the number of arrests, and recognises that offenders do not often stay with one type of criminal activity throughout their criminal career, but change activities as they age, and will sometimes have a portfolio of offences at any point in time. We are currently looking at three related issues – changing profiles of offending over time and cohort for young offenders; estimating the length of a criminal career over birth cohorts, and examining the inter-relationships and orderings of serious offence convictions.

The **Sociology** research strand (Roger Penn, Lancaster) is investigating changing attitudes and values over time. We are focusing on a number of inter-related concepts – changing attitudes to gender roles; post-materialist views, and relativist/absolutist views. Much of these data are collected in the form of ranked, partially ranked and Likert scale questionnaire items, but tend to be analysed sub-optimally, often collapsing the ordinality into dichotomous categories. We, together with colleagues in Vienna, are developing new methods to analyse such data allowing for unknown individual effects, and dependencies between the item responses.

Charlie Lewis and Peter Diggle (Lancaster) lead the **Psychology** research strand. The current motivation is in modelling the development of cognitive functions in young

children. Developmental psychology is premised upon the notion of change and yet the discipline has been slow to explore techniques for measuring such a phenomenon within statistics (beyond standard procedures based upon the analysis of variance). We are exploring complex data sets, which are both longitudinal and microgenetic (those in which observations are conducted intensively over a period of known transition in order to model either common patterns of change or individual differences). In many instances of such change measures are binary – the child either can or cannot perform a skill. Our work aims to investigate causal relationships that have been postulated among these outcomes. Our methodological work thus far has explored the use of graphical modelling as a suitable methodology for this problem since it allows a path representation of the relationships between cognitive skills to be explored through time.

The main methodological focus of all four strands of the node is on new and recent methods for the efficient analysis of complex statistical models of the kind illustrated above - focusing on longitudinal data, pair-comparison data, and data from other highly structured research designs. Typically the models are generalized linear models (logit/probit regressions, log-linear models, hazard models, etc.) involving one or more effects that are best considered as being representative of a population, rather than being of specific interest in themselves. The **Warwick** arm of the node (led by David Firth) is specifically concerned with easing the computational load in fitting such models - simple examples of which are the much-used 'multilevel' hierarchical linear models. The models are well known to be very effective, but standard inferential approaches based on the likelihood (which include maximum likelihood and MCMC) can be computationally burdensome; the key technical obstacle is the need to evaluate mathematical integrals in many dimensions. The work at Warwick aims to side-step the difficult high-dimensional integrals, by working with 'pseudo-likelihood' constructions which are statistically sub-optimal but much simpler to compute.

All research strands plan to implement and publish new modelling approaches, providing flexible and fully-documented software through the open-source *R* project (<http://www.r-project.org/>). For all four strands, strong collaborative links have been established with leading European and US researchers, and joint publications are being written, with preprints available on our website.

In common with all other nodes, dissemination and training are central to our activity. Training this year has focused on the short course programme at Lancaster http://www.cas.lancs.ac.uk/short_courses/ and the Oxford spring school <http://springschool.politics.ox.ac.uk/> offered by Warwick. The combined programme offers a variety of courses from simple training in SPSS and STATA and conceptual issues in statistical modelling, through to focussed modelling courses- introducing participants to

missing data analysis, event history modelling and structural equations modelling. More advanced courses have also been offered – a new course on generalised non-linear modelling was offered for the first time this year on the Oxford spring school. Other activities include a linked consultancy scheme, where research projects which are of relevance to the modelling activities of the node can become associate projects and benefit from free consultancy advice.

Focus on the Hub

The NCRM hub says farewell this quarter to Jane Schofield, our administrator, who is moving to America and to co-Director Grainne Conole who is moving to the Open University to take up the post of Professor of e-Learning. We wish them both well and extend our thanks for the enormous input they have had to the work at the Hub in Southampton.

Meanwhile the hub is engaged in a major research needs assessment for ESRC, to follow-up the review of training needs assessment undertaken last year and which forms the focus of Rose Wiles' Viewpoint article in this issue of *MethodsNews*.

Other News

ESRC Research Methods Festival

St Catherine's College, Oxford, 17 - 20 July 2006

At the time of newsletter publication the second ESRC Research Methods Festival is almost fully booked: if you are hoping to attend you should therefore act immediately!

The Festival aims to engage social scientists across a wide range of disciplines and sectors and at different points in their research careers. We are aiming to stimulate interest, raise issues, highlight opportunities and showcase new developments. The Festival runs from 3.30pm on Monday 17 July to 5.30pm on Thursday 20 July. Most sessions are organised as half-days, but some are only 45 minutes and some are all day. Most sessions need to be booked and will close when numbers reach capacity.

Registration is £20 per day and includes lunch (if available), coffee and tea (£10 for full-time students). Dinner is £20 for a 3-course meal; rooms cost £42 for standard and £59 for en suite. PhD students are invited to offer a poster and can apply for free accommodation. The festival provides lots of networking opportunities; free wine receptions on Monday, Tuesday and Wednesday accompanied by music from the Jazz Menagerie; guided tours of Oxford.

Booking is completed online and full details are available from the festival website at <http://www.ccsr.ac.uk/methods/festival/>

Second International Conference on e-Social Science

University of Manchester, 28 – 30 June 2006

Registration for the NCESS Second International Conference on e-Social Science is now open. Three panel sessions for the 2nd International Conference on e-Social Science have been selected:

- Collaboration and Engagement: the use of new technologies across the Teaching and Learning Research Programme and the Applied Education Research Scheme.
- Living Labs for Intelligent Cities
- Collaboration, Computation and Community: Lessons from the music information retrieval community

To register for the conference, and for more information please visit <http://www.ncess.ac.uk/events/conference/> or contact Katy Middlebrough

(katy.middlebrough@ncess.ac.uk) or Lisa Bell (lisa.bell@ncess.ac.uk) on 0161 275 1383

Geographic Visualization Across the Social Sciences: State of the Art Review

University of Manchester 12 – 13 June 2006

The goal of the two-day workshop is to explore the 'state of the art' of geographic visualization across the social sciences, reviewing innovative methods and techniques, evaluating new software tools and data resources, and reporting the development of new applications to support research and pedagogy.

It is anticipated that around 30 people will be accepted for participation, along with keynote speakers. The goal is to attract a diverse mix of researchers from different disciplines who are exploiting the potential of geographic visualization to advance social science scholarship. The workshop will help to foster discussion and interactions between researchers from different disciplines and institutions, as well as highlighting the potential for new computation resources to support visualization coming on-stream from e-Social Science initiatives. The workshop aims to produce an edited book of papers presented to help define the scope of visualization work in the social sciences. In some senses the workshop in June represents a (near) ten year updating of the AGOCG-sponsored 'Graphics, Visualization and the Social Sciences' workshop held in May 1997 at Loughborough University (see www.agocg.ac.uk). It will be interesting to see what has changed and what unexpected developments have occurred. It will also be interesting to see where weaknesses and blockages still lie in social sciences more fully exploiting geographic visualization.

For more information and to register for this workshop, please visit <http://www.ncess.ac.uk/events/agenda/visualisation/>, or contact Katy Middlebrough; katy.middlebrough@ncess.ac.uk 0161 275 1383.

Focus on Resources

Insight.

Information, guidance and advice

Gaining a little *Insight*...

Experimental e-research within the e-social sciences is leading to the development of new research methods and the emergence of newly-formed communities, thus falling very much within the broad interests of NCRM and anyone involved with research methods in the social sciences.

Insight is the title of a collection of resources being developed by the National Centre for e-Social Science (NCeSS) designed to help you reach a better understanding of how e-Science can assist you as a social science researcher. The collection includes demonstrations, tutorials, case studies and frequently asked questions and can be found at <http://www.ncess.ac.uk/insight/>.

Among these resources you will find answers to questions such as 'what is e-social science', 'why should I be interested in e-social science', 'what is the grid' and 'how do I obtain access to the Access Grid'? The tutorial materials provide a good example of the provision of online learning materials for researchers, helping to meet awareness-level training needs for those of us too busy to attend a course but who could perhaps save a day by using the Access Grid rather than going to a meeting!

Spotlight on Events

Claire Ballinger, London South Bank University

Around twenty five participants attended the Discourse Analysis Workshop on 9th – 10th February 2006 co-ordinated by Jonathon Potter and Alexa Hepburn. Most of us were familiar

with the basic principles of discourse analysis, but wanted to learn more about and gain experience in the specific research approach for which Jonathon is well known, discourse psychology.

Over the course of the two days, all aspects of the research process were addressed, including formulation of the research question, different data generation methods, use of technology for recording (including new techniques to capture both visual and verbal data), transcription and analysis. This led to interesting and at times animated discussion about the merit of naturally occurring data versus interviews, detail required in transcription and more general views about research and researcher positioning.

A variety of formats were used over the course of the workshop including presentations, practical exercises and work with a partner with frequent opportunities for reflection and discussion. We were encouraged to consider the new material within the context of our own research and one of the interesting features of the workshop was the chance to hear about other peoples' research interests.

One of the most impressive aspects of this workshop was the amount of supportive text and material available. Each participant received a CD ROM containing numerous papers authored by the co-ordinators. Throughout the two days both Jonathon and Alexa were available to answer questions, and Jonathon provided additional information in response to requests afterwards.

The workshop provided an in depth opportunity to experience strategies used in discursive psychology and to reflect on the potential contribution of this approach to our own work. Some of us had anticipated more of an overview of different approaches to discourse analysis. However, all found the workshop interesting, challenging and stimulating.



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