

ESRC National Centre for Research Methods

***Advanced Research Methods Training in
the UK: Current Provision and Future
Strategies***

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Executive Summary

The purpose of this report is to take stock of the ways in which the national need for advanced methodological training in the social sciences has been assessed and addressed. We aim to provide a comprehensive descriptive account of current and recent ESRC provision of advanced methods training, detailing the nature and quantity of training provided as well as who has access to this training and at what cost.

In addition to describing the current advanced methods training landscape the report is also concerned with three topics: how national needs for advanced methodological training should be assessed and addressed; what funding and charging models should be used in delivering advanced training; and what modes of delivery are appropriate. We consulted a range of key stakeholders (n=16) and on the basis of these discussions make recommendations for assessing and addressing advanced methodological training in line with ESRCs strategic objectives.

All ESRC funded resources have been going through a period of considerable change recently, with many initiatives reaching the end of their funding period and new ones coming on stream. It is clear however that the capacity nationally to deliver advanced methods training is due to contract sharply through 2014 and beyond. Future capacity will be severely diminished unless plans are put in place for additional investment in advanced methods training provision.

There is currently a wide range of provision from a number of providers. The National Centre for Research Methods (NCRM) provides the majority of advanced methods training and while Doctoral Training Centres (DTCs) have a remit to provide advanced methods training it is not yet clear how much additional capacity DTCs will bring to bear on the advanced training needs of the social science community, since there is as yet no evaluation data that quantifies their output thus far. This begs further questions as to the future shape of advanced training provision, but these questions are beyond the scope of this report.

In assessing what training meets the needs of researchers while also addressing ESRC's strategic priorities it is important to identify those key methods that are essential to achieving ESRC's strategic priorities and maintaining the international standing of UK social science research. ESRC should continue to take a strategic view on its areas of need and should continue to draw upon the expertise of methodologists, the insights of the research community and the views of researchers, their employers, policy makers and the public at large.

Block grant funding of advanced methods training providers should continue, as it allows ESRC the greatest scope to respond to strategic needs by targeting those providers who have the necessary knowledge and expertise to deliver appropriate training in a timely fashion to the researchers who need it. Training for which there is strong and well established demand need not be supported with a block grant and should instead be supported through appropriate course fees. Course fees should at least reflect the ancillary costs of running training events. Fees that reflect full economic cost are best planned in conjunction with a supporting bursary scheme that can be used to reduce the costs of attending for some participants. A graduated fees structure is effective as a means of targeting certain groups, by enticing them with reduced fees.

Bursaries have the potential to empower researchers while helping to shape the market to support training that is in demand. Any bursary system should however be transparent in its operation and quick and simple for those who apply. Administration costs of managing bursary schemes also need consideration. Training that is free to participants is best used as part of a wider programme of provision that includes courses where fees reflect the costs of production, at least to some degree. Free events suffer a disproportionately high proportion of non-attendees and work best to raise awareness of research issues among a large audience.

The fee structure currently in use by DTCs should be kept under review and an assessment should be made as to whether it meets their needs. Any fee structure should be seen by all as fair, not only towards those from individual DTCs and the DTC network but also towards non-DTC students from within the institutions hosting DTCs. The fee structure should also gather sufficient fees to cover the costs of the administrative support needed to organise the training provision.

Face-to face training remains the most popular means of delivering training. Online training is of particular benefit where learners have limited time to attend face-to-face training and where demand for training cannot easily be met by face-to-face training. Combining online technology with face-to-face training has the potential to provide particularly rich learning experiences.

Online technology has reached a point where it is possible to create a rich online learning experience, given sufficient time, funds and the dedicated efforts of highly skilled instructors and IT professionals. The high cost, time involved and levels of knowledge and skill required should not be underestimated by those wishing to develop online learning.

1. Introduction

One of ESRC's core functions is to ensure that each new generation of social scientists is properly trained in robust and up-to-date research methods so they can undertake high quality empirical work to address pressing societal and policy-related research questions. Much of this methodological training is acquired during undergraduate and taught postgraduate study, although what is covered at these levels is generally at a foundational or introductory level. It has been recognised for some time now that, in order to develop sufficient methodological competence to be capable of undertaking ESRC funded research, a more advanced level of training is generally required. It is also recognised that the level of specialism required to provide advanced level methods training means that it will often not be available within a single institution. Over the course of the past decade, ESRC has provided funding to a number of different investments and through a number of different funding streams in order to ensure that the UK's advanced methods training needs are met.

The purpose of this report is to take stock of the ways in which the national need for advanced methodological training has been assessed and addressed. We aim to provide a comprehensive descriptive account of current and recent ESRC provision of advanced methods training, with regard to the nature and quantity of training provided as well as who has access and at what cost.

In addition to describing the current and recent advanced methods training landscape, the report is also concerned with the question of how ESRC should assess which areas of advanced methods are of national strategic need. So long as it is only possible to support advanced training in a limited number of areas, which is likely to be the case for the foreseeable future, it is necessary to come to a view about which areas to prioritise. The report will consider the ways in which such needs assessment can be undertaken and the approaches most likely to produce outcomes which are aligned with ESRC's strategic objectives.

Once areas of strategic need have been identified, a subsequent set of decisions is required relating to how training provision should be resourced, delivered and supported. ESRC has adopted a mix of strategies to underpin advanced methods training delivery, though this has primarily been through investments such as NCRM and the Researcher Development Initiative (RDI) where training is provided by researchers whose time is paid for through the grant. The report will consider the merits of this and other funding strategies and how they might best be aligned in the future.

The final concern of this report is with the appropriate mode of delivery, or at least the most appropriate mix of modes of delivery, particularly between face-to-face and online modes. There is increasing recognition that online training delivery has the potential to overcome the acknowledged limitations of face-to-face training. Yet, delivering advanced methodological training online faces substantial challenges of its own, relating primarily to the high (and often underacknowledged) upfront costs of developing online resources. While new technology has the potential to create rich learning experiences failure in the past to devote sufficient resources to online learning has sometimes resulted in poor quality fragmentary provision that becomes quickly outdated.

This report explores three topics in particular: how national needs for advanced methodological training should be assessed and addressed; what funding and charging models should be used in delivering advanced training; and what modes of delivery are appropriate. These issues are explored and discussed drawing on the NCRM Hub's experience of providing and co-ordinating advanced training since its inception in 2004. We have also consulted with a range of key stakeholders (n=16) with interests, knowledge and expertise in these issues to explore their views on these key topics (full details of the methodology for the consultation are in the Appendix). We review our experience and the views of our interviewees on each of these topics and use these to make recommendations for assessing and addressing advanced methodological training in line with ESRC's strategic objectives.

2. The Training Environment

Over the past decade or so, methodological training has become an increasingly important component of graduate study funded by the ESRC. Increasing the methodological training received by ESRC funded students was initially achieved through accreditation of the content of university master's programmes for their suitability as the '1' component in the '1+3' system of quota awards. More recently (from 2011), it has been further embedded in the training provided by HEIs through the specification of minimum methodological requirements in order to be recognised as an ESRC Doctoral Training Centre.

Yet, despite the significant up-scaling of provision these changes have engendered, it has always been recognised that the level of training provided as standard components of postgraduate degrees is foundational in nature and that additional investment is needed in order to meet the more advanced training needs of the social science community in the UK. Additionally, of course, postgraduate training is by definition available only to registered postgraduate students. Thus, ESRC has recognised the need for training provision which is available to those at later stages in their academic careers, as well as to social scientists outside of academia.

In this section of the report, we provide an overview of current ESRC methods training provision, identifying the level at which training is provided, the volume of training undertaken by different providers and the fees that are charged at the point of access.

Responsibility for ESRC-funded advanced methods training sits both with the Training and Skills committee, which oversees postgraduate training as well as initiatives such as the RDI, and the Methods and Infrastructure committee, which oversees initiatives such as the NCRM, the Centre for Microdata Methods and Practice (cemmap) and the UK Data Service (UKDS).

All ESRC funded resources have been going through a period of considerable change recently, with many initiatives reaching the end of their funding period and new ones coming on stream. The Survey Resources Network (SRN) and the Wales Institute of Social and Economic Research, Data and Methods (WISERD) came to the end of their ESRC funding in 2012, as did the Access Research Knowledge (ARK) programme, the Timescapes Qualitative Longitudinal Initiative and the 2010 British Election Study (BES). In October 2012 the Economic and Social Data Service (ESDS), Census Programme and Secure Data Service (SDS) were merged along with other elements of the data service infrastructure to form the new UK Data Service. The Quantitative Methods Initiative received major boosts in 2012, with renewed funding for the Centre for Microdata Methods and Practice (cemmap) and Scotland's Applied Quantitative Methods Network (AQMeN).

Table 1 below provides a summary of current ESRC advanced methods training provision. Investments are listed in the order in which their funding ends.

Table 1: Current ESRC funded methods provision and the extent of Advanced Methods Training within it.

Provider Name	Funded Until	Usual Duration	Access & Pricing				Level at which training is delivered
			PG	A	PS/C	P	
Genomics Policy and Research Forum	Jan 2013	1 day	FREE	FREE	FREE	FREE	Entry
RDI -- The Royal Economic Society Easter and Autumn Schools	Jan 2013	5 day	FREE	FREE	NA	NA	Advanced
Digital Social Research (DSR)	Mar 2013	1 day	FREE	FREE	FREE	FREE	Entry / Intermediate
RDI -- Advanced Research Training in Finance	Mar 2013	5 day	£100	£200	£500	£500	Advanced
RDI -- Latent Variable Modelling of Archived Social Science Datasets in NI	Jun 2013	1 & 5 day	FREE	FREE	NA	NA	Advanced
NCRM -- Hub & Node Programmes	Sep 2014	1 day	£30	£60	£60	£220	Advanced
NCRM -- Courses in Applied Social Surveys (CASS)	Sep 2014	3 day	£90	£180	£180	£660	Intermediate/Advanced
NCRM -- Autumn School	Sep 2014	3 day	FREE	FREE	NA	NA	Advanced
Research Centre on Micro-social Change (MISOC)	Sep 2014	1 day	FREE	FREE	NA	NA	Intermediate
Centre for Longitudinal Studies (CLS)	Mar 2015	2 days	£525	£525	£525	£525	Intermediate/Advanced
Understanding Society	Mar 2015	1 day	FREE	FREE	NA	NA	Intermediate
Applied Quantitative Methods Network (AQMeN)	Jun 2016	1 day	FREE	FREE	£75	£100	Entry / Intermediate / Advanced
ESRC Doctoral Training Centres (DTCs)	Sep 2016	1 day	£30	NA	NA	NA	Advanced
Cemmap -- Training Courses	Jun 2017	2 days	£210	£210	£1,140	£1,140	Advanced
Cemmap -- Masterclass	Jul 2017	2 days	£90	£90	£720	£720	Advanced
Cemmap -- Workshops / Conferences	Jul 2017	2 days	FREE	FREE	FREE	FREE	Advanced
UK Data Service (UKDS)	Sep 2017	2 days	FREE	FREE	FREE	FREE	Intermediate/Advanced
ESRC Responsive Mode & Programme Grant Training	NA	1 day	FREE	FREE	FREE	FREE	Intermediate/Advanced

Access & Pricing Key

- PG – Post Graduate Students
- A – Academics
- PS/C – Public Sector and Charities
- P – Private Sector

Researcher Development Initiative (RDI)

The ESRC has supported a total of 56 projects over four rounds of the RDI scheme in 2005 (15 projects), 2006 (16 projects), 2007 (12 projects) and 2010 (13 projects). The RDI supports the training and development of researchers at all stages of their career and seeks to develop a national training infrastructure that progresses social science research training in a systematic way. The initiative has been successful in producing a wide range of activities and resources, including student-led activities; regional training events; and the development and use of new tools and packages for training purposes.

Past training has been in areas such as applied psychometrics, online research methods, missing data, longitudinal data analysis, complexity theory, quantitative methods in psychological assessment, training in ethics and ethical practice, micro-data methods, geographical referencing, qualitative data analysis, data management, ethnographic including visual methods, latent variable modelling, and multilevel meta-analysis.

Three of the currently funded RDI projects are devoted to advanced training methods. The Royal Economic Society is to hold the last of its five-day seasonal schools in Easter 2013. Aimed mainly at doctoral students but also open to teaching and research staff, the school seeks to promote the latest developments in selected fields of economics. Twenty five free places are provided.

The Advanced Research Training in Finance project, at the University of Exeter provides intensive five-day workshops aimed at PhD students and early career researchers. Teaching is by internationally recognised experts from the UK and overseas, with an emphasis on recent developments and state-of-the-art research methods. Prices for the five days range from £100 for students, to £500 for non-academics.

The University of Ulster led project on Latent Variable Modelling of Archived Social Science Datasets provides free one-day workshops and a free five-day summer school on advanced multivariate statistical methods. Teaching is by experts from the UK and overseas.

National Centre for Research Methods (NCRM)

With a coordinating hub and six (2005-2008), seven (2008-2011) and now six (2011-2014) research and training 'nodes' over the course of three phases of funding, the NCRM has been a central component of ESRC's strategy to improve the standards of social science research methods across the UK since 2004. Its unique approach links advanced methods research in a wide range of methodological and substantive areas with the training and capacity building needed to produce a step-change in the uses of these methods by the social science research community across all sectors and levels. Topics covered have included the modelling of biases and complex structure in observational data, multilevel modelling, the modelling of longitudinal and other correlated data, systematic information synthesis, the analysis of linked administrative and survey longitudinal data, researching and analysing 'relationalities', analysis using CAQDAS software, methodological innovation and the use of simulation in the social sciences.

NCRM delivers in excess of one hundred days of training annually in advanced research methods to more than 1500 social scientists. Courses range from one to

three days duration. NCRM's current six nodes plan to deliver a total of seventy three one and two day events in their six specialist areas over the course of 2012-13. The LEMMA III node is concerned with methods for longitudinal data analysis, with a focus on multilevel modelling. It provides a mix of one, two and three day training courses as well as an online course¹. The MODE node develops multimodal methodologies for analysing digital data with a focus on the analysis and use of audio-visual/screen-based and touch-based technologies in workplaces, schools, and online environments. Their training programme includes seminars, lectures, introductory courses and summer schools. The NOVELLA node focuses on combining narrative analysis with other qualitative and quantitative methods and provides a large range of half day, one day and two day events. The PEPA node seeks to improve programme evaluation by addressing the central issue of causal inference. The training aims to promote an understanding of causality in social sciences and disseminate best practice in programme evaluation through a range of training events. The Pathways node focuses on methods for investigating pathways between social and health related processes, looking at causal inference concepts and methods, including the use of biomarkers. Pathways are planning four one-day training courses in 2012-13. The TALISMAN node works in the fields of geospatial modelling, simulation and data analysis, providing training in spatial analysis and GIS, as well as courses on data capture and data visualisation.

NCRM's hub seeks to complement and fill gaps in strategically important areas in the combined programmes of its six nodes and plans to deliver four one-day and five two-day training events in advanced methods provision in 2012-13. Topics include Qualitative Comparative Analysis (QCA) and Fuzzy Set Measurement, Qualitative Longitudinal and secondary analysis methods (in collaboration with Timescapes), Structural Equation Modelling, Inclusive Research, Panel Data Analysis, In-depth Qualitative Data Analysis Techniques, Log-linear modelling of contingency tables, Data Mining and The Alkire-Foster Method of Measuring Multidimensional Poverty. The hub is also working with the CAQDAS networking project at the University of Surrey to fund and organise five CAQDAS events. These include one-day courses on mixed methods analysis using MAXQDA, Qualitative Software Planning, Applications using ATLAS.ti, and Visual Analysis Methods using Qualitative Software. The Courses in Applied Social Surveys (CASS) group, who form part of the NCRM Hub, will deliver a further eleven three day training events. The teaching on all these courses is by recognised experts from across the UK and on occasion from abroad. Topics include: Survey Data Analysis using Linear Regression Modelling, Applied Multilevel Modelling, Regression Methods, Survey Design and Implementation, Data Linkage, Questionnaire Design, Structural Equation Modelling for Cross-Sectional and Panel Data, Event History Analysis and Longitudinal Data Analysis with a focus on Population Average and Random Effects Models.

NCRM's pricing structure for all of this provision is £30 per day for UK-registered students, £60 per day for staff from UK academic institutions (including research centres), ESRC funded researchers and UK registered charitable organisations and £220 per day for all other participants.

NCRM also provides thirty free residential places on an annual autumn school for post-doctoral early career researchers. Each year's event focuses on a particular theme and expert presentations deal with advanced methods issues of particular relevance to those at the beginning of their research careers. Last year's event looked at ways in which methods evolve over time and across disciplinary

¹ The LEMMA III online programme can be found at <http://www.bristol.ac.uk/cmm/learning/course.html>.

boundaries, focusing particularly on methodological innovations resulting from researchers coming together from different disciplines. The 2012 event explored structural equation modelling and gave participants hands-on experience of fitting these models in their own research.

NCRM also seeks to promote training in advanced research methods through its well-regarded Research Methods Festival, a biennial conference that promotes advanced methods through sessions such as the popular 'What is...?' introductory series. NCRM also runs a bursary scheme which is open to social scientists wishing to attend any research methods training course. The scheme was set up in April 2003 and was originally run by the ESRC Research Methods Programme (RMP) until NCRM took it over in 2007. The scheme is open to all members of staff in the UK social science community who are engaged in research, teaching research methods or supervising research. This includes contract researchers working in HEIs but excludes undergraduate, masters or doctoral students. The bursary can only be used for methods-related courses but these courses can be in any methodological area. NCRM awards 50 bursaries of up to a maximum of £1,000 per person each year. The scheme is over-subscribed and the quarterly budget is generally allocated within 2-3 weeks of opening.

Centre for Micro-data methods and practice (Cemmap)

cemmap's research focus is on the development and application of econometric methods to microdata, modelling individual behaviour and decision processes to inform policy making. The centre organises a large number of events each year under four distinct categories – training courses, workshops/conferences, master classes and lunchtime seminars. The training courses form the bulk of cemmap's provision, with a wide range of topics delivered by academics from the LSC and IFS as well as from other institutions in the UK and from abroad. A small number of master classes invite particularly notable academics to provide a two-day training course. cemmap workshops discuss on-going research and seek to help develop methods and practice.

Prices for cemmap events vary. Workshops/conferences are free while training courses are charged at £210 for HE participants and £1140 for others, for what is usually a 2 day course. Students pay the HE price but can claim a maximum £175 contribution towards accommodation and travel costs.

The Institute for Social & Economic Research (ISER)

ISER currently hosts two ESRC funded investments (Research Centre on Micro-social Change (MISOC) and Understanding Society) and provides related methods training through the UK Longitudinal Studies Centre (ULSC). The courses include training on the British Household Panel Survey, Understanding Society and on the EUROMOD project, with two free two-day events held annually on each of these projects.

ISER staff also contribute to the annual University of Essex Summer School in Social Science Data Analysis; perhaps the longest standing advanced methods training programme in the UK. It is essentially self-funded through fees and sponsorship but was grant funded by ESRC between 2006 and 2009 and has had ESRC bursaries available in the past. Participants can also apply for an NCRM bursary to help support attendance. The summer school offers over 50 one and two-week courses on topics such as social survey design and analysis, sampling, regression, multilevel analysis, time series analysis, correspondence analysis, log linear analysis, latent

class analysis, discourse analysis, game theory, rational choice, social theory, data visualisation and data mining, social network analysis, maximum likelihood estimation and limited dependent variables, categorisation and sorting, scaling, structural equation models, qualitative data analysis, focus groups, deliberative polls, interviewing, participant observation, content analysis. The standard course offers three and a half hours of teaching per day over two working weeks (a total of 35 contact hours) and costs £1400 for non-Academics and £1000 for academic researchers.

Centre for Longitudinal Studies (CLS)

The Centre for Longitudinal Studies (CLS) is responsible for running three of Britain's birth cohort studies: the National Child Development Study (NCDS), the British Cohort Study (BCS70) and the Millennium Cohort Study (MCS) and provides related training through the short course programme offered by Department of Quantitative Social Science at the Institute of Education (IOE). Courses are of two-day duration as standard and fees across the board are £525. Topics covered include: Survey data collection, Multivariate analyses, Data reduction and latent variable models and longitudinal modelling.

Applied Quantitative Methods Network (AQMeN)

AQMeN provides a mixed programme of quantitative methods training for social scientists, mainly targeted at those in Scotland, with some of it at an advanced level. Most courses are of one or two day duration and are free to all academic staff and students based at Scottish HEIs. Topics covered in recent events have included regression analysis, including analysis of categorical data and geographically weighted regression with GIS, multilevel modelling, longitudinal modelling, grouping analysis and handling missing data. AQMeN also provides one-day taster events to allow participants to explore a wide range of advanced quantitative methods and decide which is most relevant to their own research. Short presentations with examples of practical applications provide a flavour of what each method offers. Methods covered include: longitudinal modelling, propensity score matching, multilevel modelling (with multivariate outcomes), multidimensional scaling, fractional logit and probit regression, structural equation modelling, social network analysis, grouping/latent class analysis and quasi-experimental analysis. AQMeN's first ESRC award has now ended and it has been awarded a second phase of funding and plans to offer a broad programme of research which is underpinned by training and knowledge exchange activities. The training programme will build on that developed during phase 1 but with a greater focus on delivering training outside of Scotland, training that will be available to doctoral students from across the DTC network.

UK Data Service (UKDS)

The UK Data Service integrates the Economic and Social Data Service (ESDS), the Census Programme and the Secure Data Service, along with other elements of the data service infrastructure. Currently, training focuses on introducing researchers to the available data services and to methods of managing and storing data, including ethical and legal requirements. Events will be free to attend, although it is not yet clear how frequently they will take place under the new structure.

Doctoral Training Centres

The newly established network of 21 Doctoral Training Centres (DTC's) provide three types of methodological training for doctoral students:

- **Core Research Skills Training for Social Scientists:** a broad range of social science research methods as well as basic research and transferable skills that all students in the social sciences are expected to obtain.
- **Core Subject-Specific Training:** training that is essential to particular disciplines or training pathways but not necessarily essential to those outside that discipline.
- **Advanced Training:** training that goes beyond what is considered to be core to an individual training pathway but is deemed necessary for students as their research develops.

These three types of training form a continuum ranging from core training that is general in nature and meets the foundational needs of all ESRC doctoral students, to advanced training that is specialist and meets the continuing needs of individual students, needs that arise from and are closely tied to their individual research projects. In planning the DTCs it was anticipated that not all advanced training would be provided 'in house' at every DTC and that DTC students would be able to access advanced training in specific areas of strength through other DTCs in the network. Thus, advanced training is 'opened up' across the DTC network with different DTCs providing advanced training in their areas of methodological strength. NCRM worked with the ESRC to assess the extent and content of this opened up advanced training at the end of the first year of DTC funding. All DTCs were asked to upload details of the opened up courses they offered. In the period Oct 2011 until May 2012 a total of 179 courses were offered by the 21 DTCs. The number of courses offered by individual DTCs varied and the content of these courses was wide ranging.

Advanced Training across the DTC network is charged at the NCRM doctoral student rate of £30 per day. DTCs can claim a further £70 from ESRC for each UK registered PhD student (whether ESRC funded or not) who attends training from outside the 'home' DTC. A notable feature of the advanced training provided by the DTC network is that only doctoral students can avail of training at these subsidised rates.

Ad Hoc Provision through Research Grants

ESRC also funds advanced methods training through its research grants programmes. Those who apply for funding under responsive mode sometimes include training & capacity building as part of their proposed programme of work and this is generally offered free, or at heavily subsidised rates. These frequently take the form of 'one-off' training courses or master classes lasting 1-2 days. Some may be short programmes of related events, rather than one off events and may include events of different types, such as lunchtime and evening talks and conference sessions. Because courses of this nature are usually provided as an outcome of the research funded through the grant, they are generally not amenable to being planned strategically to complement the training provided through other training investments.

Summary

The current landscape of advanced training is characterised by heterogeneity of provision with a large number of diverse investments involved in delivering advanced training to the social science research community. NCRM is currently the largest provider by some margin. The RDI has delivered a good deal of training in the past, although this cannot always be described as advanced in nature and with many of the current phase of projects already at an end there remains only a small number of events planned up to summer 2013. Among the other ESRC investments, while many make an important contribution, most generally undertake comparatively small amounts of advanced methods training and with some soon to come to the end of their funding their output is likely to tail off in due course. The DTC network has the potential to deliver more advanced training in the future. However, DTCs remain at an early stage of development and the extent to which they are willing and able to deliver advanced methods training in the areas ESRC deems to be of strategic importance remains unclear. Moreover, the DTCs are focused on the provision of postgraduate training and so may not be able to deliver much training outside that constituency unless substantially reoriented.

3. Identifying Advanced Training Needs

Clearly the ESRC cannot fund training to meet potential needs in all areas of advanced research methodology. Once this is recognised, it is clear that some mechanism is required to establish which areas of strategic priority should be funded with the finite resources available. It is understandable that from an ESRC perspective training 'need' should focus on sustaining the social science community's ability to address important social and economic questions embodied in ESRC's strategic priorities. Training priorities might relate to areas in which there is deemed to be insufficient capacity or emergent areas where a certain level of research capacity needs to be developed.

An alternative approach to the problem would be to enable a free-market in methods training, with providers responding to meet the demand expressed by the research community. However, while there may be some merit to such an approach, it rests on the assumption that the self-perceived training needs of those 'purchasing' training will reflect the areas in which from an ESRC point of view require capacity-building. This is unlikely to be the case in practice, for reasons that we expand upon below, and so some independent means of assessing strategic priorities is therefore required.

NCRM has between 2004-2012 undertaken four assessments of training needs in the academic community (see <http://www.ncrm.ac.uk/publications/assess.php>). Three of these have focused on the academic community (Beissel-Durrant & Lang, 2004; Wiles et al, 2005; Moley & Wiles, 2011) and one on the non-academic social research community (Wiles et al, 2008). These assessments have sought to identify the research methods training needs for researchers across their careers, from both the perspective of researchers and from those that employ them. NCRM has used various strategies in seeking to identify these training needs. In the case of academic researchers these include: focus groups with experienced methodologists (2004); online surveys of ESRC PhD students, contract researchers employed on ESRC grants, ESRC fellowship holders and PIs of large ESRC grants (2005, 2011); questionnaires to participants at NCRM training events (2005); and a content analysis of research post vacancies (2005, 2011).

Thus, we have sought both the subjective views of researchers themselves of their perceived training needs as well as the views of those that employ and manage researchers of the skills that are in demand and which are perceived to be in short supply. In terms of researchers' perceived training needs, we have used online surveys to gather data using different types of instruments. In 2005 and 2008 we used open ended questions which yielded a wide range of suggested needs but little consensus as to priorities. Drawing on this experience we used a more structured questionnaire in 2011 and invited participants to prioritise training needs from NCRM's research methods typology (Beissel-Durrant, 2004). This resulted in respondents identifying a greater number of training needs and when prompted, individuals identified as priorities needs that were not mentioned by respondents in earlier surveys. We have attempted to explore the demand side of training needs through an analysis of job vacancies and interviews with employer who held large ESRC grants. Each of these approaches has strengths and weaknesses. How then should training needs be identified in future? This was one of the issues explored in our consultation.

One of the key findings of the Wiles et. al. 2005 training needs assessment was that post-graduate researchers (PGRs) and early career researchers (ECRs) identified training needs in areas with limited opportunities for employment. We also found that researchers' perceived needs for training changed across the career trajectory, with researchers in more senior positions identifying training needs more closely related to employment and funding opportunities (primarily in advanced quantitative methods). ECRs should be consulted about what their training needs are in the context of the research they are undertaking; this is obviously important in ensuring their immediate needs can be met. However, we agree with the view expressed by several of our interviewees in this consultation that researchers, and perhaps early career researchers especially, are perhaps not best placed to identify training *priorities*. It was observed by our interviewees that ECRs tend to identify research methods training needs in research areas they are comfortable with rather than those that necessarily expand their methodological repertoire, or take them into new or challenging areas. As we have noted in our previous assessments, the areas identified by researchers probably relate more to 'wants' rather than 'needs'. It could also be argued that this might apply to research staff more broadly, not just ECRs. As one interviewee noted:

"If you rely on people's perceptions then you just recreate what the cultural state of the art is, it will just be people going on training in their comfort zone".

Exploring advanced training needs across the career trajectory is also important. It was noted by some of our interviewees in this consultation that the ESRC has focused attention on the training needs of PhD students through its DTCs and that there is a need for that focus to be extended to other researchers. A concern with skill levels among staff at mid-career was a common issue raised by interviewees and consideration of the training needs of mid-career researchers was identified as crucial.

A particular group in need of methods training was identified as those who teach research methods and supervise research students. This has been traditionally termed the 'training the trainers' agenda. One interviewee noted that the skills of this group should be 'seriously looked at' and that students are often being taught by those who are not 'up to speed' with advanced methods. Another suggested many are often only truly expert in the methods they use in their own published work and might best be considered 'enthusiastic amateurs' when teaching other methods. Concerns were expressed that some teach particular methods yet have little or no direct experience of using them in published research, while others are asked to 'teach' methods they don't value and would never use themselves.

Interviewees noted the importance of drawing on information from a number of sources to identify training priorities, including consultation with researchers (particularly mid-career and senior researchers) as well as with funders and PIs. This is the model that NCRM has used in its own assessments to date. Consultation with employers, with the Government Social and Economic Research Unit and with the various agencies that employ social researchers was also identified as important. However, it was noted that research methods training provided by ESRC-funded investments should not be aimed primarily at providing a new generation of researchers for employers, especially not employers in the commercial sector. The fact that employers' needs and those of academia are very different and that some employers take what was seen as 'a short term view' means that this should be only one consideration in the identification of training needs. Nevertheless, the lack of dialogue between the academic and public, commercial and third sectors was viewed as problematic and greater integration of training between the needs of academia

and the employers of social researchers was seen as advantageous. One interviewee noted:

“I would like there to be some way of there being more integration between the academic and commercial sectors... What happens is that people do a good Masters in survey design but when they join us they couldn't run a survey, they just couldn't do it, it's all theoretical knowledge. I don't know how to reconcile that but it would be interesting to bring that into the way that certain types of training are done. It's having theory tempered by practical knowledge”.

Several interviewees noted the importance of the ESRC taking a strategic view when identifying areas of need. One way of achieving this was identified as having a committee of leading methodologists across the range of research methods who consult with their broader communities (including outside of academia) and come together to make decisions on what the important core areas are for which training should be made available. It was noted that this committee should aim to identify a broad range of methods and should explore questions such as: where does UK social science stand internationally?; what methods are used effectively elsewhere and in other disciplines and in other countries?; what methods worked well in the past? This should include an element of 'horizon-scanning' to identify emergent methods. These needs could then be mapped onto the training available, thereby identifying the areas in which there is a shortfall or gap in training. This type of approach could be supplemented by a more formal consultation with the research community through an online survey of researchers and employers.

Of course, the provision of training is only one element in correcting a skills deficit; researchers have to take up the training available if skill levels are to be increased. Our interviewees identified several ways to encourage take up of training in certain areas. One interviewee noted the importance of bringing the research community on board when identifying training priorities, in order to encourage subsequent uptake.

“There is a danger that if the ESRC allocates resources into one area, there's a response to that from those who are not necessarily sympathetic to that approach or perhaps confident in it and they then question why that should be stressed over another approach. Where you want to shift or nudge behaviour in a community, you have to identify ways of getting the community on board, it's important to make them feel part of it”.

4. Funding and Charging

There are a number of different funding and charging models for advanced methods training. One 'top-down' model is to provide subsidised training paid for by an ESRC block grant in areas of advanced methods that have been identified as strategically important. This is the model used by NCRM and other ESRC methods training investments. Another model is that of a 'bottom-up' bursary scheme in which applicants apply for a bursary from some central fund to attend training courses of their choosing and pay the market price for these. NCRM runs a bursary scheme for members of the social research community based on this model. An alternative bursary model is one where bursaries are attached to particular courses which have been developed specifically to address the ESRC priorities.

There are advantages and disadvantages to these different models of funding and charging. Funding models need to be able to provide flexibility for researchers to enable them to access training, including training across different geographical locations and across the range of advanced methods in which researchers require training. DTCs have the potential to meet the challenges of providing a range of provision across a wide geographical spread, through its network of advanced training across the 21 DTCs. It is however too early to say whether the system of funding and charging currently in place really works for DTCs and whether it will facilitate wider access to DTC provision for researchers from a cross the career trajectory.

ESRC methods investments have often sought to offer free courses, or courses charged at a nominal rate in order to minimise any possible cost barrier to participation. Experience suggests though that some who register for such free or low cost provision feel less commitment to the course with the result that non-attendance rates are higher. People awarded bursaries are less likely to fail to attend an event but bursary schemes have their own limitations. These include the cost of administration, the possibility of demand outstripping supply and, the potential freedom they provide for researchers to choose courses that do not address ESRC's strategic priorities.

We invited our interviewees to comment on different funding and charging models including 'bottom-up' bursary schemes and 'top down' block grant models. The principal benefit of 'top down' systems of funding/charging was identified as their potential to underpin a coordinated national programme of training. Concerns were expressed that national provision currently lacks sufficient coordination and that more funding through bursaries would make matters worse, with funds diverted away from priority areas. The principal weakness of the 'top down' system was seen as a 'disconnect' between funding bodies and the real needs stemming from the research that is actually being undertaken. Many felt that researchers (especially senior researchers) know best how to advance their own fields and could best judge what training is needed to help achieve this.

The principal benefit of the 'bottom-up' bursaries system was seen as its potential to empower individual researchers, allowing them to obtain whatever training they, or their supervisor/manager feel they need. Some interviewees also felt it had the potential to shape the market in a positive way, being more flexible and responsive than the top-down model and supporting training that is in demand while helping to discourage the provision of training that is not. The principal weakness of the

bottom-up bursary system was identified as the bureaucracy needed to manage it and the time researchers need to spend applying for bursaries. There was support for a bursary scheme in which bursaries were attached to particular courses. One interviewee commented:

“... you could give bursaries to researchers who couldn't afford to come to particular training that had been identified as being important rather than giving a blank cheque for researchers to go to what they viewed as important”

This would however entail a greater administrative load both on training providers and whichever body would be given the role of matching bursaries to courses.

There was also support for an open system of bursaries that gives researchers the freedom to choose the training they want at the time they need it, so that their training needs as they define them are met. It was felt that the learners' choices of training courses when applying for bursaries would send clear signals to providers as to what is truly in demand and what is not. One interviewee noted that open bursary schemes enable researchers to

‘...go on training in what might be perceived as quite idiosyncratic areas that funding councils may not want to fund, but it may be something that someone wants and it's available somewhere so it meets a need’.

NCRM's bursary scheme was noted as very useful in this regard, as it is open and non-prescriptive and works on a first-come-first-served basis. While some interviewees were confident that researchers were able to choose appropriate training to meet their research needs others felt that early career researchers should have the support and guidance of senior staff when making these choices. Left to their own devices, it was felt that too many might choose to attend courses that don't really challenge them, opting for courses that they feel comfortable with and 'want' to do, rather than those they 'need' to do for career advancement and improved employability. As one interviewee noted:

“My fear of the bursary approach is that people will want to attend the courses that don't really challenge them. Further on in their career maybe, but early on people need clear guidance about their development, they don't really understand that they need a platform for building up expertise over time and that it is an on-going process and that you never finish building it”

One suggested disadvantage of an increased use of bursaries was that specialist providers (from within HE or outside) might come to dominate provision, but that these providers might not update their material as frequently as providers do currently. Allied to that was a concern that while the needs of individual researchers might be met, the capacity of the HE sector as a whole to deliver training might remain under-developed. Another disadvantage of bursaries may also be that researchers may choose courses that are marketed most effectively rather than those that are necessarily the best quality in a particular area. (One interviewee cited the example of NVivo which it was suggested had largely cornered the market in CAQDAS software and training through successful marketing rather than necessarily the quality of the software and training). The consequence of this might be that the least 'popular' courses (but not necessarily the poorest quality ones) are unable to continue due to low recruitment levels. Software training was seen in fact as a particular problem, with some interviewees concerned that software producers often seek to monopolise the provision of training in their product, using software licencing

rules to stifle competition. Such monopolised provision might absorb a large proportion of the funding channelled through bursaries, with fees that may be high by comparison with other provision. That is to say, with a bursary system and a restricted market it might be more difficult to contain the cost of training. Concerns were also expressed that a more market-orientated bursary system would allow niche providers with few or no competitors to set inflated prices for their training.

Some of the concerns raised about bursaries (even by those in favour of more bursaries) related to the administration of bursary schemes and the time involved in applying for bursaries. Any bursary scheme that is oversubscribed will inevitably have a high rejection rate, which in turn makes it potentially unattractive to researchers, thus making it a victim of its own success. Concern was also expressed that allocation of bursaries is not always seen as fair and transparent, that researchers do not necessarily have the time to seek out bursary opportunities and make applications and that, unless bursaries are linked to a specific course, bursaries may not be available at the point at which training is available.

A top down model in which a training provider receives a block grant to provide subsidised training courses was viewed by some as appropriate in areas in particular need of capacity building, such as advanced quantitative methods, especially if one could not expect to recruit large numbers of learners onto such courses. It was noted by interviewees that this 'top down' approach was not appropriate for courses in areas where there is ample existing capacity or courses that are 'popular' and can easily recruit high numbers of participants willing and able to pay the market rate. Here a market driven model is more appropriate, as one interviewee noted:

"The market will always be adequate for things like focus groups, interviewing, SPSS and some computational tools but the market stops at that, which is understandable because those are the topics you can make money from, from a day course programme"

The 'top-down' grant approach to funding could also be used to target particular groups for whom training is identified as important but who, for various reasons do not avail themselves of training. Some interviewees commented that doctoral students had both the time and the funds to undertake training and, as a consequence, were benefiting most from what is currently available. Mid-career researchers and research supervisors were two groups identified as needing more focused attention, as were research methods trainers. However, this would mean that suitable training opportunities that are acceptable to these groups need to be provided. In undertaking this it is of course necessary to recognise that skill levels will vary across groups and that teaching to groups defined by their level of skill is probably the best use of funding.

While providing subsidised training in particular topic areas or to particular groups was identified as very important, all interviewees noted that there should always be some fee associated with training to discourage non-attendance. Many felt fees should reflect the full economic cost of the training provision and one suggested 'free courses' were killing efforts to build institutional capacity to deliver training that is self-sustaining in the long run. Some concerns were expressed that 'top-down' funded provision which produces 'one-off' free or low cost events had a tendency to be dominated by learners with only a passing interest in the topic, or who's level of existing knowledge make them ill-suited to the course. It was suggested that these learners would perhaps have thought more about the true value of the course to them if they had to pay a realistic fee or apply for a bursary to attend.

The issue of different charges across sectors was also a topic that generated a lot of discussion, particularly in the current economic climate in which funding budgets in many organisations, including the commercial sector, have become very restricted. Many interviewees felt that it was appropriate for the private sector to pay a premium for training produced by the HE sector, since their contribution to its development was seen as minimal. The veracity of suggestions that cheaper training might attract more private researchers and help the HE sector to engage more with the private sector were seen as doubtful, by and large. One interviewee commented that the Social Research Association (SRA) is currently engaged in this agenda and felt that the private sector was relatively well catered for.

Some particular issues were identified in relation to the funding model currently implemented for DTC advanced methods courses. The fee rate specified by ESRC for opened-up advanced training was seen by some as too low, since some institutions are accustomed to running courses that generate a certain level of return. This applies to 'top down' models in general, and as one interviewee noted, courses need to be seen as 'economically viable' for institutions to agree to run them. Another related problem concerns the treatment of what HEIs might regard as internal and external students. Existing arrangements within many HEIs hosting DTCs mean that they have existing commitments to train students from within their institution who are not ESRC funded. It was felt that efforts to make all DTC training low cost and accessible may cause tension if DTCs are expected to provide low cost access to students from other institutions at the expense of their own non-DTC students. Interviewees were concerned that institutions may not be comfortable with anomalies that result in different individuals paying different fees to access the same course, particularly if a higher fee applies to their own students and the lesser fee applies to external students. One interviewee also had concerns that the current system encourages DTCs to charge higher fees for other students to compensate for the low fees for DTC students and that this is contrary to ESRC's mission that all PhD students should be treated equitably. It was also suggested that single institution DTCs were more likely to attract students from outside their DTC, and consequently to receive higher income, than consortia DTCs. Such concerns about what are seen as anomalies and incompatibilities between the DTC funding system and HEIs own existing commitments raise the question as to the extent to which ESRC will be able to address its own objectives by shaping the behaviour of DTCs, particularly if these objectives are in conflict with those of the HEIs hosting the DTCs.

5. Modes of Delivery

NCRM, in common with other ESRC methods investments outlined above, provides advanced training via mixed modes of delivery. Much of the training programme is provided through face-to-face short courses lasting 1-3 days. This is complemented by various online resources. These include podcasts, video and audio recordings, slides from presentations and e-prints of a range of papers and publications. In addition, some Nodes have developed on-line elements to their courses, which can be accessed as stand-alone or as either pre or post-course supplements, and others have developed courses run exclusively online; LEMMA's course on multilevel modelling is a successful example of this type of approach². The ReStore project, which is managed by NCRM, maintains selected online research methods resources beyond their initial funding award. Each resource is a substantial web resource in its own right and with fourteen currently available these provide an important repository of social science research methods training resources.

NCRM has recognised that the traditional short course is the preferred model of training for many people. However, as we have noted in our various training needs assessments (Wiles et al, 2005; 2008; Moley & Wiles, 2011) it does have some obvious drawbacks in that researchers may have difficulties finding time to attend short courses and also that from the point of view of researchers courses might not occur at a suitable time or location. It is widely noted that if skills acquired at a short-course are not put to use quickly then they are often lost. While such well-known disadvantages of short courses can be mitigated through online provision, the idea that online learning represents a panacea for these problems is generally regarded as misconceived. While online resources are accessible at a time and place of a participant's choosing, participants need to be highly self-motivated to avail themselves of online training and to be sufficiently confident to be able to learn without the support of a tutor. Many participants in face-to-face training report the ability to have face-to-face discussions with a particular academic expert as the primary attraction of attending.

NCRM has recognised the potential for online learning to address unmet needs and has sought regularly to assess the views of the social science research community regarding online learning and the opportunities afforded by it. It has attempted to broaden the amount of online TCB materials that are available through its website, while also recognising that there is a strong demand for face to face training. To explore whether online provision might have the potential to taken on an enhanced role in a future strategy for advanced methods training in the UK, interviewees were asked to consider how training in research methods is best delivered and what role online training might play.

In common with the experience of the NCRM hub, several of our interviewees noted that the traditional face-to-face short course remains the preferred mode of training delivery for the majority of social science researchers. Many talked of the value of meeting the instructor in a face-to-face encounter, responding to questions as they arise, assessing understanding, and providing clarification, motivation and feedback. Real-time assessments of the degree of understanding coupled with an adaptive teaching strategy were seen as features of face-to-face instruction that are difficult to replicate in an online environment, with current technology at least. One interviewee

² The LEMMA online course can be found at <http://www.bristol.ac.uk/cmm/learning/course.html>

identified the use of the Access Grid to provide training but found that while it can be used to provide training, participants prefer face-to-face mode. Rather than replacing face-to-face training in whole or in part, online resources were identified as a useful *complement* to face to face training. Online learning was perceived as useful to familiarise people with a topic area prior to a short course or to provide additional material after face-to-face training but not, in general, as a substitute for it. As one interviewee put it,

'...the workshop is the 'filling in the sandwich', online supports it but you couldn't deliver the main part of training without the face-to-face element'.

An indirect and sometimes unacknowledged benefit of face-to-face courses was seen to be the opportunity for participants to mix with researchers from different sectors; this was regarded as a missing ingredient in most online learning environments. Another limitation of material that allows learners to teach themselves, either online or through books or downloadable resources, is the tendency to simplify the research experience, with relatively clean prototypical data and analyses that produce apparently unambiguous results. Face-to-face training, on the other hand, was seen as having greater potential to allow researchers to get to grips with 'the real thing', grappling with messy data and conclusions that are unclear, provisional, and open to challenge.

Despite a preference for face-to-face short courses, however, online resources were identified as extremely useful and of undoubtedly growing importance in the years ahead, particularly as new technologies emerge which address some of the limitations referred to here. Online training, without a supporting face-to-face component, was identified as obviously useful for those with limited time to attend training and some online training was identified as the only realistic option in cases where the high demand for training cannot easily be met using a face-to-face format. The constraints of face-to-face training, the high costs of delivery and attendance, as well as the need to physically gather people together at a specific place and time mean that any delivery system that can overcome these constraints can make a valuable contribution. Any field characterised by wide variations in the knowledge and skill levels of its learners can also make good use of remedial online training to 'even out' some of these differences, prior to bringing learners together in face-to-face training.

Given the high costs of developing high quality online training, the majority of opportunities for online learning consist of simple online repositories of research methods training resources, such as those hosted by NCRM which are extremely popular and widely used. Interviewees noted that these require relatively little effort to set up and provide a good return on investment, provided the resources are of good quality. One of the interviewees had direct experience of increased demand for face-to-face training resulting from such provision of free online resources. Interviewees noted that the range of online resources available is vast and it was felt to be a difficult task for users to identify the most useful resources. A concern was also expressed that many organisations (including DTCs) were replicating online resources already available elsewhere. Some expressed a need to put some structure on the field of online research methods provision, with more centralised provision along with measures to avoid duplication and fill gaps. An extension of the ReStore projects remit was seen as one approach that might meet this need.

One area of online activity identified as potentially useful was that of facilitated forums that enable people to come together as communities of practice to share knowledge. This was identified as particularly useful for mid-career researchers

because it enables them to be in contact with a wide range of people. This type of activity was not seen as 'training' in new skills but as a means of connecting people and providing a forum for joint problem sharing, support and learning. It was noted this type of activity needed to be well resourced and was not a 'cheap option'. One interviewee commented:

"[Maintaining online communities of practice] takes a lot more resources than people anticipate. If you are doing knowledge exchange and knowledge sharing from a community of practice approach then it does demand a lot of input from whoever is facilitating it, you need to be online quite a lot, you need to be interacting or otherwise the community dies, you have to provide people with a reason to keep coming back, so it does need resourcing properly".

One interviewee was at pains to point out that in addition to administrative resources, these online fora also generate their own training requirements. Learners need training in how to engage effectively in online fora. Some may be technophobes or may find it difficult to deal online with people they have not met in person. Being part of the group is a big part of learning and to make that group gel together online is not easy. She noted:

"...an awful lot of it [effective online provision] is to do with being part of the cohort and so to make that work, to make a cohort gel in an online context is quite a skill. It is something you can't neglect. Don't just put the stuff online and expect it to work and for people to remain engaged. It is something to do with contact with each other, support from each other, even the social side and feeling they know the tutor and that needs to be consciously developed. "

An alternative form of online learning is standalone courses. NCRM's LEMMA node's courses on multilevel modelling are a successful example of this type of provision. Standalone online courses were seen as best suited to disciplines where there is a large body of formalised knowledge. Online provision allows the combination of video, still images, sound, graphics and text to illustrate and explain concepts. Online tests with immediate feedback can inform the learner of their initial levels of knowledge and skill as well as their progress in acquiring new knowledge and skill. These tests can also provide the evidence the online system needs to choose appropriate topics, or advise the learner on their choice of topic. Many felt that this standalone model had merits and it was reasonable to expect researchers to 'teach themselves' certain topics using online courses, since this is something researchers already do to some degree, through reading and keeping abreast of the literature. As has already been noted, one of the challenges of this type of online training though is the need for the learner to have the ability to self-motivate. Engagement with online learning is challenging and supporting learners in overcoming these challenges is the hallmark of good online training. One strategy that helps if a cohort of learners is taking a course together is to have some elements self-planned, while others (such as an online discussion) are timetabled for specific times, thus compelling learners to engage.

The technology to provide standalone online learning provision has been around for some time but few providers have taken up the opportunities it provides. Some interviewees expressed disappointment at the common use of online training as little more than repositories for documents, tools to host purely administrative Q&A or calendars to display timetables and key dates. It was felt by some that many implementations of online training fail to use many of the rich features that can easily be provided using current software. One key consideration though is the costs of

developing such high quality online provision. The amount of time and resource that is required to produce and maintain high quality online courses is often substantially underestimated, with good examples taking more than a year to develop, often with the full time commitment of one or two dedicated technical specialists. Thus, any move to substantially alter the balance of current advanced training in the direction of online provision must recognise that this will not be a low-cost option; to be effective substantial resources would need to be invested in development and maintenance.

While traditional short courses and online training were the two most commonly identified modes of learning, there are other models of training that, although not widespread, are important to consider. Interviewees noted that the disadvantage of short courses, whether face-to-face or online, is that without follow up or the time to put skills learnt into practice, new skills are not sufficiently developed. Combining experiential learning with training courses was identified as an important element of learning a skill. This involves learners trying out a new skill in real situations and 'learning by doing'. One-off training events that do not provide subsequent opportunities to try out new skills and reflect on the experience in a supportive environment were identified as a poor mechanism for learning and gaining expertise in a new skill. One interviewee commented:

“People need to transfer what they learn in a training environment to the real life setting, you need to enable people to have real practice in real settings as part of learning. You can't have a model that involves giving nuggets of wisdom and hoping that people will transfer that into practice - but of course it's very expensive to put people in place to support learning rather than having one off training events”.

Interviewees also referred to systems of coaching, mentoring and placements as a way of providing this sort of experiential learning following a training event and one interviewee noted that the ESRC could embed these ideas further in the learning support they provide. Additionally, opportunities for experiential learning could form part of large ESRC-funded centre grants. NCRM nodes have provided placements within some of the Nodes but although useful, the disadvantage of these is that they can reach only a very small number of people. NCRM's training assessment in 2005 found only limited support for placements although a higher degree of support for experiential learning (Wiles et al, 2005).

6. Conclusions

ESRC has funded a wide variety of methods training and without ESRC support it is unlikely that much of this training would be available. Clearly methods training cannot be left completely to the market and this is particularly the case for advanced training. There is a market for some training but this is generally for introductory or intermediate level training or training in computer software. ESRC's support for methods training, as outlined in Table 1, comprises a range of activities to meet specific needs across a range of levels. In terms of advanced training, NCRM has provided the substantial majority of advanced methods training in the UK over the past eight years. The RDI contribution to advanced methods training is also considerable. In the case of both NCRM and RDI the three-yearly calls for projects are informed by NCRM's research and training needs assessments, and the calls provide a means for the research community to respond to developments in advanced research and/or related training needs. However, both NCRM and RDI will come to an end in or by 2014. Without a future strategy for the management of advanced training there will be a potential drop in the availability of advanced training post 2014.

DTCs offer a potentially useful and cost effective way of delivering advanced training across the UK. There is clearly much expertise within DTCs and they have the flexibility to provide advanced training across a wide geographical area. However, DTCs are at an early stage of development and the extent to which they are *willing* and *able* to deliver advanced methods training in the areas deemed by ESRC to be of strategic importance remains unclear. Their current remit is doctoral students, and while DTCs are ideally placed to assess and meet advanced training needs from an individual researcher perspective they are not necessarily best placed to assess or meet broader advanced training needs that stem from national strategic priorities or from the broader social agenda. It is also not clear whether DTCs would be willing to take on such training and, within the current system, the ESRC has limited control over the types and amounts of advanced training DTCs provide. It is not clear how the ESRC could exert control over DTCs to ensure advanced training was made available that would meet the strategic needs of social research.

It is crucial that training needs are assessed in order that training priorities are identified and a strategic approach to meeting advanced training needs is developed. Our consultation indicates the need for a mixed approach to needs assessment, including consultation with leading methodologists, learned societies and key employers of social scientists, as well as regular online surveys to assess the perceived advanced training needs of researchers and their employers. However, identifying training needs is only one element in tackling a skills deficit; there also need to be strategies in place to encourage take-up of advanced training. Strategies need to be developed to incentivise people to attend training in those areas which the ESRC deem as being of strategic priority. Bursaries attached to particular courses provide one way of achieving this.

Different funding and charging models for advanced methods training have a number of advantages and disadvantages that make them best suited to meeting the training needs of particular groups and addressing skill shortages in particular areas. The model used by most (but not all) ESRC methods training investments employs a 'top-down' block grant to provide free or subsidised training in those areas of advanced methods that have been identified as being of strategic need. It could be argued that all training provided in a subsidised model through an ESRC grant should have a

common 'no fee' or 'low fee' structure, rather than the different models of charging currently operating. It should be noted however that people may still not attend training despite heavy subsidies and so a broader range of strategies need to be put into place to encourage uptake. It should be remembered that cost is not always the deciding factor in encouraging people to attend events. Indeed, in some cases it appears a disincentive in that participants may put little value on a course that is 'free'.

Another model is that of a 'bottom-up' bursary scheme in which applicants apply for a bursary to attend training and use the bursary to pay the market price for training. This model has the potential to empower individual researchers, allowing them to obtain whatever training they, or their supervisor/manager feel that they need and for the full costs of attending training, including travel and subsistence, to be covered. The primary weakness of this model is that applicants may seek bursaries for advanced training in areas other than those identified as strategic need. An alternative system, where bursaries are attached to specific training in priority areas and administered by the training provider, would address this weakness. However, the costs of administering bursary schemes are not insignificant and these costs need to be recognised if providers are to administer such schemes. Given the advantages and disadvantages of different schemes, a mixed approach to funding and charging is likely to be most effective in helping meet advanced training needs.

There appears to be considerable consensus that face-to face training is the preferred mode of training delivery for both users and providers of training. Online resources, however, are viewed as extremely useful as a supplement to face-to-face training. Given the wide availability of online resources in research methods there is a need for more quality assurance of these resources, perhaps making those that meet certain standards available from a single location (such as the existing ReStore site at NCRM). While there remains much scope for online advanced training, its development takes considerable resources in terms of money and time and it is unlikely to be appropriate for many types of advanced methods training, particularly qualitative approaches. Not many providers of advanced methods training willing to develop online training, perhaps because of the time-intensive nature of such development and the possibility that academics and their managers may not consider this the best use of their time. However, technology is fast moving in this area and recent launch of Futurelearn³ suggests there will be considerable interest in providing online courses in future.

³ Futurelearn is a collaboration between the Open University and 11 other UK higher education institutions to provide "MOOCS" – Massive Open Online Courses. See <http://futurelearn.com/>

Appendix: NCRM consultation

Telephone interviews were conducted with 16 individuals with a specific interest in social science research methods or with and insight into the issues under discussion.

Our key consideration in selecting those whose opinions we wished to canvas was to maximise the breadth of opinion the final selection would represent, while actively targeting people who were likely to have an expert view. The final selection included:

- One Doctoral Training Centre director
- One NCRM Phase 3 node director
- Two representatives from learned societies
- Five representatives from Higher Education Institutions delivering TCB or CPD programmes
- One representative from a seasonal school (Essex summer school)
- One representatives from the Charity / Not for Profit Sector
- One representative from the private research sector
- Two contributors with experience of Interactive Online Training
- Two strategic advisors for ESRC

The interviewees were as follows:

- Professor Angela Dale (founding Director, Cathie Marsh Centre for Census & Survey Research)
- Professor Neville Davies (Director, Centre for Statistical Education, Royal Statistical Society)
- Professor Manuel Eisner (Director, Social Sciences Research Methods Centre, U of Cambridge)
- Professor Nigel Fielding (Associate Dean (Research), University of Surrey)
- Dr Jenny Hislop (Senior Researcher, Health Experiences Research Group, University of Oxford)
- Professor John MacInnes (ESRC Strategic Advisor on Quantitative Methods Training)
- Professor Susan McVie (Director, The Applied Quantitative Methods Network (AQMeN))
- Professor Thomas Plümper (Academic Director, Essex summer school)
- Dr Ceridwen Roberts (board member, The Social Research Association (SRA))
- Dr Patten Smith (Director, Ipsos MORI , Research Methods Centre (RMC))
- Dr Catherine Souch (Head of Research and Higher Education , Royal Geographical Society)
- Dr Neil H. Spencer (Director, Statistical Services and Consultancy Unit, University of Hertfordshire)
- Professor Fiona Steele (Director, NCRM LEMMA3 Node)
- Dr Fiona Strawbridge (Head of E-Learning Environments, University College London)
- Professor Mike Wallace (former ESRC Strategic Adviser for Researcher Development)
- Kandy Woodfield (Director, NatGen Learning)

The method of telephone interviews was chosen to provide the flexibility necessary to address the complex issues under discussion. These lasted approximately thirty minutes and were recorded and transcribed.

The interview guide used in the interviews covered 3 key topics:

1. How should training needs be identified?
2. How should training be delivered?
3. How should training be funded and how much should trainees pay?

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