ESRC National Centre for Research Methods

Assessing the Impact of NCRM's Training and Capacity Building Activities 2011-2013

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Executive Summary

NCRM offers a national programme of advanced research methods training delivered both as face-to-face training events and an online course in multilevel modelling (provided by the LEMMA 3 Node). This current impact assessment seeks to gauge the impact of this provision and covers the period April 2011 to March 2013. It focuses on the use researchers make of what they learn from NCRM training, in particular on the use they make of it in research projects, in writing research funding proposals, in teaching and in the supervision of students.

The impact of NCRM's face-to-face training and the LEMMA online course were assessed using separate online surveys of registrants and users. 1,695 registrants at NCRM events were invited to participate in their survey, 568 (36%) responded and 485 of these attended the event for which they registered. 103 expressed a willingness to have a followed-up interview and thirteen were interviewed. 1,782 users of the LEMMA online course were invited to participate in their survey, 374 (22%) responded and 264 of these made use of the online course.

Those who responded to the survey of registrants on NCRM training events were mostly aged 26 to 35 (47.9%), female (66.5%), postgraduate (49.6%) or junior researchers (25.9%) working or studying within a University or College (82.2%). Most regarded themselves as Social Scientists (76.2%) working mostly in the fields of Economics (19.0%), Psychology (17.3%), Sociology (12.5%), or Education (11.4%). The greatest numbers were based in Greater London (24.4%), the South East (16.6%), and the South West (11.2%). Those who responded to the survey of users of the LEMMA Online Course were mostly aged 26 to 35 (48.4%), were slightly more likely to be female (52.3%) tended also to be postgraduates (42.5%) or junior researchers (34.5%) working or studying within a University or College (85.1%). As with the other survey most regarded themselves as Social Scientists (57.4%), although more than one quarter (25.4%) worked as Medical Scientists. Those working in social sciences worked mostly in the fields of Psychology (21.8%), Education (12.2%), Statistics, Methods and Computing (10.9%) and Sociology (10.2%). The greatest numbers were based in the South West (18.4%), Greater London (17.6%), the North West (13.7%) and the South East (12.1%). Both of these sample profiles are broadly the same as was found in the previous impact assessment two years ago. (Moley, S & Wiles, R., 2011b).

Researchers indicated that they attended NCRM training events mainly *"to find out about a particular research method and how I might use it in future research"* (61.3%), *"to learn methods necessary to conduct a specific research task"* (47.3%) and *"to learn about developments in a particular area of research methods"* (39.3%). Most of users of the LEMMA Online Course (82.8%) listed the second of these reasons as their main reason, while just over half (51.7%) listed the first reason above as their second, with over one third (36.8%) giving *"to assess the feasibility of using a particular method for a specific research task"* as their third reason.

The main benefits of NCRM events were seen as *"providing opportunities for clarification and reflection"*, *"increasing knowledge about research methods"* and *"providing useful references and other resources"*. Users of the LEMMA Online Course cited the same three benefits, but with the order reversed for the top two. Differences between the responses of researchers at different career stages are discussed in the report.

Less than half of those who attended NCRM events (45.3%) indicated they had used the methods covered. Of those who did most (60.7%) used it in a research project.

Much fewer (14.3%) used it in writing a research proposal. Out of the 568 who attended NCRM events and responded to the survey 119 (21%) indicated they used what they learned in a research project, 46 (8.1%) submitted the findings to a peer-reviewed journal and 16 (2.8%) had them published. 28 (4.9%) used what they learned in writing a research proposal and 7 (1.2%) indicated it was successful. Differences between the responses of researchers at different career stages are discussed in the report.

The situation is somewhat better for the LEMMA Online Course. More than three quarters of users who responded (76.3%) indicated they had used the methods covered. Of those who did most (83.7%) used it in a research project. Much fewer (14.2%) used it in teaching. Out of the 374 who used the course and responded to the survey 159 (42.5%) indicated they used what they learned in a research project, 95 (25.4%) submitted the findings to a peer-reviewed journal and 39 (10.4%) had them published. 20 (5.3%) used what they learned in writing a research proposal and 9 (2.4%) indicated it was successful. Differences between the responses of researchers at different career stages are discussed in the report.

Overall more than two-thirds of those who responded described NCRM events as either "*very useful*" or "*quite useful*" in their research and/or teaching. Only 5.2% described the event they attended as "*not at all useful*". The vast majority of those who responded (89.4%) described the LEMMA Online Course as either "*very useful*" or "*quite useful*" in their research and/or teaching. Only four individuals (1.6%) described it as "*not at all useful*".

The main impacts of both NCRM events and the LEMMA Online Course were seen as "*teaching researchers something new about advanced research methods*", "*helping clarify the relevance of the methods*" and "*helping to make researchers more confident*".

The findings of this most current impact assessment are consistent with the previous one covering the period April 2009 to March 2011 (Moley, S & Wiles, R., 2011b). Two different sets of NCRM nodes were providing training during the 2009-11 and 2011-13 periods. These nodes specialised in different disciplines and were located in different parts of the country and these key differences were reflected in the different disciplines represented in each of the survey samples, as well as the differing regional spreads within each sample.

The many similarities between the two voluntary response samples obtained through the online surveys and the event registrant group and user group from which they were drawn lends support to the view that the opinions expressed in the two surveys reflected the wider researcher groups who attended NCRM events and used the LEMMA Online course. The working assumption is that while the samples may not be optimum they are sufficiently representative to allow the conclusions set out in this report to be drawn with reasonable confidence.

The surveys of impact consistently reflect the positive impact of NCRM capacity building, not only in terms of bids for funding, research activity and publications but also as a source of inspiration to researchers, a facilitator of reflection, and a means to empower researchers and build their confidence. The impact of NCRM provision is not just in terms of better quality research but also in terms of better informed and more motivated researchers. NCRM's provision is well regarded and attracts researchers from across the career spectrum of social science in the UK. Very many of the researchers from all career stages who avail of NCRM's provision are research active and publishing in prestigious research journals. NCRM has therefore succeeded in engaging with a prestigious group who are at the forefront of social science research and who value the contribution NCRM makes in terms of its training and capacity building.

1. Introduction

The ESRC-funded National Centre for Research Methods (NCRM) seeks to provide the highest quality advanced research methods training to the UK's social science researchers. Its aim is to provide them with the methods, data and other resources needed to gain insights into economic and social questions that impact upon society. The Centre's overall mission is to provide a strategic focal point for the identification, development and delivery of an integrated national research and training programme aimed at promoting a step change in the quality and range of methodological skills and techniques used by the UK social science community.

Each year the Centre (comprising Hub and Nodes) offers a programme of face-to-face training that stems from the centre's research activities and addresses the needs identified in our training needs assessments (Wiles et al., 2005; Wiles et al., 2008; Moley & Wiles, 2011a). In addition to this face-to-face programme NCRM's LEMMA 3 node (based at the Centre for Multilevel Modelling at the University of Bristol) offers an online course on multilevel modelling (hereafter referred to as the LEMMA Online Course).

A series of impact assessment exercises have over the years sought to gauge the impact of this face-to-face and online training in terms of research, publications, funding applications and teaching. (Wiles, 2007; Wiles & Bardsley, 2008; Bardsley, 2010 Moley & Wiles, 2011b). This current impact assessment covers capacity building activity during the period April 2011 to March 2013.

Aims of the impact assessment

This impact assessment focuses on the use researchers make of what they learn from NCRM training, in particular on the use they make of it in research projects, in writing research funding proposals, in teaching and in the supervision of students. Where use has been made of it in research projects we ask whether the work was published or submitted for publication. Where it was used in writing research funding proposals we ask whether the proposals were granted funding or submitted to a funding body and whether they were ultimately successful.

These impact assessments inform NCRM's strategic planning of its training and other capacity building activities, as well as informing the wider national strategy to develop the social science research community's research capacity.

2. Methods and data

How was the impact of NCRM's training events assessed?

The impact assessment was based primarily on an online survey of registrants for NCRM's face-to-face training events; specifically those events that took place within the period April 2011 to March 2013 (see Appendix 1 for the questionnaire). Further information was gathered to support the online survey, using follow-up telephone interviews with some of those who attended the events and completed the survey. These interviews provided further qualitative data on the range of experiences and uses attendees made of the events.

This mix of methods was chosen to maintain broad comparability with earlier impact assessments, while providing the flexibility to address new and emerging issues. The survey of registrants for NCRM's training events was designed to provide a good overall picture of the benefits of the training and a sense of how it was being used, while the telephone interviews were included to provide illustrative case studies of researchers who were making specific use of NCRM training.

Conducting the survey of registrants on NCRM training events

Contact data was obtained for the 1,695 researchers who registered for NCRM training events that took place between April 2011 and March 2013[1]. Personalised invitation emails were sent to each, inviting them to participate in the survey. To aid recall and help avoid possible confusion with other training events, the emails reminded recipients of the title, start date and duration of the NCRM event for which they registered, as well as the name of the provider who organised the event and the venue where the event took place. In cases where individuals attended more than one NCRM event, one event was selected at random and researchers were asked their views on that one event. This was done to avoid asking researchers who attended multiple events to give multiple responses to the survey[2]. Personalised email reminders were sent after one week to all those who had yet to complete the survey. Final reminders were sent on the morning of the last day of the survey.

Of the 1,695 email invitations sent 115 were returned as undeliverable, or consistently returned 'Out of Office' responses. Assuming the remaining 1,580 email invitations were delivered, the 568 responses received represents a minimum response rate of 36%[3]. Only 6.5% of the responses received were incomplete, representing a relatively low breakoff rate compared to median breakoff rates for online surveys of 16% reported in the literature (see Musch and Reips 2000).

The first question respondents were asked in the survey was whether they attended the event for which they were registered. A large majority numbering 485 (87.2%) indicated they had attended and this group therefore constitutes our sample from the survey.

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[1] A total of 89 NCRM training events took place between April 2011 and March 2013, amounting to 144 days of training. Durations varied with fifty two one-day events, twenty three two-day events, eleven three-day events, two four day events and one five day event.

[2] A total of 304 researchers attended more than one event; however the option to weight their responses to reflect their greater use of NCRM training was not available to us since the survey was anonymous, as per NCRM's usual practice. It was decided that the traditional anonymity associated with NCRM surveys should remain, not least because the information was provided on a voluntary basis and was potentially sensitive. In these circumstances our judgement has always been that better quality information is provided anonymously.

[3] In the previous surveys for 2009-2011, 2007-2009 and 2005-2007 the response rates were 38%, 35% and 27% respectively. The number of responses received was 990, 479 and 277 respectively.

Conducting the follow-up telephone interviews

All respondents were asked at the end of the survey if they would be prepared to participate in a follow-up telephone interview. Those who agreed were asked to provide an email address and 103 respondents did so. A sample of 20 respondents was subsequently contacted to arrange interviews. The sample was chosen on the basis of the responses they gave to the question on impact (see Question 16, Appendix 1). In order to make the sample as varied as possible the selection included:

- Four interviewees who had published research work and had written successful research proposals that were funded.
  - *These four researchers were therefore presumed to be quite senior.*
- Four interviewees who had not published research work and had not written successful research proposals.
  - *These four researchers were therefore presumed to be quite junior.*
- Four interviewees who were doing non-academic work – with findings in the public domain, presenting to government or researching for a non-academic organisation.
- Four interviewees who were quite positive about the impact of the training event.
- Four interviewees who were quite negative about the impact of the training event.

Who responded to the survey?

Two thirds of the learners within our sample were female (66.5%) and one third (33.5%) were male. These proportions reflect a slight underrepresentation of the proportion of males in the learner population (38.1%) and a slight overrepresentation of the proportion of females (62.0%). Around half of those who attended and responded to the online questionnaire were in the 26-35 year old age band (see Table 1).

Table 1: Age profile of attendees at NCRM training events

	Count	Percentage
18 to 25	22	4.8%
26 to 35	220	47.9%
36 to 45	106	23.1%
46 to 55	79	17.2%
56 to 65	25	5.4%
66+	7	1.5%
No answer	3	
Not asked	23	
Total	485	100.00%

The respondents' sectors of employment or study at the time they attended an NCRM event is shown in Table 2 below. By far the largest sector represented was University or College (82.2%). This is very slightly greater than the proportion in the learner population (80.4%). Government, Research Institutes and the Public Sector between them made up just over 13% of respondents, once again slightly greater than the proportion in the learner population (12.7%).

Table 2: Sectors of employment or study of attendees at NCRM training events

	Count	Percentage	*Percentage in Learner Population*
University or College	393	82.2%	*80.4%*
Government	27	5.6%	*8.4%*[4]
Research Institute	23	4.8%	*4.3%*
Public Sector	13	2.7%	-
Charity or Voluntary Sector	9	1.9%	*3.1%*
Private Sector	6	1.3%	*1.7%*
Freelance	5	1.0%	-
Other	2	0.4%	*2.2%*[5]
No answer	2		
Not asked	5		
Total	485	100.0%	*100.0%*

Respondents' career stages at the time of the event are shown in Table 3 below. Postgraduate students and junior researchers make up more than three quarters of respondents, while the number of responses from the most senior researchers is quite small at just 70. As can be seen the proportions responding are broadly in line with the learner population although the most senior researchers are slightly underrepresented while the most junior researchers are slightly over represented in the survey.

[4] This figure of 8.4% is a combined Government and public-sector figure

[5] This figure of 2.2% is for 'Other' including 'Freelance' researchers

Table 3: Career Stages of attendees at NCRM training events

	Count	Percentage	*Percentage in Learner Population*
Postgraduate Student	237	49.6%	*48.6%*
Junior Researcher **(e.g. Research Officer, Research Fellow, Lecturer)**	124	25.9%	*23.7%*
Senior Researcher **(e.g. Senior Research Officer, Senior Lecturer)**	42	8.8%	*10.6%*
Professor / Reader / Head of Unit / Director	28	5.9%	*7.1%*
Other	47	9.8%	*10.0%*
No answer	2		
Not asked	5		
Total	485	100.0%	*100.0%*

The respondents' primary fields of study are shown in Table 4 below. Social sciences predominate, followed by medical sciences and arts and humanities, which combined have over one tenth of respondents. The proportion of responses from social scientists slightly underrepresents the proportion in the learner population, while other disciplines are slightly over represented.

Table 4: Fields of Study of attendees at NCRM training events

	Count	Percentage	*Percentage in Learner Population*
Social Sciences	352	76.2%	*89.0%*
Medical Sciences	39	8.4%	*4.5%*
Arts and Humanities	25	5.4%	*4.5%*
Engineering and Physical Sciences ***(includes Astronomy and Particle Physics)***	6	1.3%	*0.8%*
Biological Sciences	5	1.1%	*0.7%*
Environmental Science	4	0.9%	*0.6%*
Other	31	6.7%	
Not asked	23		
Total	485	100.0%	*100.0%*

Within the social sciences, economics, psychology, sociology and education are the best represented disciplines among respondents (see Table 5). The proportion of economists responding appears to greatly underestimate the large proportion of economists in the learner population. Other proportions are broadly in line with the learner population, slightly over representing some disciplines and slightly underrepresenting others.

Table 5: Social Science disciplines of attendees at NCRM training events

	Count	Percentage	*Percentage in Learner Population*
Economics	67	19.0%	*36.1%*
Psychology	61	17.3%	*9.1%*
Sociology	44	12.5%	*10.7%*
Education	40	11.4%	*12.0%*
Social Policy	24	6.8%	*5.6%*
Management and Business Studies	23	6.5%	*4.4%*
Statistics, Methods and Computing	12	3.4%	*5.2%*
Social Anthropology	11	3.1%	*2.6%*
Demography	10	2.8%	*1.8%*
Political Science and International Studies	9	2.6%	*3.9%*
Social Work	8	2.3%	*0.9%*
Science and Technology Studies	8	2.3%	*1.3%*
Human Geography	6	1.7%	*2.5%*
Linguistics	6	1.7%	*2.0%*
Socio-Legal Studies	5	1.4%	*0.7%*
Area Studies	2	0.6%	*0.2%*
Economic and Social History	2	0.6%	*0.5%*
Environmental Planning	2	0.6%	*0.7%*
Other	12	3.4%	
Total	352	100.0%	*100.0%*

The UK regional profile of respondents is shown in Table 6 while Table 7 shows where the non-UK respondents (n=40) were based at the time they attended NCRM training events. The sample underrepresents the substantial number of London based researchers within the learner population but slightly over represents the small proportions of researchers who are based in other regions.

Table 6: Regional profile of attendees at NCRM training events

	Count	Percentage	*Percentage in Learner Population*
Greater London	113	24.4%	*39.5%*
South East	77	16.6%	*15.2%*
South West	52	11.2%	*5.1%*
Yorkshire and the Humber	42	9.1%	*7.2%*
Scotland	34	7.3%	*3.8%*
North West	27	5.8%	*3.9%*
East Midlands	20	4.3%	*2.7%*
West Midlands	16	3.4%	*2.6%*
Wales	16	3.4%	*3.2%*
East of England	15	3.2%	*8.5%*
North East	5	1.1%	*0.7%*
Northern Ireland	3	0.6%	*0.6%*
Other	44	9.5%	*7.1%*
Not Asked	21		
Total	485	100.0%	*100.0%*

Table 7: International profile of non-UK attendees at NCRM training events

Country	Count	Country	Count
USA	6	**Brazil**	2
Ireland	5	**Croatia**	1
Australia	4	**Finland**	1
Germany	4	**France**	1
Italy	4	**Japan**	1
Overseas	3	**Kenya**	1
Spain	3	**Norway**	1
Sweden	3	**Total**	40

Who participated in the follow up interviews?

Some difficulties were experienced with arranging and conducting interviews with some researchers who had previously agreed to participate. In the end thirteen of the twenty planned interviews were conducted with researchers who had attended NCRM training events. The group of interviewees comprised:

- Six doctoral students (one of whom was funded by a government department and one of whom also worked as a research fellow);
- one freelance statistician;
- one research methods lecturer;
- one senior lecturer;
- one university professor;
- one senior government researcher;
- one part-time research assistant; and
- one medical statistician.

Short illustrative examples drawn from the responses of five of these individuals are included at various points in this report.

How was the impact of the LEMMA Online Course assessed?

A survey of users of the LEMMA Online Course using an alternative version of the questionnaire ran alongside the main survey of registrants for NCRM's training events. This alternative version had all of the questions of the main survey but rephrased to reflect the fact that it referred to the LEMMA Online Course. It also had some additional questions unique to that course.

Conducting the survey of registrants on the LEMMA Online Course

Contact data was obtained for 1,782 UK registered users of the LEMMA Online Course, specifically those who had logged in over the period April 2011 to March 2013. Personalised invitation emails were sent to each inviting them to participate in the survey, with personalised email reminders being sent one week later to all those who had yet to complete the survey. Final reminders were sent on the morning of the last day of the survey. Ninety three of the 1,782 email invitations sent out were returned as undeliverable, or consistently returned 'Out of Office' responses. Assuming the remaining 1,689 emails were delivered the 374 responses received represents a minimum response rate of 22%[6]. Only 9.6% of the responses received were incomplete.

The questionnaire began by asking respondents to confirm that they are users of the LEMMA Online Course and that they have spent time using it. A large majority numbering 264 (76.3%) confirmed they were registered users and had spent time on the LEMMA Online Course[7] and this group therefore constitutes our sample from the survey.

[6] In the previous 2009-2011 survey the response rate from the users of the LEMMA Online Course was 28%, with 243 responses received.

[7] Seventy five respondents (21.7%) indicated they had registered but hadn't spent any time on the LEMMA Online Course. 80% of these later went on to indicate that it was either 'extremely likely (34.7%) or 'likely' (45.3%) that they would spend time on it in future.

Who responded to the survey?

Of those who responded to the survey of users on the LEMMA Online Course, just over half were female (52.3%) and just under half (47.5%) were male. 48.4% were in the 26-35yr old age band (see Table 8).

Table 8: Age profile of LEMMA Online Course users

	Count	Percentage
18 to 25	15	6.0%
26 to 35	122	48.4%
36 to 45	73	29.0%
46 to 55	24	9.5%
56 to 65	16	6.3%
66+	2	0.8%
No answer	4	
Not asked	8	
Total	264	100.00%

LEMMA do not record gender or age in the user profile so it is not possible to compare statistics for the user population with the results reported here.

Table 9: Sectors of employment or study of LEMMA Online Course users

	Count	Percentage	*Percentage in User Population*
University or College	222	85.1%	*64.8%*
Research Institute	9	3.4%	*3.7%*
Public Sector	9	3.4%	*4.9%*
Private Sector	8	3.1%	*2.3%*
Government	7	2.7%	*6.8%*
Freelance	5	1.9%	-
Charity or Voluntary Sector	1	0.4%	*1.1%*
Other	0	0.0%	*16.3%*
No answer	0		
Not asked	3		
Total	264	100.0%	*100.0%*

Table 9 shows which sector respondents were employed in or studied in when they registered for the LEMMA Online Course.

As with respondents who had participated in face-to-face training, by far the largest category is academic employment in a University or College (85.1%). Fifteen per cent of respondents indicated that they were from various non-academic backgrounds. The proportion of responses from University or College based researchers appears to over represent the proportion in the user population, while most other disciplines are slightly underrepresented. The relatively small proportion of Public Sector researchers is somewhat underrepresented in the survey sample.

Respondents' career stage at the time of registration is shown in Table 10. Postgraduate students and junior researchers make up 77% of respondents, while the representation from senior researchers who responded is quite small at only 10%. This figure underestimates the proportion of senior researchers in the user population, where they make up one quarter of users. The proportion of responses from student researchers by contrast appears to over represent the proportion in the user population, where they make up one fifth. Junior researchers and professor grade researchers appear to be accurately represented in the sample.

Table 10: Career stages of LEMMA Online Course users

	Count	Percentage	*Percentage in User Population*
Postgraduate Student	111	42.5%	*21.9%*
Junior Researcher ***(e.g. Research Officer, Research Fellow, Lecturer)***	90	34.5%	*37.0%*
Senior Researcher ***(e.g. Senior Research Officer, Senior Lecturer)***	26	10.0%	*25.6%*
Professor / Reader / Head of Unit / Director	16	6.1%	*6.3%*
Other	18	6.9%	
No answer	0		
Not asked	3		
Total	264	100.0%	*100.0%*

The main fields of study of respondents are shown in Table 11 below. Social science predominates, but medical sciences also have notable representation, with more than one quarter of the respondents. Social sciences and medical sciences both appear to be underrepresented in the sample, while the small proportion of Biological Science and Arts and Humanities researchers are overrepresented.

Table 11: Fields of study of LEMMA Online Course users

	Count	Percentage	*Percentage in User Population*
Social Sciences	147	57.4%	*73.3%*
Medical Sciences	65	25.4%	*14.4%*
Engineering and Physical Sciences *(includes Astronomy and Particle Physics)*	17	6.6%	*0.9%*
Biological Sciences	16	6.3%	*3.6%*
Arts and Humanities	3	1.2%	*0.5%*
Environmental Science	3	1.2%	*1.3%*
Other	5	2.0%	*6.0%*
Not asked	8		
Total	264	100.0%	*100.0%*

It can be seen from Table 12 below that Psychology is the best represented discipline within the social sciences (21.8%) followed by Education (12.2%) and Statistics, Methods and Computing (10.9%). Many of the various disciplines of social science are represented in the sample in roughly the same proportions as in the user population. Statistics, Methods and Computing is underrepresented, Management and Business Studies and Economics less so, and Sociology is only slightly under represented. Education by contrast is somewhat overrepresented, as are some of the least represented disciplines within the user population.

Table 12: Social Science disciplines of LEMMA Online Course users

	Count	Percentage	*Percentage in User Population*
Psychology	32	21.8%	*18.0%*
Education	18	12.2%	*9.3%*
Statistics, Methods and Computing	16	10.9%	*19.2%*
Sociology	15	10.2%	*12.0%*
Economics	13	8.8%	*11.7%*
Political Science and International Studies	10	6.8%	*6.6%*
Demography	7	4.8%	*3.7%*
Human Geography	7	4.8%	*3.7%*
Social Policy	6	4.1%	*2.8%*
Linguistics	3	2.0%	*1.0%*
Management and Business Studies	3	2.0%	*6.5%*
Social Anthropology	3	2.0%	*0.3%*
Area Studies	1	0.7%	*0.8%*
Socio-Legal Studies	1	0.7%	*0.4%*
Other[8]	12	7.5%	*6.0%*
Total	147	100.0%	*100.0%*

[8] This figure does not include four disciplines which had no registered users of the LEMMA online course responding to the survey. These were Economic and Social History (0.4%), Environmental Planning (0.5%), Social Work (1.3%) and Science and Technology Studies (1.8%). The figures in brackets show the proportion of users from each of these disciplines within the user population.

The UK regional profile of respondents is shown in Table 13. The South West region has most researchers responding, probably due to LEMMA's base in Bristol attracting a large amount of interest from researchers in the region. LEMMA do not record region in the user profile so it is not possible to compare statistics for the user population with the results reported here.

Table 13: Regional profile of LEMMA Online Course users

	Count	Percentage
South West	47	18.4%
Greater London	45	17.6%
North West	35	13.7%
South East	31	12.1%
Scotland	23	9.0%
East Midlands	22	8.6%
West Midlands	15	5.9%
Yorkshire and the Humber	13	5.1%
Wales	9	3.5%
East of England	7	2.7%
North East	5	2.0%
Northern Ireland	3	1.2%
Other	1	0.4%
Not asked	8	
Total	264	100.00%

3. Results (Part A) – NCRM Training Events

Why did researchers attend NCRM Training Events?

Table 14 reports respondents' reasons for attending NCRM training events. Overall the three most common responses were *"to find out about a particular research method and how I might use it in future research"* (61.3%), *"to learn methods necessary to conduct a specific research task"* (47.3%) and *"to learn about developments in a particular area of research methods"* (39.3%). Just under one third of respondents indicated that they attended in order *"to assess the feasibility of using a particular method for a specific research task"*.

Table 14: Reasons for attending NCRM training events

Reasons for attending	Count	Percentage
To find out about a particular research method and how I might use it in future research	293	61.3%
To learn methods necessary to conduct a specific research task	226	47.3%
To learn about developments in a particular area of research methods	188	39.3%
To assess the feasibility of using a particular method for a specific research task	153	32.0%
To gain methodological resources such as reading lists, other documents and links that I use or plan to use	141	29.5%
Other reason(s)	34	7.1%

(Denominator = 478, the number who attended events and responded to the question)

Those who chose to offer *"Other"* reasons for attending the event often saw the training as a good opportunity to refresh their knowledge of the subject area, gain more practical experience and theoretical knowledge, gain an update on recent progress being made and to experience different methods of doing research.

What were the benefits of attending NCRM training events?

Table 15 shows respondents' views on whether they feel they benefited from the event they attended. The vast majority (92.6%) reported that they had.

Table 15: Whether attendees benefited from NCRM training events

	Have you benefited?	
Career Stage	**Yes**	**No**
Postgraduate Student	217 (93.1%)	16 (6.9%)
Junior Researcher (e.g. Research Officer, Research Fellow, Lecturer)	113 (92.6%)	9 (7.4%)
Senior Researcher (e.g. Senior Research Officer, Senior Lecturer)	37 (88.1%)	5 (11.9%)
Professor / Reader / Head of Unit / Director	27 (96.4%)	1 (3.6%)
Other	42 (91.3%)	4 (8.7%)

This proportion is roughly the same across career stages, ranging from 96.4% of professors, readers, heads of units & directors, to 88.1% of senior researchers. Those respondents who indicated they had benefited from the NCRM event they attended were asked to what extent they benefited in a number of specific ways. Table 16 below shows the results.

It is clear that providing an opportunity for clarification and reflection is a key benefit of NCRM training, with almost two thirds of respondents suggesting they benefited either greatly or significantly in this regard. Many felt that they benefited greatly in terms of providing useful references and other resources, and also in terms of enabling engagement with course tutors/event leaders. Increased knowledge about research methods is also a key benefit that many felt they obtained, with 50% indicating they benefited significantly in this way.

Table 17 below tabulates career stage by the type of benefit respondents indicated they received from the NCRM training event, focusing on those respondents who indicated that they *"greatly"* or *"significantly"* benefited from it in each of the ways listed. Columns are arranged by order of importance from left to right, based on the total proportions shown in the bottom row of the table.

The proportions for researchers at each career stage are similar to the proportions overall, but with some notable exceptions. A greater proportion of junior and senior researchers say they benefited *"greatly"* or *"significantly"* from *"increased knowledge"* as a result of NCRM training, making it the most often cited *"great"* or *"significant"* benefit among junior and senior researchers. When compared to researchers overall, a greater proportion of senior researchers claim *"great"* or *"significant"* benefit in terms of increased ability to do research, while more of those at professor level cite the availability of references and resources as well as networking opportunities as *"great"* or *"significant"* benefits.

Table 16: The extent to which attendees benefited from NCRM training events

Benefits from NCRM training	Greatly	Significantly	Moderately	Slightly	Not at all
Provided an opportunity for clarification and reflection	81 (18.6%)	196 (45.1%)	124 (28.5%)	23 (5.3%)	5 (1.1%)
Increased knowledge about research methods	56 (12.9%)	219 (50.5%)	123 (28.3%)	26 (6.0%)	4 (0.9%)
Provided useful references and other resources	81 (18.6%)	177 (40.7%)	116 (26.7%)	47 (10.8%)	8 (1.8%)
Enabled engagement with course tutors / event leaders	72 (16.6%)	145 (33.4%)	102 (23.5%)	67 (15.4%)	21 (4.8%)
Increased ability to do research	34 (7.8%)	148 (34.0%)	161 (37.0%)	59 (13.6%)	13 (3.0%)
Provided networking opportunities with other participants	44 (10.1%)	81 (18.6%)	148 (34.0%)	94 (21.6%)	47 (10.8%)
Served as an input to teaching and supervision responsibilities	20 (4.6%)	60 (13.8%)	89 (20.5%)	57 (13.1%)	72 (16.6%)

(Number of cases = 435, not asked = 132)

Table 17: The prevalence of 'Great' or 'Significant' levels of benefit from NCRM training events – by career stage

Career Stage	Clarification & reflection	Increased knowledge	References & resources	Engagement with tutors	Increased ability	Networking opportunities	Teaching & supervision
Postgraduate Student	144 (66.7%)	141 (65.3%)	133 (61.6%)	115 (53.2%)	102 (47.2%)	68 (31.5%)	36 (16.7%)
Junior Researcher (e.g. Research Officer, Research Fellow, Lecturer)	71 (62.8%)	73 (64.6%)	69 (61.1%)	51 (45.1%)	42 (37.2%)	24 (21.2%)	20 (17.7%)
Senior Researcher (e.g. Senior Research Officer, Senior Lecturer)	23 (62.2%)	25 (67.6%)	18 (48.6%)	17 (45.9%)	18 (48.6%)	10 (27.0%)	9 (24.3%)
Professor / Reader / Head of Unit / Director	21 (77.8%)	19 (70.4%)	21 (77.8%)	17 (63.0%)	13 (48.1%)	15 (55.6%)	12 (44.4%)
Other	18 (42.9%)	17 (40.5%)	17 (40.5%)	17 (40.5%)	7 (16.7%)	8 (19.0%)	3 (7.1%)
Total	277 (63.7%)	275 (63.4%)	258 (59.3%)	217 (50.0%)	182 (41.8%)	125 (28.7%)	80 (18.4%)

Twenty four respondents chose to add "*Other*" ways in which they benefited from NCRM training, although most of these simply elaborated on the choices in Table 16 above some mentioned other benefits, such as one respondent who felt they gained a fuller understanding of NCRM's programme and of the research activities of those providing the courses. Another respondent said the event gave them confidence and confirmed the correctness of what they were doing in terms of their research methods.

Thirty five respondents (7.3%) said they had not benefited from the event. Ten indicated that the event was of poor quality, while eight said it was too advanced and eight said it was too basic. Four respondents indicated there has been no opportunity to pursue issues/topics from the course in their research and one said it was too soon after the event to tell what the benefits might be. Five indicated that it had become apparent to them that the methods covered were not suited to their research. Ten respondents gave a variety of "*Other*" reasons, with three indicating that the event had not been as described.

The following example from one of those interviewed illustrates the experiences of a researcher who did not feel they benefited much from their NCRM training.

A doctoral student who attended a course on 'Structural equation modelling (SEM)' organised by the NCRM Hub told us that she did not benefit as much as she had hoped because the course was more advanced than she had been led to believe. The course was advertised as "…a fast-paced introduction to SEM" but she felt the course became dominated by learners who had a more advanced knowledge.

"I thought it was an introductory course but some of the other people attending the course had already been running their own models and I think they came on the course to get their SEM problems clarified, and they kept asking questions that took the discussion off on a tangent. People would ask a question and I had no idea of what they were talking about and it would take up 20-30 minutes discussion and I sat there with it going completely over my head… Basically what I wanted to know was, when I have the variables in front of me, how I run the model in M plus."

She subsequently attended a two-week course at the Essex Summer School and felt this gave her exactly what she needed to know, in a style that better suited her needs – working through material systematically to build up understanding, with a more applied rather than a theoretical approach.

Example 1 – A doctoral student

What use was made of what was learned at NCRM training events?

Respondents were asked whether they had used the methods covered by the NCRM event they attended and 196 respondents (45.3%) said they had. Table 18 below shows a breakdown of respondents' career stages and whether they report making use of what they learned at NCRM training events. Our data suggest that more

senior researchers report a good deal more use of what they learned than junior and postgraduate researchers do. The relative lack of use among less experienced researchers might appear disappointing at first, but this might merely reflect a greater tendency among less experienced researchers to avail of training with a view to widening their knowledge and skills base, rather than limiting their training to that which will be of immediate use to them.

Table 18: Whether use was made of what was learned from NCRM training events – by career stage

Career Stage	Made use of what was learned at the NCRM event
Postgraduate Student	92 (43.0%)
Junior Researcher **(e.g. Research Officer, Research Fellow, Lecturer)**	47 (41.6%)
Senior Researcher **(e.g. Senior Research Officer, Senior Lecturer)**	20 (54.1%)
Professor / Reader / Head of Unit / Director	16 (59.3%)
Other	21 (50.0%)

(Denominators = row totals)

Respondents who indicated that they used what they learned from the NCRM training event were asked to indicate which of a list of uses applied to them and Table 19 below shows a breakdown of these uses. Most who responded used what they learned in a research project (60.7%). Similar proportions used it in teaching (15.8%) a research proposal (14.3%) and the supervision of students (12.2%).

A quarter of respondents said they made *"Other"* uses of the event. Many were specific instances of research, with some PhD students identifying their PhD research as an *"Other"* use. Some said they were using it to assess research techniques and to assess research proposals. Others said they were commissioning research while others said they were reviewing various research methods.

Table 19: Instances of use of what was learned from NCRM training events

	Count	Percentage
In a research project	119	60.7%
In a research proposal	28	14.3%
In teaching	31	15.8%
In the supervision of students	24	12.2%
Other	48	24.5%

(Denominator = 196 – those who used the methods)

Respondents who indicated that they used what they learned in research projects were asked to indicate which features from a list provided applied to their projects. Half of those who responded indicated that they had detailed their findings in an internal report, as shown in Table 20 below. Almost 40% submitted their findings for publication and 13.4% had their findings published. Relatively small proportions

indicated their research was commissioned by a non-academic organisation (13.4%) or was presented to government (5%).

Table 20: Impact of research projects that used what was learned from NCRM training events

	Count	Percentage
The research findings are detailed in an internal report	59	49.6%
The research was submitted for publication in a peer-reviewed journal	46	38.7%
The research was published in a peer-reviewed journal	16	13.4%
The research findings are detailed in a report that is in the public domain	16	13.4%
The research was commissioned by a non-academic organisation	11	9.2%
The research findings were presented to government	6	5.0%

(Denominator = 119 – those who used it in a research project)

The following example from one of those interviewed illustrates the experiences of a researcher who is research active and feels some considerable benefit and impact from NCRM training.

A research associate who attended the three-day 'Advanced multilevel modelling using Markov chain Monte Carlo (MCMC)' event by the NCRM LEMMA node told us that the value of the methods training for him was, in part, that it is enabled him to engage in advanced analysis of very large datasets, in a field where such analyses are a relatively recent development.

Attending a total of four different NCRM training events helped him become sufficiently adept in the methods as to be able to publish his research in a prestigious journal in his field, where it has been very well received.

The work has also led to presentations at academic and policy-oriented conference events and has helped him develop international collaborations with researchers in the USA and Germany.

He feels that he is able to present his work to influential people not least because the methods are so highly regarded. With his own research capacity enhanced he is supervising researchers using the methods he learned through the NCRM training events. In future he hopes to apply the techniques in a 5-year funded research project and plans to teach multilevel modelling to others.

Example 2 – A Research Associate working in a HEI

Respondents who indicated that they used what they learned in writing research proposals were asked to indicate which features from a list provided applied to those proposals. Table 21 below shows the results. The numbers involved are small with only 28 respondents suggesting they used what they learned at NCRM training events when writing a research proposal. As can be seen from the table the proportions submitted to different funding bodies appear similar, although the small number involved mean the results should be viewed with caution.

Table 21: Proposal submissions that used what was learned from NCRM training events

	Count	Percentage
The proposal was submitted to a research council	6	21.4%
The proposal was submitted to a trust or charity	5	17.9%
The proposal was submitted to a government body	6	21.4%
The proposal was submitted to Framework Programme 7 (FP7)	3	10.7%
Other	11	39.3%

(Denominator = 28)

Was what was learned at NCRM training events used in published research?

Table 22 provides a breakdown of respondents by career stage and a) whether they used what they had learned at NCRM training events in research projects b) whether this research was subsequently submitted for publication in a peer-reviewed journal and c) whether it was subsequently published.

Similar proportions of around one quarter of postgraduate, junior and senior researchers indicated they had used what they learned from the training events in research projects. Differences appear in the proportions reporting peer review and publication, with the proportions of junior researchers almost double those of postgraduates. The proportion of senior researchers reporting publication is the same as that for junior researchers, but results from only half as many researchers reporting submissions to peer review.

Table 22: Publication of research that used what was learned from NCRM training events – by career stage

Career Stage	Used in research	Peer reviewed	Published
Postgraduate Student	58 (24.5%)	20 (8.4%)	6 (2.5%)
Junior Researcher **(e.g. Research Officer, Research Fellow, Lecturer)**	32 (25.8%)	17 (13.7%)	6 (4.8%)
Senior Researcher **(e.g. Senior Research Officer, Senior Lecturer)**	10 (23.8%)	3 (7.1%)	2 (4.8%)
Professor / Reader / Head of Unit / Director	10 (35.7%)	4 (14.3%)	1 (3.6%)
Other	9 (19.1%)	2 (4.3%)	1 (2.1%)
Total	119 (21.0%)	46 (8.1%)	16 (2.8%)

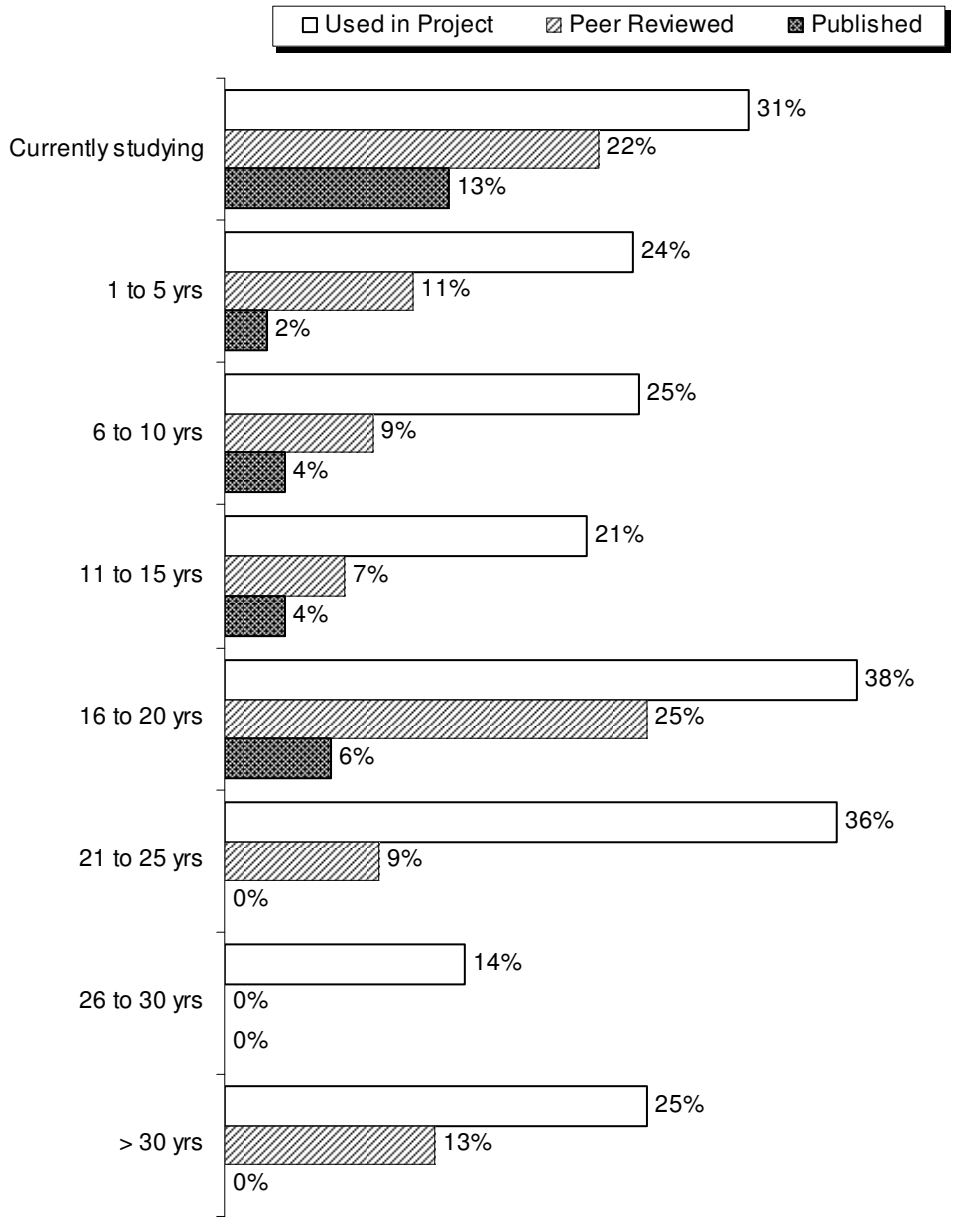
(Denominators = Row Totals)

By comparison, over one third (35.7%) of the professors, readers, heads of units and directors report having used what they learned at NCRM training events in research projects, with 14.3% reporting that this work was submitted for publication. These two proportions are higher than for other researchers, but the proportion reporting publishing (3.6%) is lower, a result that is undoubtedly influenced by the low numbers involved (in this case a single individual). While there is a clear pattern here, it is perhaps prudent to be cautious when draw conclusions from this data, in view of the low numbers involved.

A pattern is more evident when research and publication outcomes are compared for researchers with different levels of experience, as measured by the number of years since completing their postgraduate studies.

Figure 1 below shows that it is the least experienced users (those who are currently studying) who make most use of what they learned at NCRM events, in research that is subsequently published. Use among newly qualified researchers is low by comparison, but increases as experience increases. Firm conclusions are difficult to draw however, especially for the most experienced researchers, as the numbers involved are small.

Figure 1: Use in research projects by years since postgraduate qualification (%)[9]



[9] In Figure 1 some students gave the current year or future years as the date when they obtained their highest qualification. These have been coded as 'Currently studying' but the numbers involved are much less than the numbers who describe themselves as postgraduate students. It is evident from the data therefore that many postgraduate students did not answer the question (see Appendix 1, Question 20) and so this would explain the difference.

Was what was learned at NCRM training events used in writing funding proposals?

Table 23 below provides a breakdown of respondents by career stage and a) whether they used what they had learned at NCRM training events in writing research proposals b) whether these proposals were submitted for funding and c) whether they were funded.

Table 23: Research proposals that use what was learned from NCRM training events – by career stage

Career Stage	Used in a research proposal	Proposal submitted for funding	Proposal was funded
Postgraduate Student	15 (6.3%)	15 (6.3%)	5 (2.1%)
Junior Researcher (e.g. Research Officer, Research Fellow, Lecturer)	6 (4.8%)	6 (4.8%)	0 (0.0%)
Senior Researcher (e.g. Senior Research Officer, Senior Lecturer)	5 (11.9%)	5 (11.9%)	1 (2.4%)
Professor / Reader / Head of Unit / Director	2 (7.1%)	2 (7.1%)	1 (3.6%)
Other	0 (0.0%)	0 (0.0%)	0 (0.0%)
Total	28 (4.9%)	28 (4.9%)	7 (1.2%)

The numbers involved are very small and so conclusions should be drawn with caution, but the trends in the data suggest more senior researchers write and submit more proposals based on what they learned at NCRM training events.

Was what was learned at NCRM training events used in teaching?

NCRM training events also have considerable impact on the teaching of research methods. The following example from one of those interviewed in a follow-up telephone interview illustrates the experiences of a research methods lecturer who felt the benefit of engaging with other researchers who use the narrative analysis methods she uses and teaches.

A lecturer in research methods who attended the one-day 'Narrative Analysis Workshop' by the NCRM Novella node told us that she is the sole exponent of narrative analysis at her school and so had no one else to learn from or collaborate with, and thus had no way to improve her skills.

The course provided an opportunity to meet other researchers who use narrative analysis and see whether they were taking the same approach as she was to research questions. She also thought she might learn new techniques and gain some reassurance that her teaching was covering appropriate material.

She subsequently collaborated with other researchers from the course and has co-written a paper and submitted it for peer-review. She was also successful in obtaining a small research grant from a charity, including funding for a Research Assistant. She plans to draw on the course and also the paper she co-wrote to improve her own teaching of research methods and will direct her students to the work of other researchers who she met on the course.

Example 3 – A lecturer teaching research methods in a HEI

How useful overall were NCRM training events?

Table 24 reports respondent's opinions of the overall usefulness of the event in their research and/or teaching. Overall more than two-thirds of those who responded described the event as either "*very useful*" or "*quite useful*" in their research and/or teaching. Only 5.2% described it as "*not at all useful*".

Table 24: Overall usefulness of NCRM training events

	Count	Percentage
Very useful	169	36.3%
Quite useful	154	33.0%
Somewhat useful	119	25.5%
Not at all useful	24	5.2%
Not asked	19	
Total	485	100.0%

From Table 25 below, we can see that the proportions seen at the various career stages are broadly similar to those seen overall. The most senior researchers (professors, readers / heads of units and directors) were most effusive with 57.1% describing NCRM training events as "*very useful*" in their research and/or teaching and only one describing them as "*not at all useful*". Junior Researchers by contrast tended to favour "*quite useful*" over "*very useful*" as a descriptor.

Forty per cent of senior researchers described the events as either "*very useful*" while just under ten per cent described them as "*not at all useful*". Two thirds of postgraduates described NCRM training events as "*very useful*" or "*quite useful*".

Table 25: Overall usefulness of NCRM training events – by career stage

Career Stage	Very useful	Quite useful	Somewhat useful	Not at all useful
Postgraduate Student	87 (36.7%)	72 (30.4%)	64 (27.0%)	6 (2.5%)
Junior Researcher (e.g. Research Officer, Research Fellow, Lecturer)	38 (30.6%)	47 (37.9%)	29 (23.4%)	8 (6.5%)
Senior Researcher (e.g. Senior Research Officer, Senior Lecturer)	17 (40.5%)	11 (26.2%)	10 (23.8%)	4 (9.5%)
Professor / Reader / Head of Unit / Director	16 (57.1%)	6 (21.4%)	5 (17.9%)	1 (3.6%)
Other	11 (23.4%)	18 (38.3%)	11 (23.4%)	5 (10.6%)

What impact did the NCRM training events have?

Table 26 below shows the level of agreement among respondents, with a number of statements on the impact of NCRM training events. More than four fifths of respondents (88.2%) agreed or strongly agreed that the NCRM event taught them something new about advanced research methods while only slightly fewer (82.1%) agreed or strongly agreed that it clarified the relevance of the methods to the research they do. At the other end of the scale just over one third (35.5%) agreed or strongly agreed that it allowed them to take on more demanding work, while only fifteen per cent agreed or strongly agreed it introduced them to colleagues who they now collaborate with.

Table 27 below focuses on the respondents who agreed or strongly agreed with the various impact statements, cross-tabulating these with their career stage.

Table 26: Impact of NCRM training events

Personal Impact statement	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
It taught me something new about advanced research methods	134 (31.1%)	246 (57.1%)	43 (10.0%)	6 (1.4%)	2 (0.5%)
It helped me clarify the relevance of the methods to the research I do	131 (30.4%)	223 (51.7%)	68 (15.8%)	6 (1.4%)	3 (0.7%)
It has made me more confident as a researcher	68 (15.8%)	199 (46.2%)	140 (32.5%)	19 (4.4%)	5 (1.2%)
It increased my motivation/enthusiasm for my research	82 (19.0%)	185 (42.9%)	140 (32.5%)	18 (4.2%)	6 (1.4%)
It has improved the quality of the research that I do	55 (12.8%)	169 (39.2%)	184 (42.7%)	17 (3.9%)	6 (1.4%)
It has allowed me to take on work that is more demanding	40 (9.3%)	113 (26.2%)	210 (48.7%)	55 (12.8%)	13 (3.0%)
It introduced me to colleagues who I now collaborate with.	17 (3.9%)	48 (11.1%)	147 (34.1%)	164 (38.1%)	55 (12.8%)

Table 27: Impact of NCRM training events – by career stage

Career Stage	Taught me something new	Clarified relevance	More confident	Increased motivation / enthusiasm	Improved quality	More demanding work	New Collaborations
Postgraduate Student	183 (85.9%)	177 (83.1%)	138 (64.8%)	147 (69.0%)	118 (55.4%)	89 (41.8%)	34 (16.0%)
Junior Researcher **(e.g. Research Officer, Research Fellow, Lecturer)**	102 (90.3%)	93 (82.3%)	61 (54.0%)	64 (56.6%)	48 (42.5%)	29 (25.7%)	13 (11.5%)
Senior Researcher **(e.g. Senior Research Officer, Senior Lecturer)**	36 (97.3%)	32 (86.5%)	26 (70.3%)	22 (59.5%)	24 (64.9%)	12 (32.4%)	3 (8.1%)
Professor / Reader / Head of Unit / Director	26 (96.3%)	23 (85.2%)	15 (55.6%)	15 (55.6%)	16 (59.3%)	12 (44.4%)	11 (40.7%)
Other	33 (80.5%)	29 (70.7%)	27 (65.9%)	19 (46.3%)	18 (43.9%)	11 (26.8%)	4 (9.8%)
Sum	380 (88.2%)	354 (82.1%)	267 (61.9%)	267 (61.9%)	224 (52.0%)	153 (35.5%)	65 (15.1%)

Impact in terms of learning is perhaps the most fundamental impact one would hope for from an advanced methods training event. The following example from one of those interviewed in a follow-up telephone interview illustrates the experiences of a researcher who has not yet used the methods she learned, but feels the event has had a substantial impact upon her in terms of learning.

A Senior Government Researcher who attended the one-day 'Introduction to impact assessment' by the NCRM PEPA node told us that she was attracted to 'methods-specific' training and that the event exceeded her expectations for a one-day course. The level of detail was more challenging than she anticipated and she felt that it probably had a greater impact on her in terms of learning than she had expected.

"In the course everything was bought back to control and selection bias, which seems really obvious when I thought about it but I hadn't really considered different methods in that way before"

She sees the value of learning to use advanced methods as a means of becoming a more informed reader of research publications.

Example 4 – A Senior Government Researcher

Impact in terms of increased confidence as a researcher is also an important impact of methods training. The following example from one of those interviewed illustrates the experiences of a researcher who feels more confident and capable as a result of the training.

An experienced medical statistician who attended the two-day "Multilevel Modelling for Longitudinal Data with Prof Don Hedeker" felt that the course and the type of modelling it presented was very applicable to modern data analysis, describing complex natural environments in a more realistic way.

"The exact problem that I was having to face wasn't specifically encountered in that course, however the course helped give me the tools to go and attack the problem, because it was in a related area using similar types of methods, so it was quite useful to make the links into other areas of work".

He suggested the event had given him more confidence to apply more complicated and realistic methods in his work and helped him understanding the literature more broadly.

"Increasing confidence with different modelling strategies is allowing me to answer more interesting questions [This] is probably where it has had the biggest impact."

He felt the NCRM approach of focusing on advanced methods is appropriate, arguing that in the field of medical statistics well known methods (e.g., regressions) are commonly used. He felt training in advanced methods is rare and where it is offered the coverage is often superficial, i.e.., it tells you which buttons to click but does not provide much insight. NCRM training events help develop a much deeper understanding, in his opinion.

Example 5 – A Medical Statistician in a HEI

How do these findings compare to those from previous impact assessments?

The response rate of 36% for the survey of registrants on NCRM events is not directly comparable to the response rate of 38% from the previous impact survey for 2009-11 (Moley, S & Wiles, R., 2011b). This is because on this occasion the unit of assessment was individual researchers while previously the unit of assessment had been researcher attendances at NCRM events. It is reasonable to conclude though that the response rate of 36% in this survey may not represent a dramatic fall in participation. If the unit of assessment had been attendances in this current survey then the 304 researchers who attended more than one NCRM event would only have had to contribute an additional forty survey responses between them to raise the response rate to 38.5% - higher than the comparable 2009-11 figure.

The rate of non-attendance at face-to-face events was less than a percentage point different between the figure for 2009-11 (9.9%) and the figure for 2011-13 (9.7%).

Findings from this 2011-13 survey of registrants on NCRM events paint a picture of those who responded to the survey as mostly aged 26 to 35 (47.9%), female (66.5%), postgraduate (49.6%) or junior researchers (25.9%), working or studying within a University or College (82.2%). Most regarded themselves as Social Scientists (76.2%) working mostly in the fields of Economics (19.0%), Psychology (17.3%), Sociology (12.5%), or Education (11.4%). The greatest numbers were based in Greater London (24.4%), the South East (16.6%), and the South West (11.2%).

The profile of respondents to the 2009-11 survey was very similar in many respects. Respondents were mostly aged 26 to 35 (41.8%), female (65.4%), postgraduate (38.4%) or junior researchers (31.7%), working or studying within a University or College (82.4%). Most regarded themselves as Social Scientists (69.3%) working mostly in the fields of Sociology (25.1%), Psychology (13.0%), Social Policy (8.4%), or Statistics, Methods and Computing (7.8%). The greatest numbers were based in

the North West (20.5%), Greater London (16.0%), the South East (15.4%), and the South West (8.5%). Two very different sets of NCRM nodes were providing training during the 2009-11 and 2011-13 periods. These nodes specialised in different disciplines and were located in different parts of the country and these key differences were undoubtedly reflected in the different disciplines represented in each of the survey samples, as well as the differing regional spreads within each sample.

Between the 2009-11 and 2011-13 surveys there have been some changes in the reasons respondents gave for attending NCRM events. In the 2009-11 survey the three main reasons for attending events tended to be selected equally often. *"Learning about developments in the field", "Finding out about a method"* and *"Learning to use a method"* were all chosen by between 44% and 46% of respondents, with around thirty per cent indicating that *"Obtaining resources"* and *"Assessing the feasibility of a method"* were reasons for attending. This contrasts with the more definite hierarchy of reasons given by respondents in the 2011-13 survey and shown in Table 14, p.21. By contrast with the 2009-11 survey a greater proportion of respondents (61.3%) gave *"Finding out about a method"* as a reason for attending an NCRM event while a lesser proportion (39.3%) gave *"Learning about developments in the field"* as their reason.

The findings of the current 2011-13 survey are in line with the 2009-11 results in terms of the rank ordering of benefits, based the frequency with which they were selected by respondents (see Table 16 p.23). There were however changes in the numbers. When compared to the 2009-11 survey results, the 2011-13 survey recorded a greater proportion of responses in the *"great"* and *"significant"* categories for benefits like the provision of useful references and other resources, and engagement with course tutors / event leaders. A greater proportion of responses were also recorded in the *"great"*, *"significant"* and *"moderate"* categories for benefits in terms of input to teaching and supervision responsibilities. By contrast, there was a shift toward more claims of *"moderate"* benefits in the form of opportunities for clarification and reflection, increased ability to do research and the provision of networking opportunities with other attendees.

The questions related to how what was learned from NCRM events was later used were modified in this 2011-13 survey and so are not directly comparable to the 2009-11 results. Use of what was learned in an internal report, in a report in the public domain and in findings presented to government are all additions to this question. These have been added to try to gauge the degree of non-academic use and suggest there is some usage in this regard, albeit small.

In terms of overall usefulness more respondents to the survey of registrants on NCRM events described the events as very useful. However there were also slight increases in the small numbers who described them as somewhat useful and not at all useful. Compared to the 2009-11 results a greater proportion of researchers at professor level or equivalent described the events as very useful (36.0% vs. 57.1%). This was also the case for junior researchers (27.3% vs. 30.6%). However, a smaller proportion of postgraduates described the events as *"very useful"* or *"quite useful"* (71.9% vs. 67.1%) and this was also the case for senior researchers (81.9% vs. 66.7%)

4. Results (Part B) – The LEMMA Online Course

How much of the LEMMA Online Course was completed?

At the time the online survey was conducted in June and July 2013 the LEMMA Online Course contained eleven modules. Respondents were asked whether they had partially or fully completed these modules, or whether they had not started them at all.

Table 28 shows completion rates for each module within the LEMMA Online Course. Module 5, the '*Introduction to multilevel modelling'* module had the highest completion rate, with over half of respondents indicating they had fully completed it, and almost 30% indicating they had partially completed it. Not surprisingly, the first five modules had noticeably higher completion rates than the last three, which are more recent additions to the LEMMA Online Course[10].

Respondents' estimates of the time they had spent on the LEMMA Online Course averaged around 15 hours ($\bar{x}$ = 14.4, S.D. = 14.8). Median and mode times were both 10 hours.

Table 28: Completion rates for the LEMMA Online Course modules

Module Title	Fully	Partially	Not at all
1. Using quantitative data in research	42.8%	23.1%	34.1%
2. Introduction to quantitative data analysis	42.4%	23.1%	34.5%
3. Multiple regression	40.9%	26.5%	32.6%
4. Multilevel structures and classifications	46.6%	29.5%	23.9%
5. Introduction to multilevel modelling	55.3%	26.5%	18.2%
6. Regression models for binary responses	28.0%	23.9%	48.1%
7. Multilevel models for binary responses	31.8%	28.4%	39.8%
8. Multilevel modelling in practice	19.7%	29.9%	50.4%
9. Single-level and multilevel models for ordinal responses	8.3%	23.9%	67.8%
10. Single-level and multilevel models for nominal responses[11]	*0.0%*	*0.0%*	*100.0%*
11. Cross-classified multilevel models	5.3%	17.0%	77.7%
12. Multiple membership multilevel models	2.7%	15.2%	82.2%

[10] The LEMMA Online Course went live in stages. It began in April 2008 with Modules 1-5. Modules 6 and 7 followed in June 2009, and Module 8 in February 2011. Module 9 was added in October 2011, with Modules 11 and 12 appearing in May 2013.

[11] Module 10 was still in preparation at the time of the survey but has since gone live and is now available online, along with two further modules – Modules 13 and 14.

Why did researchers register on the LEMMA Online Course?

Table 29 reports respondents' reasons for registering on the LEMMA 'Multilevel Modelling' Online Course.

Table 29: Reasons for registering on the LEMMA Online Course

Reasons for registering	Count	Percentage
To learn methods necessary to conduct a specific research task	216	82.8%
To find out about a particular research method and how I might use it in future research	135	51.7%
To assess the feasibility of using a particular method for a specific research task	96	36.8%
To gain methodological resources such as reading lists, other documents and links that I use or plan to use	73	28.0%
To learn about developments in a particular area of research methods	59	22.6%
Other reason(s)	14	5.4%

(Denominator = 261, the number who used the LEMMA Online Course and responded to the question)

Overall the most common response was *"to learn methods necessary to conduct a specific research task"* (82.8%). Just under half of the respondents indicated they wanted to *"find out about a particular research method and how I might use it in future research"* (51.7%). Over a third of respondents said they wanted to *"assess the feasibility of using a particular method for a specific research task"* (36.8%)

Revision of what they had learned in the past about multilevel modelling and preparing for an upcoming face-to-face course were commonly listed as *"Other"* reasons for registering for the LEMMA Online Course. Some respondents wanted to learn the material with a specific research task in mind while some lecturers wished to find material they could use to teach the topic to their own students. Some respondents also indicated a desire to learn about multilevel modelling without necessarily having an immediate application in mind.

What were the benefits of registering on the LEMMA Online Course?

Table 30 shows respondents' views on whether they felt they had benefited from the online course. The vast majority felt they had, with only eight respondents (3.1%) indicating that they had not. In a follow up question asking why they felt they had not benefited (see Appendix 2, Question 8) only three of the eight chose the options set out in the question by way of explanation. *"The content was too advanced"*, *"The course was of poor quality"* and *"It has become apparent that the methods covered are not suited to my research"* were each chosen just once. Six of the eight chose alternative reasons why they had not benefited, with five of the six indicating that they had not finished the course or had not devoted enough time to it. The sixth indicated that the course was too broad.

Table 30: Whether users benefited from the LEMMA Online Course

	Have you benefited?	
Career Stage	**Yes**	**No**
Postgraduate Student	109 (99.1%)	1 (0.9%)
Junior Researcher (e.g. Research Officer, Research Fellow, Lecturer)	86 (95.6%)	4 (4.4%)
Senior Researcher (e.g. Senior Research Officer, Senior Lecturer)	25 (96.2%)	1 (3.8%)
Professor / Reader / Head of Unit / Director	14 (93.3%)	1 (6.7%)
Other	17 (94.4%)	1 (5.6%)

Those respondents who indicated they had benefited were asked a follow up question (see Appendix 2 Question 6) on the extent to which they had benefited in a number of specific ways. Table 31 below shows the results. *"Increased knowledge about research methods"* was the most often reported benefit, followed by *"providing an opportunity for clarification and reflection"*.

One of the limitations of online courses may have been evident in this data in the fact that providing networking opportunities with other participants and engagement with course tutors / leaders were the least often cited benefits of the LEMMA Online Course, with 43.8% and 29.9% respectively indicating that they had not benefited at all in this regard. Relatively large numbers also indicated that they had not benefited at all in terms of input to teaching and supervision responsibilities and as can be seen from Table 32 below it is likely that postgraduates and junior researchers make up most of this group, and they may not have teaching or supervision responsibilities.

Thirty respondents chose to add *"Other"* ways in which they benefited from the LEMMA Online Course and the majority of these took the opportunity to praise the course and say how much it had helped them to learn multilevel modelling. The following selection of quotations illustrates the overall feeling that was expressed toward the course:

> *"Very well written and structured. Course moves from comparative basics and review of familiar methods / ideas to less familiar / more complex methods at an appropriate pace."*

> *"The course enabled me to get better value from face-to-face training, by providing in-depth preparatory reading. Together with the face-to-face training, I improved my knowledge of MLM to a sufficient degree to engage in detail discussions about analytical methods with academic collaborators."*

> *"I used the course initially as a training resource to learn these techniques when I was first a RA and then a PhD student, however, I have benefited from having the course guides to refer to at future points as I needed to use the methods again in different ways for different research questions."*

"Very useful practical examples in R - excellent idea to split theory/practical exercises into two separate chapters. Many textbooks either focus on theory only (without practice) or just show to use R commands without any explanation. The multilevel modelling course managed to wonderfully bridge the gap between the two worlds and provide the better understanding of the subject matter"

"I needed to revise things I'd learned in the past and I'd like to further develop my knowledge in statistical methods and modelling, and I've never worked with multilevel modelling. I think it's the only way to really look at my data, and I'd like to take further classes in this, but I need the online course first so I'm prepared for the further courses. I've been interrupted in my use of the online course over the summer due to other commitments, but I will be finishing it within the next two months. It's an invaluable resource, and I'm really grateful for it."

"I think this is an EXCELLENT resource. The only reason why I haven't spent more time on it is a heavy workload. I particularly like how you provide multiple delivery formats (PDF, online, eBook). I loved the online quizzes too. The materials are of outstanding quality. Thank you so much for making this course available!"

Table 32 below tabulates career stage by the benefit respondents received from the LEMMA online course, focusing on those respondents who indicated that they "*Greatly*" or "*Significantly*" benefited from it in each of the ways listed. Researchers at each career stage for the most part broadly follow the overall pattern, although a greater proportion of senior researchers who responded indicated they benefited in terms of "*Increased knowledge*" and more indicated that they benefited in terms of "*Teaching & supervision*". A lesser proportion of professors and researchers at that grade indicated that they benefited in terms of "*Clarification & Reflection*" while a greater proportion indicated that they benefited in terms of "*Increased ability*" and "*References & resources*".

Table 31: The extent to which users benefited from the LEMMA Online Course

Benefits if NCRM Training Events	Greatly	Significantly	Moderately	Slightly	Not at all
Increased knowledge about research methods	77 (30.7%)	124 (49.4%)	38 (15.1%)	5 (2.0%)	1 (0.4%)
Provided an opportunity for clarification and reflection	68 (27.1%)	116 (46.2%)	43 (17.1%)	14 (5.6%)	1 (0.4%)
Increased ability to do research	65 (25.9%)	95 (37.8%)	57 (22.7%)	22 (8.8%)	2 (0.8%)
Provided useful references and other resources	43 (17.1%)	73 (29.1%)	69 (27.5%)	31 (12.4%)	11 (4.4%)
Served as an input to teaching and supervision responsibilities	15 (6.0%)	24 (9.6%)	31 (12.4%)	29 (11.6%)	57 (22.7%)
Enabled engagement with course tutors / leaders	9 (3.6%)	34 (13.5%)	28 (11.2%)	23 (9.2%)	75 (29.9%)
Provided networking opportunities with other participants	5 (2.0%)	11 (4.4%)	20 (8.0%)	24 (9.6%)	110 (43.8%)

(Number of cases = 251, Not asked = 123)

Table 32: The prevalence of 'Great' or 'Significant' levels of benefit from the LEMMA Online Course – by career stage

Career Stage	Increased knowledge	Clarification & reflection	Increased ability	References & resources	Engagement with tutors	Teaching & supervision	Networking opportunities
Postgraduate Student	96 (88.1%)	84 (77.1%)	82 (75.2%)	45 (41.3%)	20 (18.3%)	15 (13.8%)	9 (8.3%)
Junior Researcher (e.g. Research Officer, Research Fellow, Lecturer)	69 (80.2%)	63 (73.3%)	51 (59.3%)	43 (50.0%)	16 (18.6%)	13 (15.1%)	6 (7.0%)
Senior Researcher (e.g. Senior Research Officer, Senior Lecturer)	18 (72.0%)	21 (84.0%)	14 (56.0%)	12 (48.0%)	3 (12.0%)	5 (20.0%)	1 (4.0%)
Professor / Reader / Head of Unit / Director	8 (57.1%)	6 (42.9%)	7 (50.0%)	7 (50.0%)	0 (0.0%)	3 (21.4%)	0 (0.0%)
Other	10 (58.8%)	10 (58.8%)	6 (35.3%)	9 (52.9%)	4 (23.5%)	3 (17.6%)	0 (0.0%)
Total	201 (80.1%)	184 (73.3%)	160 (63.7%)	116 (46.2%)	43 (17.1%)	39 (15.5%)	16 (6.4%)

What use was made of what was learned from the LEMMA Online Course?

When asked whether they had used the methods covered by the LEMMA Online Course 190 (76.3%) said they had. Table 33 below shows a breakdown of respondents' career stages and whether they report making use of what they learned from the LEMMA Online Course. The proportions at each career stage are similar, with slightly smaller proportions reporting usage at the later career stages

Table 33: Whether use was made of what was learned from the LEMMA Online Course – by career stage

Career Stage	Made use of the LEMMA Online Course
Postgraduate Student	85 (79.4%)
Junior Researcher **(e.g. Research Officer, Research Fellow, Lecturer)**	64 (74.4%)
Senior Researcher **(e.g. Senior Research Officer, Senior Lecturer)**	19 (76.0%)
Professor / Reader / Head of Unit / Director	10 (71.4%)
Other	12 (70.6%)

(Denominators = row totals)

Respondents who indicated that they used what they learned from the LEMMA Online Course were asked to indicate which of a list of uses applied to them. Table 34 below shows a breakdown of these uses. Most who responded (83.7%) used what they learned in a research project, much more than do for example in teaching (14.2%), in the supervision of students (11.6%) or in a research proposal (10.5%).

Table 34: Instances of use of what was learned from the LEMMA Online Course

	Count	Percentage
In a research project	159	83.7%
In teaching	27	14.2%
In the supervision of students	22	11.6%
In a research proposal	20	10.5%
Other	18	9.5%

(Denominator = 196)

Respondents who indicated that they used what they learned in research projects were asked to indicate which features from a list provided applied to their projects. Table 36 below shows that sixty per cent submitted their work for publication and one quarter had the results published. Forty per cent of those who responded indicated that they had detailed their findings in an internal report. Once again, as for face-to-face courses, a relatively small proportion indicated their research was

commissioned by a non-academic organisation (11.3%) and was presented to government (8.2%).

Table 35: Impact of research projects that used what was learned from the LEMMA Online Course

Use of that was learnt	Count	Percentage
The research was submitted for publication in a peer-reviewed journal	95	59.7%
The research was published in a peer-reviewed journal	39	24.5%
The research findings are detailed in an internal report	63	39.6%
The research findings are detailed in a report in the public domain	18	11.3%
The research findings were presented to government	13	8.2%
The research was commissioned by a non-academic organisation	18	11.3%

Was what was learned from the LEMMA Online Course used in published research?

Table 36 provides a breakdown of respondents based on whether they used what they had learned from the LEMMA Online Course in research projects and whether the research was subsequently submitted for publication and published.

Sixty six postgraduate respondents (59.5%) indicated that they had used what they learned on the online course in research projects, while twenty seven (24.3%) said it had been submitted for peer reviewed publication and ten (9.0%) said it had subsequently been published.

Higher proportions of researchers at later career stages report using what they have learned through the online course in research projects, with higher proportions also reporting submissions to peer reviewed journals and successful publication.

Table 36: Publication of research that used what was learned from the LEMMA Online Course – by career stage

Career Stage	Used in research	Peer reviewed	Published
Postgraduate Student	66 (59.5%)	27 (24.3%)	10 (9.0%)
Junior Researcher (e.g. Research Officer, Research Fellow, Lecturer)	58 (64.4%)	46 (51.1%)	19 (21.1%)
Senior Researcher (e.g. Senior Research Officer, Senior Lecturer)	16 (61.5%)	11 (42.3%)	4 (15.4%)
Professor / Reader / Head of Unit / Director	8 (50.0%)	5 (31.3%)	3 (18.8%)
Other	11 (61.1%)	6 (33.3%)	3 (16.7%)
Total	159 (42.5%)	95 (25.4%)	39 (10.4%)

(Denominator = 159)

Was what was learned from the LEMMA Online Course used in writing funding proposals?

Table 37 provides a breakdown of respondents based on whether they report using what they had learned from the LEMMA Online Course in research proposals and whether these proposals were submitted to a funding body and subsequently funded.

Table 37: Research proposals that used what was learned from the LEMMA Online Course – by career stage

Career Stage	Used in research proposal that was submitted for funding	Proposal was funded
Postgraduate Student	6 (5.4%)	3 (2.7%)
Junior Researcher (e.g. Research Officer, Research Fellow, Lecturer)	8 (8.9%)	2 (2.2%)
Senior Researcher (e.g. Senior Research Officer, Senior Lecturer)	2 (7.7%)	1 (3.8%)
Professor / Reader / Head of Unit / Director	3 (18.8%)	2 (12.5%)
Other	1 (5.6%)	1 (5.6%)
Total	20 (5.3%)	9 (2.4%)

Only a small number of researchers who responded to these questions indicated that they used what they learned from the online course in research proposals. Proportions look similar across career stages, apart from the Professor / Reader / Head of Unit / Director group, but since the numbers are so small it is difficult to draw solid conclusions.

How useful overall was the LEMMA Online Course?

Overall almost 90% of those who responded described the online course as either "*very useful*" (64.1%) or "*quite useful*" (25.4%) in their research and/or teaching.

Table 38: Overall usefulness of the LEMMA Online Course

	Count	Percentage
Very useful	164	64.1%
Quite useful	65	25.4%
Somewhat useful	23	9.0%
Not at all useful	4	1.6%
Not asked	8	
Total	264	100.0%

Respondents at every career stage favoured the term "*very useful*" over all others, with upwards of two thirds of the more junior researchers using it and over half the more senior researchers doing so.

Table 39: Overall usefulness of the LEMMA Online Course – by career stage

Career Stage	Very useful	Quite useful	Somewhat useful	Not at all useful
Postgraduate Student	74 (68.5%)	25 (23.1%)	8 (7.4%)	1 (0.9%)
Junior Researcher (e.g. Research Officer, Research Fellow, Lecturer)	58 (64.4%)	23 (25.6%)	7 (7.8%)	2 (2.2%)
Senior Researcher (e.g. Senior Research Officer, Senior Lecturer)	15 (57.7%)	9 (34.6%)	2 (7.7%)	0 (0.0%)
Professor / Reader / Head of Unit / Director	8 (53.3%)	3 (20.0%)	4 (26.7%)	0 (0.0%)
Other	9 (52.9%)	5 (29.4%)	2 (11.8%)	1 (5.9%)

What impact did the LEMMA Online Course have?

Table 40 below shows the level of agreement among the respondents to a number of statements on the impact of the LEMMA Online Course. More than ninety per cent of respondents (91.9%) agreed or strongly agreed that the LEMMA Online Course taught them something new about advanced research methods while only slightly fewer (89.9%) agreed or strongly agreed that it clarified the relevance of the methods to the research they do. At the other end of the scale only thirteen per cent agreed or strongly agreed that it introduced them to colleagues who they now collaborate with. This is not surprising since one can (and most probably will) work through the online course alone, and no aspect of the course explicitly brings users together to work collaboratively.

Table 41 below focuses on the respondents who agreed or strongly agreed with the various impact statements, cross-tabulating these with career stage. Very high proportions agreed or strongly agreed that the LEMMA Online Course provided the various benefits listed, but this was particularly so for less senior and perhaps less experienced researchers, with for example 94.4% of postgraduates indicating that they were taught something new about advanced research methods, and 94.4% of indicating that it helped them clarify the relevance of the methods to the research they do. Comparable figures for professors and other researchers at that level were 78.6%.

Table 40: Impact of the LEMMA Online Course

Impacts of NCRM training events	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
It taught me something new about advanced research methods	122 (49.2%)	106 (42.7%)	20 (8.1%)	0 (0.0%)	0 (0.0%)
It helped me clarify the relevance of the methods to the research I do	106 (42.7%)	117 (47.2%)	23 (9.3%)	2 (0.8%)	0 (0.0%)
It has made me more confident as a researcher	65 (26.2%)	122 (49.2%)	53 (21.4%)	7 (2.8%)	1 (0.4%)
It increased my motivation/enthusiasm for my research	55 (22.2%)	109 (44.0%)	71 (28.6%)	12 (4.8%)	1 (0.4%)
It has improved the quality of the research that I do	69 (27.8%)	114 (46.0%)	59 (23.8%)	4 (1.6%)	2 (0.8%)
It has allowed me to take on work that is more demanding	64 (25.8%)	93 (37.5%)	74 (29.8%)	13 (5.2%)	4 (1.6%)
It introduced me to colleagues who I now collaborate with.	8 (3.2%)	24 (9.7%)	88 (35.5%)	79 (31.9%)	49 (19.8%)

Table 41: Impact of the LEMMA Online Course – by career stage

Career Stage	Taught me something new	Clarified relevance	More confident	Increased motivation / enthusiasm	Improved quality	More demanding work	New Collaborations
Postgraduate Student	101 (94.4%)	101 (94.4%)	83 (77.6%)	78 (72.9%)	84 (78.5%)	71 (66.4%)	16 (15.0%)
Junior Researcher (e.g. Research Officer, Research Fellow, Lecturer)	80 (93.0%)	75 (87.2%)	70 (81.4%)	55 (64.0%)	63 (73.3%)	57 (66.3%)	12 (14.0%)
Senior Researcher (e.g. Senior Research Officer, Senior Lecturer)	23 (92.0%)	24 (96.0%)	16 (64.0%)	14 (56.0%)	20 (80.0%)	17 (68.0%)	2 (8.0%)
Professor / Reader / Head of Unit / Director	11 (78.6%)	11 (78.6%)	8 (57.1%)	6 (42.9%)	7 (50.0%)	4 (28.6%)	1 (7.1%)
Other	13 (81.3%)	12 (75.0%)	10 (62.5%)	11 (68.8%)	9 (56.3%)	8 (50.0%)	1 (6.3%)
Sum	228 (91.9%)	223 (89.9%)	187 (75.4%)	164 (66.1%)	183 (73.8%)	157 (63.3%)	32 (12.9%)

How do these findings compare to those from previous impact assessments?

The response rate for the 2011-13 survey of researchers using the LEMMA Online Course was down on the 2009-11 figure (22% vs. 28%) although the number of responses received increased (374 vs. 243). The current figure for non-use of the online course (21.7%) is up slightly on 2009-11 (19.6%). The average of around 15 hours spent on the course was the same as it was for the 2009-11 survey.

Those who responded to the 2011-13 survey of researchers using the LEMMA Online Course were mostly aged 26 to 35 (48.4%), were slightly more likely to be female (52.3%) tended also to be postgraduates (42.5%) or junior researchers (34.5%) working or studying within a University or College (85.1%). As with the survey of those attending NCRM training events the users of the LEMMA Online Course mostly regarded themselves as Social Scientists (57.4%), although more than one quarter (25.4%) worked as Medical Scientists. Those working in social sciences worked mostly in the fields of Psychology (21.8%), Education (12.2%), Statistics, Methods and Computing (10.9%) and Sociology (10.2%). The greatest numbers were based in the South West (18.4%), Greater London (17.6%), the North West (13.7%) and the South East (12.1%).

The sample from the 2009-11 survey was little different and respondents were also mostly aged 26 to 35 (47.5%), were slightly more likely to be female (54.8%), tended to be postgraduates (44.4%) or junior researchers (35.6%) working or studying within a University or College (91.1%). Most regarded themselves as Social Scientists (59.9%), although more than one quarter (26.0%) worked as Medical Scientists. The disciplinary composition from the 2009-11 survey is different, with those working in social sciences working mostly in the fields of Psychology (28.3%), Statistics, Methods and Computing (15.1%), Education (13.2 %) and Political Science and International Studies (7.6%). The regional composition is also different, with the greatest numbers based in Greater London (20.7%), the South West (15.1%), the South East (14.5%) and the North West (11.2%).

Between the 2009-11 and 2011-13 surveys there have been some changes in the reasons user gave for registering on the LEMMA Online Course. A rank ordering of reasons based on the proportions of respondents who selected them is set out on Table 29 on p.38 and this ordering is the same as it was for the 2009-11 survey. In the 2011-13 survey however the two most frequently chosen reasons were selected with even greater frequency (82.2% and 51.7% vs. 76.8% and 47.0%). This may reflect a greater focus among users in later years on finding out about methods with a view to using them.

When compared to the 2009-11 survey results the proportions choosing *"great"* to describe the benefits of the LEMMA Online Course were somewhat higher in the 2011-13 surveys, while smaller proportions described the benefits as *"moderate"* or *"slight"*. A greater proportion of responses were recorded in the *"great"* and *"significant"* categories for benefits like *"increased knowledge about research methods"*, *"the provision of useful references and other resources"*, and *"providing networking opportunities with other users"*. A greater proportion of responses were also recorded in the *"great"* category for the benefits of *"providing an opportunity for clarification and reflection"* and *"increased ability to do research"*, while a greater proportion were recorded in the *"significant"* benefits category for *"engagement with course tutors / event leaders"*. By contrast, there

was a shift toward a greater proportion of claims of *"slight"* benefits in the form of *"input to teaching and supervision responsibilities"*.

Questions in the survey of users of the LEMMA Online Course that related to how what was learned was used are not directly comparable to the 2009-11 results, since the questions were modified in this 2011-13 survey.

In the 2009-11 survey more than 90% of those who responded described the LEMMA online course as either *"very useful"* or *"quite useful"* overall in their research and/or teaching. This figure has slipped slightly to what is still a very high 89.5% in the 2011-13 survey. In this most recent survey greater proportions of postgraduates and junior researchers described the LEMMA online course as very useful, while lesser proportions of senior and professor level researchers did so.

5. Discussion

Survey sample representativeness

The study populations for these two surveys were all those who registered in 2011-13 for face-to-face training or the LEMMA online course and while the complete registration lists provided optimum sampling frames, the samples themselves were voluntary response samples rather than random samples. This raises the questions of why voluntary response samples were used and whether they were sufficiently representative.

There are both historic and practical reasons why voluntary response samples were used and these stem from the relationship that exists between NCRM and the researchers who obtain training from us. Unlike doctoral training centres for example where researchers are formally registered as students in the host institution(s) NCRM has no formalised link to the researchers we train. It essentially provides a service to researchers who engage on a transient and voluntary basis and who have traditionally provided feedback on a voluntary basis. The voluntary nature of our relationship lessens the chances of successfully adopting a strategy that relies upon somehow compelling researchers to engage and respond as part of a random sample. Added to this NCRM does not have the resources necessary to survey a large random sample of researchers on an annual basis.

In the absence of random samples we have sought to establish some sense of the representativeness of the samples by comparing sample and registration data on a number of variables. In terms of breakdowns by gender, employment sector, career stage, field of study, discipline and regional spread the samples very much reflect the registration data, with the size of the various subgroups within these breakdowns broadly consistent across registration and sample data. Some subgroups are underrepresented while others are overrepresented, but for the most part the samples and registration data are broadly in line. While some individual values differ noticeably the majority differ by only a slight amount and where they do differ, such as the underrepresentation of social scientists (see Table 4 p.12) and economists (see Table 5 p.13) the groups concerned are still the largest and it seems likely therefore that the effects of their underrepresentation would be limited. The working assumption therefore is that while the samples may not be optimum they are sufficiently representative to allow the conclusions set out in this report to be drawn with reasonable confidence.

The use of non-weighted data

In past impact assessments conducted by NCRM researchers received a separate invitation to participate in the survey and comment on the impact of each and every event they attended. This year researchers received one invitation to participate and in cases where researchers had attended more than one event, one event was chosen at random. The relative merits of the two approaches can be debated further but the net effect is that in the previous survey researchers who had attended more than one event had a greater voice compared to those who attended just one.

The option to weight the responses of those who attended more NCRM events was not available to us however, as the online surveys were configured to collect the data anonymously, as per NCRM's usual practice. It was decided that the traditional anonymity associated with NCRM surveys should remain, not least because the information was provided on a voluntary basis and was potentially sensitive. In these

circumstances our judgement has always been that better quality information is provided anonymously.

Response rates

The response rate of 36% for the survey of registrants on NCRM events compares favourably with previous impact surveys carried out by NCRM and is higher than all but the previous impact survey for 2009-11 (Moley, S & Wiles, R., 2011b), which had a response rate of 38%. The difference between this survey and the previous one may be due to the change in sampling unit and may not therefore be of particular concern (see '*How do these findings compare to those from previous impact assessments?'* p.35).

The fall in response rate in the survey of researchers using the LEMMA Online Course is potentially more concerning, although it did result from a larger number of survey responses (which is encouraging) but an even larger user group in 2011-13. Future impact surveys will seek to engage more effectively with users of the LEMMA Online Course in an effort to boost the response rate.

Non-attendance and non-use

It is notable that 9.7% of respondents report registering for, but not attending face-to-face events and further research is needed to establish the reasons for this. The low cost of NCRM training events may be a factor, as the loss of one's registration fee may be insufficient to deter non-attendance, especially if it is not a personal loss but a loss to one's institution. The issue of alternative fee structures that NCRM might adopt are discussed in NCRM's last needs assessment (Moley, S, Wiles, R. & Sturgis, P, 2013).

Registration followed by subsequent non-use of the LEMMA Online Course is also evident, with 21.7% of respondents indicating they did not spend any time on it after registering, although 80% of these later went on to indicate that it was either *"extremely likely"* (34.7%) or *"likely"* (45.3%) that they would spend time on it in future. It is reasonable to conclude therefore that for most who indicated that they had not used the course, a more accurate statement would be that they had not used it yet.

A lack of time was identified as a major barrier to training in successive NCRM needs surveys (Wiles et al., 2005; Wiles et al., 2008; Moley & Wiles, 2011a) and this may explain a lot of non-attendance at NCRM's training, and also non-use of the LEMMA Online Course. Increased monitoring of these issues will help quantify the problem.

It is also possible that some respondents may have deliberately chosen the *"didn't attend"* or *"did not use"* options so as to avoid completing the surveys. However both surveys included formal 'opt out' options, so while possible this seems unlikely.

Sample Characteristics

The gender and age profiles of researchers attending NCRM training events have tended to remain fairly consistent over the years, and this most recent survey reflects some relatively small changes in the overall profile of those who avail of our training. The increased presence of economists at NCRM training events is due to the presence of the PEPA node (part of the Institute of Fiscal Studies). PEPA offers an extensive programme of events that are often oversubscribed and regularly have thirty of more researchers in attendance at each event. Economists are now well represented therefore within this 2011-13 survey.

In previous surveys NCRM did not distinguish government and public sector researchers and just made reference to *"government researchers"*. A clarification

of charging policy for NCRM training events in 2013-14 has added the broader category of *"public sector researchers"* under the same fee band as *"government researchers"* and uses both the terms *"public sector researchers"* and *"government researchers"* in the charging policy. The new term *"public sector researcher"* was also used for the first time in the 2011-13 survey and so figures relating to where researchers work and study are not directly comparable with previous years. That said, in the 2009-11 survey 6.4% of researchers attending NCRM training events described themselves as government researchers, with 4.4% of users of the LEMMA Online Course doing so also. In the 2011-13 survey 5.6% of researchers attending NCRM training events described themselves as government researchers, with a further 2.7% describing themselves as *"public sector researchers"*. Among users of the LEMMA Online Course 3.4% described themselves as *"public sector researchers"*, with a further 2.7% describing themselves as government researchers. This suggests there may have been a slight increase in the number of public sector funded researchers attending NCRM training events and registering for the on-line course. The one caveat is that we do not know how those who we now identify as *"public sector researchers"* categorised themselves in previous surveys.

The large proportion of postgraduate and junior researchers in both the survey of registrants for NCRM's training events and the survey of online learners reflects the continued dominance of postgraduate and junior researchers as the main consumers of NCRM's research methods training. It is true however that substantial numbers of more senior and also more experienced researchers avail of NCRM training provision. NCRM's focus on advanced and innovative training, along with the measures it takes to meet the needs of researchers from all career stages may be the reason for the continued use of our provision by senior and more experienced researchers.

Reasons for attending or registering

Responses to the question on the reasons for attending NCRM training appear to suggest a definite hierarchy of reasons, from finding out about a particular research method, to learning methods, to learning about developments in the field, to assessing the feasibility of a particular method, to gaining methodological resources.

It is interesting to note that what is perhaps the most basic of reasons for attending a training event *"To find out about a particular research method and how I might use it in future research"* is the one most often chosen by respondents (see Table 14 p. 21). Alternative responses that allude to using the method are chosen less often and this difference suggests that while not in any way downgrading the importance of learning to use methods, an increasing proportion of capacity building activity is focusing not on this issue of how to use a method, but instead on the simpler precursors of what it is, what is does and when it can and should be used.

While the data from this survey might suggest a hierarchy of reasons it should also be noted that the variety of reasons respondents choose for attending NCRM training events underscores the requirement on the part of providers to meet the needs of an increasingly wide variety of potential consumers of research methods training.

By contrast with face-to-face events eighty three per cent of respondents who where users of the LEMMA Online Course indicated that *"learning the methods necessary to conduct specific research tasks"* was a reason for them taking the course – making this the most frequently chosen reason among users of the online course. This may reflect a greater focus on utility among users of the LEMMA Online Course and also undoubtedly reflects one of the key strengths of online provision, namely that learners can choose to register for a course at the precise moment when they need to learn methods necessary for a specific research task.

The contrast with face-to-face events continues with just over half of respondents indicating they took the LEMMA Online Course to find out more about a method. This smaller proportion when compared to face-to-face events may reflect the relatively large commitment of personal time and effort needed to gain an overview of a method through a self-teach online course.

Benefits gained from NCRM provision

A total of 93% of respondents who attended NCRM training events reported gaining a benefit from training. It is interesting to note also that the *"…opportunity for clarification and reflection"* is the most commonly reported benefit, more commonly reported than the more immediately obvious *"…increased knowledge about research methods"* (which was the most commonly reported benefit among users of the LEMMA Online Course). It is also interesting to note that the desire for clarification and reflection is not confined to less experienced researchers, but is the most commonly chosen benefit for all but the Senior Researchers, and for them it is the second most frequently chosen. These findings suggest therefore that providers should look to provide an increasing proportion of training whose principle aim is clarification and reflection.

More than half of respondents to the survey of registrants for NCRMs training events suggested they benefited greatly or significantly through the provision of useful references and resources at NCRM training events. This underscores the importance of the preparations tutors make prior to holding a training event, gathering together well thought-out collections of background material and compiling an appropriate reading list. These resources are clearly appreciated by those who attended NCRM training events.

Making use of what was learnt

It is a little disconcerting to see that in the survey of registrants for NCRM's training events a little over 40% of respondents felt that attending greatly or significantly increased their ability to do research, although the figure is higher for users of the LEMMA Online Course (63.7%).

While the low figure for face-to-face events may seem worrying at first it is important to bear in mind that many of the events in Phase III of NCRM have sought to raise awareness of research methods rather than teach them from the outset. NCRM's Phase III Nodes have provided shorter taster events to introduce researchers to methods. One of the hoped-for advantages to this is that training events aimed at teaching methods have fewer participants whose sole aim in being there is to find out more about method rather than learn how to use it.

The higher usage reported by those who use the LEMMA Online Course may be due to the advantage they have of being able to register and complete the course whenever they feel it is appropriate. As a consequence, more may choose to do so at a time during an on-going project where they are ready to use what they are learning. By contrast those who attend face-to-face events have to avail of the course at a time of the provider's choosing, a time perhaps when they are not ready to apply what they have learned. If this is so then one way of improving usage would be to provide more repeat offerings of face-to-face training, spread throughout the year.

The usage issue requires further investigation both to understand how respondents define use and to establish whether a lack of use is seen as a problem by respondents. It is also important to investigate how providers might promote greater use of their training and whether there are elements within training courses that increase the likelihood of methods being used subsequently.

Among those who said they used the methods they learned, research was by far the most common use – over sixty per cent for the survey of registrants for NCRM's training events and over eighty per cent for those using the LEMMA Online Course. Research proposal writing was less often cited as the ultimate use. It is interesting to note that publication in internal reports is a more common use for what was learned in face-to-face training than publications in peer-reviewed journals. This may reflect to fact that many of the respondents are junior researchers who have yet to submit much of their work to peer review. It is also notable that while the proportions are small some of the work is reported in the public domain and some was commissioned by non-academic organisations. It is difficult to say for certain but this may reflect a widening of the range of uses that are being made of what is learned at NCRM training events and through online learning.

The Impacts of NCRM training events

The impact of both NCRM training events and the LEMMA Online Course upon attendees and users appears to be mostly in terms of teaching them something new about advanced research methods, providing clarity as to the relevance of the methods and increasing their confidence and motivation as researchers. These are the top three impacts of both NCRM training events and the LEMMA Online Course. What is interesting is that these three impacts might be considered 'softer' impacts than, for example improving the quality of the research done, or allowing them to do more demanding work. The importance of these softer outcomes should not be underestimated however as they provide a firm basis upon which to develop research skills.

It is perhaps a little surprising to note that although the proportions are high, when compared to senior researchers and those at professor grade a smaller proportion of postgraduates and junior researchers felt that the NCRM event taught them something new. It is also interesting to note that a greater proportion of senior researchers felt that NCRM training events made them more confident as researchers. Compared to other career stages a greater proportion of postgraduates felt that NCRM training events increased their motivation and/or enthusiasm for their research. By contrast, a smaller proportion of junior researchers felt the events improved the quality of their research (42.5%) or enable them to do more demanding work (25.7%). When compared to other career stages, professors, readers, heads of units and directors saw NCRMs provision as more valuable as a means of forming collaborations

6. Conclusion

NCRM's biennial survey of the impact of its training and capacity-building consistently reflects the positive impact of NCRM capacity building, not only in terms of bids for funding, research activity and publications but also as a source of inspiration to researchers, a facilitator of reflection, and a means to empower researchers and build their confidence. The impact of NCRM provision is not just in terms of better quality research but also in terms of better informed and more motivated researchers.

NCRM's relationship with the researchers it trains is a voluntary one. Researchers can choose to avail of training or not and while they are encouraged to participate in exercises such as the impact assessment documented here, they are free to decline if they so wish. Consistent with this, NCRM has a longstanding policy of running anonymised online surveys with voluntary response samples. Despite the restrictions this placed upon this current impact assessment it would seem reasonable to conclude that the views expressed in the two surveys reflect the wider researcher group who attended NCRM events and used the LEMMA Online course. This researcher group is mostly female postgraduates and junior researchers in their mid-twenties to early thirties, working and studying as social scientists within the university sector in London and the south of England. This profile has not changed much since the previous surveys for the period 2009-11and many of the findings of this survey are in line with the previous survey findings. These facts in themselves provide confidence that the surveys reflect the true impact of NCRM's provision.

It is evident that NCRM training has yielded research-related benefits, in terms of funding bids, research work and publications. The patterns of benefit reported here are likely to reflect job roles and responsibilities, with junior researchers engaging in more project work than publication and funding bids, but the number of senior researchers reporting benefits in terms of funding bids and publications is encouraging. There is some evidence that the use of what is learned from NCRM provision has an increasing influence outside academia, with many of the research findings detailed in unpublished internal reports and in reports within the public domain. A small but notable amount of research was commissioned by a non-academic organisations and an increasing proportion of the findings are being presented to government.

What is clear is that NCRM's provision is well regarded and attracts researchers from across the career spectrum of social science in the UK. Most of those who avail of the training are postgraduate and junior researchers but many more senior researchers also attend. The main reasons researchers attend NCRM events and use the LEMMA Online Course are to find out about research and to learn the methods necessary to conduct a specific research task. The vast majority (over 90%) feel they benefited from this provision, mostly in terms of increased knowledge about research methods and the provision of opportunities for clarification and reflection. These benefits are not seen merely in terms of a narrowly focused set of skills and knowledge but also in terms of broader development as a researcher. Very many of the researchers from all career stages who avail of NCRM's provision are research active and publishing in prestigious research journals. NCRM has therefore succeeded in engaging with a prestigious group who are at the forefront of social science research and who value the contribution NCRM makes in terms of its training and capacity building.

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