Mapping the Ripples

An evaluation of TLRP's research capacity building.

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Executive Summary

Demographic data show that 70% of staff in Education are aged over 45, with many senior academics nearing retirement. There is a relative dearth of young, skilled researchers of UK nationality. This has consequences for the future of the field of Educational research across the UK, with concerns of the sustainability of the field to produce high quality research. Building research capacity within Educational research is complex. Many educational researchers have had previous careers in practice or policy, only a minority of researchers have progressed directly through doctoral study to research careers. While this diversity is a strength of the field, it also has repercussions for considering the most effective research capacity building strategies for this population.

The Economic and Social Research Council's (ESRC) Teaching and Learning Research Programme (TLRP) represents the largest research initiative in the UK. The Programme started work in 2000, and one of its principle purposes was to enhance research capacity in Education. This report presents an evaluation of the TLRP's capacity building strategy in relation to the experiences of research staff and project directors.

The TLRP has had a significant impact upon the professional development of Educational researchers working on TLRP research projects. The Programme was valued by researchers for being an inclusive, approachable and supportive organisation. Involvement with the TLRP has influenced researchers' ways of doing research, contributed positively to individuals' professional development, provided significant training opportunities, and created and developed educational research networks which would not have otherwise existed. Researchers generally feel that their involvement with the TLRP will benefit their future career.

The TLRP set up a range of capacity building 'structures'. These include regular conferences, a Research Capacity Building Network (RCBN) which provided formal learning opportunities and workshops for researchers, the recent development of on-line capacity building resources, and the Meeting of Minds Research Fellowship. Overall, these were very positively evaluated by researchers and were seen to be formative to the development of their research capacity. The conference was particularly favourably evaluated and was seen by many to be a transformative experience within their research career.

Individual research projects were expected to provide capacity building opportunities to research staff and to explicitly identify these within their annual and end of project reports. Researchers' evaluations of individual projects were varied. The most positive evaluations tended to identify features similar to those of 'expansive workplaces'. Specifically, researchers valued having access to multiple communities of practice and having access (and encouragement to attend) 'off the job' training. Research staff felt most valued within projects which maintained multidimensional models of expertise across the research team, rather than those which were perceived as having rigid hierarchies.

The evaluation of institutions' commitment to and provision of capacity building opportunities was varied. While some institutions exemplified good practice through a range of provision, training and both professional and personal support, other institutions had little interest or commitment to the professional development of their research staff. In some cases the lack of effective communication between the institution and the TLRP and ESRC as the funder created problems which negatively impacted researchers' capacity building.

The researchers who had the most positive experiences of engaging with the TLRP capacity building structures and gained the most value from these had key people who acted as catalysts within their capacity building. These key people provided a combination of gate-keeping which provided access to relevant networks, mentoring and professional advice. For some researchers, key people had a transformative effect upon their careers and/or their professional identity as a researcher. The value of this catalysis would benefit from future research. Ways to strategise for this process should be considered in future funding programmes.

The diversity of researchers' backgrounds and previous professional lives suggests that a diversity of approaches to research capacity building will be necessary in the future. As with previous research in this area, we strongly agree that capacity building strategies in the area of Educational research cannot assume a 'one size fits all' provision.

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1. Introduction and identification of key themes

The Teaching and Learning Research Programme (TLRP) was set up through the Economic and Social Research Council (ESRC) in 1998, in part as a response to the criticisms made in the late 1990s regarding the quality of Educational research (Hargreaves, 1996; Hillage et al., 1998; Tooley and Darby, 1998; and OECD 1995). Its first project began work in January 2000. Since then, TLRP has provided coordination for some 700 researchers in 70 project teams and almost 20 initiatives of cross-programme analysis in the UK. Enhancing research capacity has been one of the Programme's principle purposes and the TLRP developed a range of research capacity building initiatives: each project funded within the programme was required to develop and implement research capacity building strategies, the overall programme set up a Research Capacity Building Network (RCBN) to facilitate research capacity building activities with TLRP researchers, substantial on-line and text-based resources to facilitate research capacity building were developed, and the Meeting of Minds Research Fellowship scheme aimed to enhance UK-wide research capacity by helping the next generation of research leaders' progress. In 2007, the Mapping the Ripples project was funded to investigate how researchers have utilised the research capacity opportunities afforded through their research work on TLRP projects. The objective was to increase understanding of the nature, extent, and perceived value of TLRP's research capacity building legacy. This paper presents the findings emerging from this project.

It is timely to focus on the nature of capacity building in Educational research:

> The body of senior research staff that predated the change in teacher training policy are shortly coming up for retirement. They have a significant body of knowledge and expertise, which cannot be passed on through the traditional apprenticeship model of academia because much current research in the field is piecemeal and practice-based.
>
> (Mills et al, 2006: 45)

As is shown in Figure 1, TLRP has had a significant impact upon the practices of educational researchers. This evaluation explores the nature and extent of this impact, observes lessons that might be learnt from the Programme and the projects it funded, and makes recommendations based on this evidence which might usefully inform future Programmes. The ways in which researchers' working practices and their professional identities have been affected by their exposure to the TLRP will also be explored in the body of this paper.

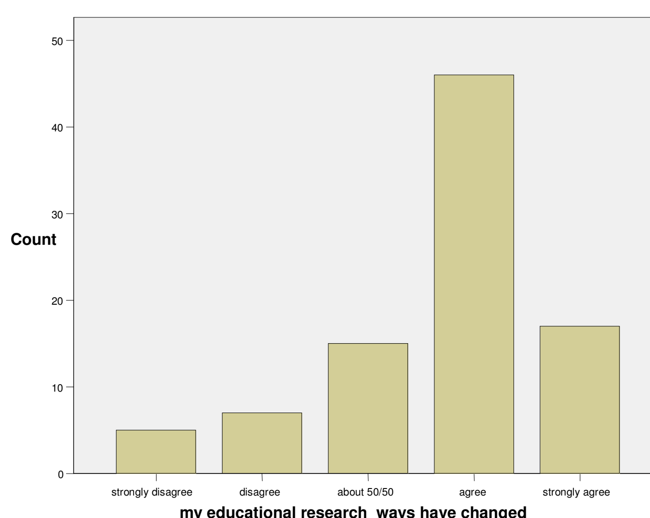

Figure 1: My ways of doing educational research have changed as a consequence of being involved with the TLRP (TLRP researcher survey question Ea). (n=92)

2. Background context

As a field of academic research, education has experienced the same major policy shifts facing other areas of Higher Education (HE) in the UK since the mid-1990s. Changes within the policy context and related changes in funding have led HE to become increasingly subjected to the wider labour market with an increasing need to attain new sources of funding and to increase efficiency (Davies and Holloway, 1995). In response, universities have become more entrepreneurial in attracting funding from diverse sources (Collinson, 2000) with an increased focus on bidding for external grants. Competition between universities has increased as they bid for the same pockets of funding (Reay, 2000), and there has been an associated drive to reduce costs and increase flexibility: to deliver quality outputs for competitive costs. The quality of research outputs is regulated by visible performance measures (Hey, 2001: 76), most prominently through the Research Assessment Exercise. The allocation of quality-related research (QR) funding according to RAE outcomes has led to an increasing concentration of research resources at a select number of HE institutions (Munn, 2007), thereby contributing to a polarisation between research-intensive universities and the remainder of the field (Pollard, 2006), which in turn potentially limits collaboration between institutions.

Central to concerns over the capacity of the field of educational research are demographic data which show that 70% of staff in Education are aged over 45. Evidence suggests that there are insufficient younger researchers within the field who are able to replace the senior academics who are nearing retirement (Mills et al, 2006: 44), with a possible consequence that the field will become professionally depleted. This likely future scenario raises questions over how expertise and experience in Educational research can be sustained and developed. One hypothesis might be that research capacity building with early career researchers will develop a workforce who is able to take over the academic work currently being done by those nearing retirement age. Other perspectives suggest increasing recruitment to the field and increasing collaborations between institutions. There is a widespread recognition that expertise needs to be shared and developed between established and beginning researchers (McIntyre and McIntyre, 1999; Dyson and Desforges, 2002) and across the field through inter-institutional collaborations.

The focus of this paper is upon the experiences of researchers already working in the field; to consider ways in which their research capacity can be developed. Recruitment and training concerns within the field of Education continue to be a key priority for ESRC (Mills et al, 2006).

3. Methodology of research

The Mapping the Ripples project is theoretically informed by research analysing how work organisations differ in the ways that they create and manage themselves as learning environments (Fuller et al, 2007; Evans et al, 2006; Fuller and Unwin, 2004). These writers have developed the conceptual framework of an expansive-restrictive continuum of workplace factors; this provides a useful vehicle for bringing together the pedagogical, organisational and cultural factors that contribute to workplace learning. These factors include the potential to participate in multiple communities of practice, the generation of multi-dimensional models of expertise, and opportunities to access off-the-job training: each of these are recurring issues across our dataset. We combined an understanding of these factors with the metaphor of the individual's 'learning territory' (Fuller and Unwin, 2004), which takes account of the personal backgrounds, prior education and professional experiences, and aspirations of the individual: "every individual has, and has had, access to a (unique) range of learning opportunities which make up their learning territory" (2004: 133). Aspects of employees' biographies and their prior experiences play an important part in facilitating the interrelationships between employees and their workplace environments (Evans et al, 2006). The multidimensional ways in which individual biography interlinks with learning at work influenced our choice of methodology. An overview of the data sources is provided in Table 1. We combined analysis of project outputs from TLRP's own databases with survey and interview tools. This enabled us to collect data on project outputs and structures alongside individual life histories and perspectives on key influences on researchers' careers. More details of the methodology are included in Appendix 1.

Table 1 – Summary of data sources

Data Sources	Details
Documentary Analysis	• TLRP project annual reports and end of award reports • D Space analysis of project outputs and co-authorship networks
Survey evidence	• Three on-line surveys: (i) researchers who had worked, or were currently working on TLRP projects; (ii) researchers in Education with no experience working on TLRP projects; (iii) senior academics with experience of directing or managing TLRP projects.
Researcher interviewees	• 12 TLRP researchers from a range of projects and a diversity of institutions across the UK

4. Characteristics of the Educational Researcher Community

Any notion of capacity building is located within a particular context. The characteristics of the Educational research workforce are striking in their complexity. While our surveys resulted in a relatively small sample population of individuals working in relatively similar roles, the characteristics and backgrounds of these individuals were extremely diverse. Respondents ranged in age from 26 to 68; some had PhDs while others had no Level 4 qualification; some worked full-time, others worked part-time and others were seconded from a few hours to a couple of days a week onto research projects. One group of respondents appeared to be following a fairly straightforward career path through a BSc in a Social Science discipline, followed by doctoral research, and then moving into Educational research: however, it is likely that this career route is far more common in other research disciplines (Mills et al, 2006). The majority of respondents had some experience of teaching, but again this similarity of background masked another area of diversity as some people had taught in compulsory settings, others in post-compulsory settings; some had taught voluntarily while some had pursued this as a paid career. Freedman et al (2000: 42) attribute the variety of past and current teaching experience and the diversity of research experience prior to involvement in Educational research as factors which contribute to the difficulties of describing a 'typical contract researcher', and the difficulties of defining who might be an 'educational researcher' have posed methodological problems for previous surveys of the workforce in this area: Dooley et al's 1979 survey (cited in Freedman et al, 2000) struggled to define their sample population, Youngman (1994) restricted the size of his sample to 44 respondents, and Stronach and MacDonald (1991) interviewed only 13 contract researchers in their survey of Educational research. The diversity of background is a strength of the workforce, but it mitigates against simple understandings of what the capacity of the field might be or how to design strategies for capacity building with this population. For example, several interviewees objected, some vociferously, to the label of 'early career researcher', preferring the descriptor of 'professional researcher'. This has implications, as shall be discussed later, upon notions of relevant capacity building activities.

Researchers working on TLRP projects were mainly women: 67% (n=62) of the TLRP survey respondents were female and, across all TLRP projects, 65% of researchers were female. Stylistically, this bias has influenced our decision to refer to all researchers in the female pronoun throughout this paper as a means of maintaining the anonymity of respondents. The predominance of females might be related in some instances to the flexibility afforded by working as a researcher: in survey responses and in interview conversations, some women spoke about their ability to combine work as a researcher with their domestic labour as mothers of young children. This flexibility was frequently related to the autonomy given to the researcher, the ability to manage the workload around their own lives, and the possibility of accepting short-term contract work. However, the gender imbalance might also be indicative of a lack of equal opportunities within the field: in relation to the database of award holders for TLRP projects who are generally more senior academics, 59% were male and only 41% were female. More research is, perhaps, needed to explore why the researcher population tends to have a majority of women workers while more senior positions in the academe tend towards a predominantly male workforce. From a feminist perspective, one might argue that there is visible prestige in 'managing' rather than 'doing' research and that the male-dominated population of 'managers' reflects the power inequities in the field of Educational research (Hey, 2001: 75).

A key similarity emerging across many survey responses came not from researchers' backgrounds but from their pronounced commitment to research. Many of the respondents shared ideals that Educational research should be

about ‘making a difference’, and they voiced a passion for the nature and content of their work. People working in this field are frequently idealistic, expressing a political commitment to improving Education. Researchers commented in the survey, for example: “*I love what I do and I envisage working in this area of research as long as I can make a contribution that is worthwhile.”* This passion contributed to researchers’ professional commitments to the field: “*It’s difficult to leave research as it is for most academics (or at least for me) more of a passion than a job”.* Although the people working in Educational research are extremely diverse in their backgrounds, qualifications and anticipated futures, they share an affinity driven by their idealistic commitment, intellectual and methodological interests, and the working conditions of their lives.

The working conditions of being a researcher in Education have a negative impact upon the workforce, particularly in terms of their motivation and their commitment to their work. As one researcher observed in her survey responses:

> “*I enjoy conducting educational research as I think it is very rewarding knowing that what you do for a living could impact and benefit young people’s lives. However, the current state of contract research posts means no financial security whatsoever and no real prospects for a better job and with three young children I may have sooner or later to stop being idealistic and get a stable job with a future.”*

The anxiety of being employed on short-term contracts is a major preoccupation of most respondents: 67.5% (62 out of 92) of the TLRP researchers who completed the survey were working on fixed term contracts. People spoke about the instability of tenure, the relative insecurity of the working conditions, and the anxiety of being unable to make long term plans because of the lack of financial security. Insecurity of tenure acts against the professional development of the workforce. Researchers felt that the anxiety and preoccupation associated with needing to find their next contract generated a constant level of preoccupation which prevented all of the researcher’s current energies being committed to their current project and “*interferes with your sense of allegiance*”. One colleague acknowledged their “*limited motivation to invest in the topic as I knew I had to move on due to my limited contract*”. This data describes a workforce who were predominantly doing work that they loved and who had a clear passion for research, but who felt unable to commit completely to their work due to the pressures of short-term contracts: career researchers on fixed term contracts feel that they are underperforming due to circumstances beyond their control.

Related both to the working conditions and the insecurity of contract is the issue of attrition from the field. Within surveys for this research project, people tended to respond idealistically as to why they had entered Educational research but spoke more pragmatically about their anticipated career futures. In her 1997 Presidential Address to BERA, Margaret Brown (1998: 135) drew attention to how the constant uncertainty about future funding, and therefore future employment, drove away many first class contract researchers into safer and securer posts, often outside research. Many respondents to the TLRP evaluation survey anticipated a career shift towards lecturing and while some respondents were driven by a sense of vocation and a desire to teach, others perceived this career route to be the only sustainable way of doing research in Education, even though it would reduce their involvement with research to a typical 70:30 teaching:research ratio. Only one person from the combined researcher survey populations (n=142) anticipated becoming a Professorial Research Fellow. It is likely that many of our sample would not have known that such a move was possible due to the lack of visibility of sustainable research careers.

Freedman (2000) identifies the potential for a vicious circle: “research posts are less attractive than teaching posts, so they attract less well-qualified people, so universities are unwilling to accord them the pay and status associated with full academic status, which in turn makes the research roles even less attractive.” A tension emerges here between the potential recruitment problems generated by unattractive working conditions and the impending shortfall in numbers in the workforce as the older section of the labour market retire. But, while there is evidence of a shortage of young, highly skilled researchers (Mills et al, 2006), competition for research posts and lecturing posts remains fairly fierce which does not contribute to a general perception that there are more jobs than people at the researcher level. Building capacity relates not only to beginner researchers but also to the progression of more experienced researcher to research management roles. We would suggest that part of the impending labour shortfall exists in the spaces between experienced researchers and research managers/principal investigators. Capacity building debates have tended to focus on providing beginning researchers with research skills, we would suggest that attention also needs to be paid to mid career researchers who are looking to progress to more senior roles. The TLRP researcher survey sample had, on average, 7 years’ experience of working in research in Education but Figure 2 shows how the majority of this population felt the TLRP had contributed to their professional development. The focus of this paper is to explore in what ways their involvement with the TLRP has benefitted them professionally and how it might be built upon.

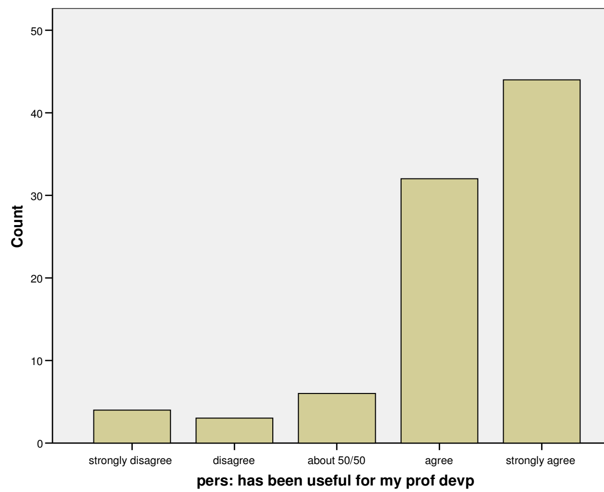

Figure 2: ‘Involvement with the TLRP has been useful for my professional development’ (TLRP researcher survey question Eb) (n=92)

5. Evaluation of TLRP Capacity Building Structures

The TLRP set up a variety of capacity building structures that were accessible for all researchers on TLRP research projects. These included a Research Capacity Building Network (RCBN) to facilitate research capacity building activities with TLRP researchers, substantial on-line and text-based resources to facilitate the development of research capacity, and conferences for TLRP research projects. In interview, one researcher praised the Programme as a whole: “*I think that I got as much as I possibly could have got out of it... I think it was very well run, very well set up, and very well resourced”.* Overall, researchers found TLRP to be an accessible organisation which provided a wide range of opportunities: even where people had been unable to, or had chosen not to, engage with the activities, there was a strong sense that having the opportunities there was a good thing. Researchers appreciated feeling valued by the Programme: one respondent observed: *“My research has been recognised and valued by the TLRP”* (Survey response E1k); and Figure 3 shows that the majority of researchers either agreed or strongly agreed that the TLRP valued their work. This contrasts with the lack of value that many researchers felt their host institution attached to their research, as will be discussed below.

The provision of long term project funding (on average 3 years) was valued by researchers, particularly those researchers with experience of working on much shorter research projects:

> “*I do feel that I learnt a lot through being part of TLRP and I wouldn’t have missed it for anything. It’s important that a research career offers spaces for people to actually grow by doing something for a prolonged period of time rather than feverishly generating proposals for £15k at a time and trying to cobble together work [...] through all the trials and tribulations of quite a stormy project, there was lots of healthy debate within the team. There was this sort of blanket comfort that you were secure for 3 years.”*

Another experienced researcher felt that the longer period of funding meant that she felt more valued within the project and that she had more ownership of the project:

> “*It’s important for me to have a project that’s as long as possible so that you can get those developmental aspects in. [...] You feel more ownership of it, you feel that your ideas are more noted – they might not be acted on but they are listened to and it makes it feel like it is more of a democratic process, as well, you feel a little bit heard. And I don’t think that is always the case.”*

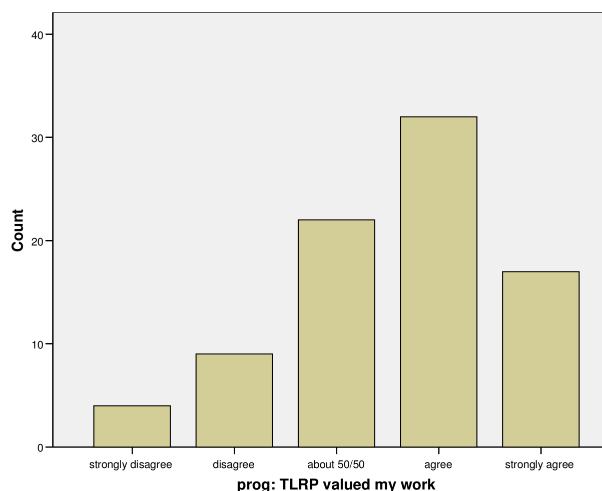

Figure 3: My research work has been recognised and valued by the TLRP (TLRP researcher survey question Ek) (n=92)

TLRP Conference

The TLRP conferences were evaluated extremely positively and emerged from the data as a huge strength of the TLRP programme. For some researchers, attending these conferences stood out as one of the best experiences of their research careers. Two fairly detailed anecdotes are included here as examples of the kind of impact that attending the conference had upon different people.

The first description of the conference comes from a career researcher interviewee in her early 30s who had moved into Educational research from another area of Social Sciences research. She reflected at length on the impact that attending the TLRP conference had had upon her identity as a researcher and her sense of association with the TLRP. She felt that the conference was one of the best events she has been involved in across her research career:

> *"It was fantastic! I got there on my own and I walked into the conference room, thinking 'what am I going to do here for two days? I'm not going to know anybody.' And the first person I met was from [her host institution] and she's involved in the project, and she brought me over and introduced me to a lot of people, to a lot of researchers, and to a lot of other Directors of the projects in the Programme – so I got to meet them. I met Andrew Pollard and he's lovely – he welcomed me. I was made to feel so welcome [....] The presentations were very good and the talks were excellent. So I came away from that conference really positive – maybe if I hadn't had that then I wouldn't have such a positive view about the whole experience".*

Through this conference she felt supported and included not just by people on her project and from her own host institution, but by being part of a large network of researchers across the UK.

The second example is taken from a conversation with a practitioner-researcher. This researcher had previously been involved in a variety of research projects but she had not previously had the opportunity to attend this kind of event.

> *"That was fantastic! I really, really enjoyed that... I was in with, how shall I word this? People that I wanted to be my peers, in a way. It was - everybody was singing from the same song sheet, although we were all doing different projects [....] I just felt that there was so much knowledge and potential just in that conference that it really did buoy me up and make me think 'this is what I want to be doing!'"*

This interviewee spoke with evident awe about being introduced to academics whose work she teaches and "*whose names you know from the spines of books"*. She regretted not having been able to attend more papers during the course of the conference: because of her project she was limited to attending things within one strand of the TLRP. However, although she had not been able to attend all of the sessions with people whose work she admired, she had had the opportunity to talk with them during social spaces at the conference, for examples she recounted conversing with people at breakfast. She linked the value of attending this conference to both her lecturing and her personal experience: interestingly, she did not talk about the value that the conference provided for her work on the research project. The value of the social spaces at the conference were also identified by some project directors as examples of

networking which were most valuable to the success of their projects: "*Informal conversations with academic colleagues at TLRP annual conferences, leading to changes in research direction and the preparation of collaborative research bids".*

Respondents to this research project were drawn from diverse fields of experience and had significantly different perspectives on research, but all comments addressed how the TLRP conferences were inclusive and welcoming. One researcher, who has only recently moved into Educational research from the area of Arts and Humanities, contrasted how she felt very welcomed within TLRP events but hasn't felt that she easily "slots in" to other non-TLRP Educational research events. TLRP's generation of a sense of community within the field of Educational research should not be underestimated: even the oldest and most experienced researcher in our cohort, who had worked most of her career within Education and Educational research, felt that the research provided her with the opportunity to meet with a cohort of researchers she would not, and had not, otherwise have engaged with. In their mid-term review of TLRP, Rickinson et al (2005:32) recognise that "one of the greatest achievements of the Programme was said to be the success of bringing together a large number of researchers from different disciplinary and methodological backgrounds to engage in conversation and to exchange ideas." The legacy of this sense of community is ongoing: 61% (n=56) of TLRP researchers felt an affinity with other TLRP researchers.

Research Capacity Building Network

The Research Capacity Building Network (RCBN) was informed by concerns over the perceived lack of quality within the field (Taylor, 2002: 5), and the RCBN's development of a series of discrete formal provision of skills training related to stakeholders' concerns that "underlying all the possible causes of poor research, or at least the constraints preventing higher quality research, was the belief that research training and understanding, of lack of, played an important role." (2002: 9) Provision was based upon normative perceptions of the skills needed within the field of Educational research, but in relation to evaluations of the RCBN, there is evidence that the programme was more successful at deepening an existing skillsbase than it was at broadening researchers' skills bases (Rees et al, 2007).

The RCBN programme ended in 2005, and not all researchers included in our sample had engaged with the RCBN. Several interviewees voiced a sense of disappointment that the RCBN had ceased delivering courses midway through their projects. Overall, few researchers referred directly to the RCBN, although the majority of researchers agreed that they had been given some encouragement to gain a broad training in research methods through their involvement with the TLRP[1]. A minority of researchers referred to the RCBN within their open-ended survey responses. One respondent commented on the "*excellent training opportunities offered by RCBN during the first two years*", and the diversity of provision was illustrated by another interviewee when she reflected upon her engagement with the RCBN. This young female researcher had attended a range of courses: a course on project management which had directly influenced her work on her project; a course on surveys which "*was ok. It wasn't what I thought it was going to be but, again, it was good for the networking";* and an "*excellent"* course on qualitative data. As with many respondents, she valued the range of courses which were available and felt able to select what she would attend, primarily based on the needs of the project, although she had also seen the survey course to be valuable to her own professional development.

In relation to their development of research skills, the RCBN was identified as a key influence by 3 respondents. The RCBN was not identified by any respondent in relation to shifts in their theoretical or substantive understanding of Educational research: in these sections people tended to focus more upon the practices of being involved with a research project (this will be explored in more detail later in section 8). Project directors emphasised the importance of research skills-building within project's capacity building. Within the survey, senior academics linked capacity building to '*developing of research skills'* and *'developing skills in the collection and analysis of a wider variety of research data and thus being in a better position to address a wider variety of research problems.'* Another senior academic linked capacity building to '*career development through broadening and deepening skills base'*. However, these same respondents assumed that in a 'good' project these research skills would be best developed through daily working practices, not discrete off-the-job training. This is discussed in more detail in Section 6.

There were several researcher interviewees who provided constructive criticism of the RCBN, particularly in relation to the range of training opportunities available. Underlying RCBN was the assumption that there is a linear accumulation

[1] See Appendix 3: researchers were asked to rate how satisfied they were with the encouragement provided to them to engage with a broad training in research methods. The mean response was 3.74.

of research skills across a research career. Because many researchers had previously had careers in practice or policy, it was assumed that they had relatively less research experience and therefore lacked the capacities to understand and go on to use sophisticated or advanced research methods (Taylor, 2002). However, most researchers interviewed for this research rejected the notion that they were ‘early career’ or ‘beginning’ researchers. This was supported by demographic evidence from the survey which showed that, on average, the researchers who had been involved with TLRP projects had 7 years’ research experience prior to working on the project. One very experienced researcher commented in interview that she felt that the TLRP’s capacity building activities would have benefitted from being more responsive to the backgrounds, experiences, and existing expertise amongst their research staff. This could have been achieved through providing a range of stimulating professional development opportunities for staff at all points in their career: “*I don’t want to waste my development time on something that wasn’t interesting... Please don’t patronise us”.* This recommendation for a broader range of courses, rather than a focus on research skills, was echoed by other researchers. For example, one younger and less experienced researcher, linked her interest in capacity building to her own ambitions to move towards more senior academic positions: “*Ideally, if I could do it all, I would like to go through the standard academic steps and go to senior lecturer and then to, maybe – long term, very long term – some kind of chair, I guess”. S*he felt that “*in terms of the future, I now need to go and write a bid with me as the lead, and I’m kind of hesitant to do that because I’ve seen this work that goes into it”*. She specifically felt that she would benefit from courses on project management and, implicitly, she seemed to feel that she would benefit from courses on writing bids and running her own projects. This fits with the earlier researcher’s suggestion that professional development opportunities shouldn’t target only beginning researchers.

Some researchers commented on a perceived lack of connection between the courses and their overall professional development: they did not feel that the course content was contextualised within their work and it was not always relevant to their state of career development. However, even when the content of the course wasn’t seen to be of great value, other benefits were associated with attending RCBN events. One practitioner-researcher interviewee talked about the very positive impact that a formal training course had had upon her confidence. In reflection, she now realises that prior to the course “*I actually had a lot of the skills that I needed for it, I just didn’t have the confidence that I needed for it”.* The course facilitated reflection upon what she already could do and she received detailed feedback at the time of the courses: *“in a way it was validating what I could actually already do, but also giving me a bit more information”.*

The strengths of the RCBN need to be seen within the context of an overall strategy for capacity building: they were not a stand-alone provision for capacity building, but provided a resource for skills-building and networking which coexisted alongside other capacity building provision provided by TLRP and within TLRP projects. Skills-based formal training contributes an overall development of research capacity and may be a necessary part of this for some researchers, however by itself it was seen by the majority of respondents as representing an impoverished model of research capacity which needs to be accompanied by other forms of provision.

TLRP on-line resources

The Programme has an established website (http://www.tlrp.org) which provides information on the work of the programme, publications, news and events within Educational research (both TLRP-related and those beyond the Programme), access points to other resources linking to Educational research, social science, and a Dspace digital repository of all publications produced by each of the projects within the programme. The TLRP has developed a range of on-line resources available for both practitioners and researchers. These include practitioner applications which are materials developed from TLRP research insights for use in practical classroom settings, and a teacher education bibliography to assist early career researchers and research students in the field of education research. Since early 2007, resources have also been developed that have focused on capacity building of researchers. These resources are a collection of accounts, written by experienced educational researchers and scholars, describing the methodological resources they have found important and helpful in their work together with examples of the ways they have used them.

This research suggests that TLRP’s provision of on-line resources is currently underutilised by researchers. Those researchers who do make use of the resources highly value them and are keen to encourage others to make use of these. For example, a part-time contract researcher explained:

"*I have introduced D Space to a lot of the staff here because I think that it is a fantastic resource for journal articles, things that you might not otherwise find by using research or other methods of searching for journal articles. D space is fantastic! I would use the TLRP website for information in terms of having feedback – so I would have guidance on that, you know the formats of things, what other people have done – things like that."*

This researcher felt that her identity fitted well with the field of educational research. While valuing the resources, this researcher spoke about the need for accessing resources and collaborating with other projects to be part of one's everyday workload: "*If it's integrated within your work then you'll do it: if it's something that's seen as an added thing then you're not going to do it. Or it's going to be difficult to find the time".*

The difficulty of finding time to access on-line resources was repeated by another researcher who reflected that her neglect of these resources linked to her own workload and prioritisation of tasks,

"*Partly because I forget about them – when I'm talking to someone like yourself it's all real and active again, and then by the time I get back there'll be a list of emails to do and a student sitting waiting for me and it won't be at the forefront of my mind, It's no longer part of my active world. And then when I remember about it, it will be on the train home or somewhere where I can't do it straight away. [...] I tend to work on what is more immediately needed for my job rather than this sort of opportunity to be able to explore things for general interest which* might *relate into my job. So my job takes priority".*

Following the interview, we encouraged this researcher to visit the TLRP website and explore what uses the resource might have for her own work. She responded by email: "*I did check the TLRP website but it didn't keep my attention for too long, I'm afraid. I'm confident all the information is there but I didn't take the time to search more effectively. It'll remain on my 'to do' list!"* To improve the research capacity building potential of the on-line resources, it might be advisable for projects to ring-fence time for researchers to visit and explore these resources. It might also be advisable for research projects to encourage their research staff to make sure of on-line facilities: researchers felt least encouraged by their projects to contribute to on-line fora[2].

Not all researchers felt that these resources were accessible or relevant. In interview, one practitioner researcher talked about how the on-line TLRP resources were not particularly accessible to her and another researcher voiced reluctance to engage with on-line learning as she preferred accessing information through face-to-face communication. As with the RCBN, the on-line resources are not a stand-alone aspect of capacity building but an element of an overall strategy to promote capacity building amongst research staff. We will suggest, later in this paper, that the role of key people in encouraging and facilitating access to these resources is critical.

The TLRP project directors were also asked what they thought the value of various TLRP and ESRC web sites had been to the capacity building of their research teams. Overall 74.1% thought the TLRP publications site had been important or very important and the 63.4% thought the TLRP website had been important or very important. These sites were followed by the ESRC, the research methods resources and the RCBN website see figure 4. The programme's Dspace digital repository containing all the TLRP's project publications was valued the most for capacity building of research teams showing that publications are still seen to have the most value in the research world.

[2] Researchers were asked to rate how satisfied they were with the encouragement provided to them to contribute to on-line fora. Responses were given on a 5 point scale, where 5=very satisfied, 0=strongly dissatisfied, and 3=about 50/50. The mean response was 3.18.

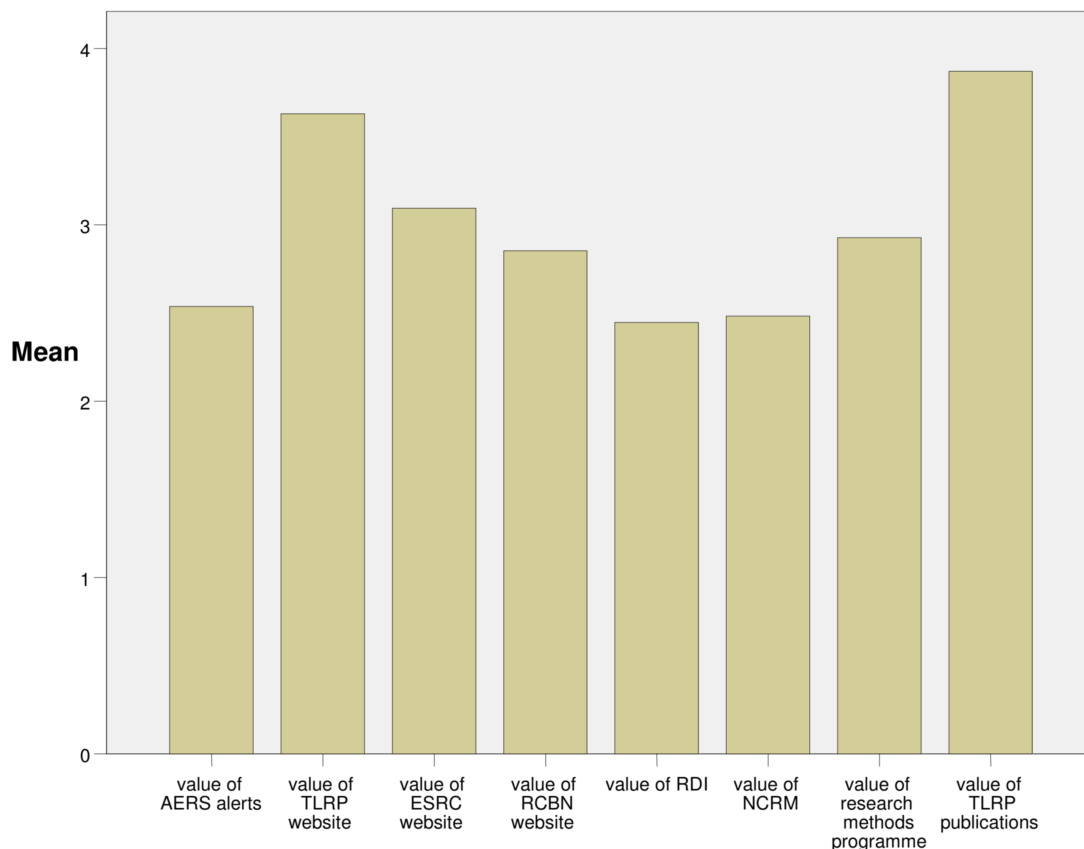

Figure 4: Mean scores from project directors for the value of various websites to the capacity building of TLRP research teams

6. Evaluation of TLRP Projects' Capacity Building Activities

All TLRP projects were expected to detail the capacity building opportunities that had been provided to their research staff in the pro forma that they completed annually and at the end of the project. Generally researchers were positive about their experiences of working on TLRP associated research projects (see Appendix 3), although not all research teams operated in the same way. Different research teams were based around different team structures, different organisational structures, and different working practices.

Interviewees who most valued their research projects touched on most of the elements of an 'expansive' workplace in their description of the project and its working practices. For example, one interviewee had a long history of contract research posts in Educational research but felt that her TLRP project far exceeded the experiences she had had on other research projects. She is enthusiastic about research work: "*I've loved that variety and the skills that you pick up along the way".* Principal investigators on these research projects have been key influences upon her career and she considers that the TLRP project has had the greatest influence amongst these. Within the survey, this interviewee had commented:

> A *very supportive and collaborative PI and other research colleagues made this project one of the best experiences of my research career to date. I felt valued throughout the project and the cooperative and collaborative approach of the research team was invaluable both emotionally and professionally. This was a very democratic project which was the most collaborative of my research career. I enjoyed tremendous support from the PI and the rest of the project team and my fellow researchers in particular. The project enhanced my research skills considerably.*

In interview, she talked about learning a great deal from both the PI and the project director, particularly in relation to project management. The project was non-hierarchical and the interviewee particularly valued the "democratic nature" of the project which provided many learning opportunities and chances to share expertise through regular fortnightly

meetings. Because she felt valued within the research team, she felt that she had the autonomy to decide which capacity building events to attend.

This case study fits closely with many of the aspects of an expansive workplace (Evans et al, 2006): the research team fostered "an expansive view of expertise [which] entails the creation of environments which allow for substantial horizontal, cross-boundary activity, dialogue and problem solving" (Fuller and Unwin, 2004: 136), knowledge was shared and mutually created, and the researcher's participation within the project meant that she felt that she could elect to participate in multiple communities of practice through accessing a range of training opportunities. The researcher related the democratic nature of her research team directly to the influence of the TLRP: "*I don't feel divorced from the funder at all, and the funder has a facilitating touch".* Evan et al's expansive-restrictive workplace continuum (see, Evans et al, 2006: 34) informed the development of the survey tool, with particular reference to Section B of the survey which explored project working practices. In turn the survey responses allowed us to reflect, refine, and build upon the restrictive-expansive workplace continuum within the context of Educational research projects, see figure 5. Our intention was to elicit examples of good practice from the survey and interview data.. Each of the categories in the expansive column were identified by researchers as central to their positive experiences of capacity building, and each will be discussed below.

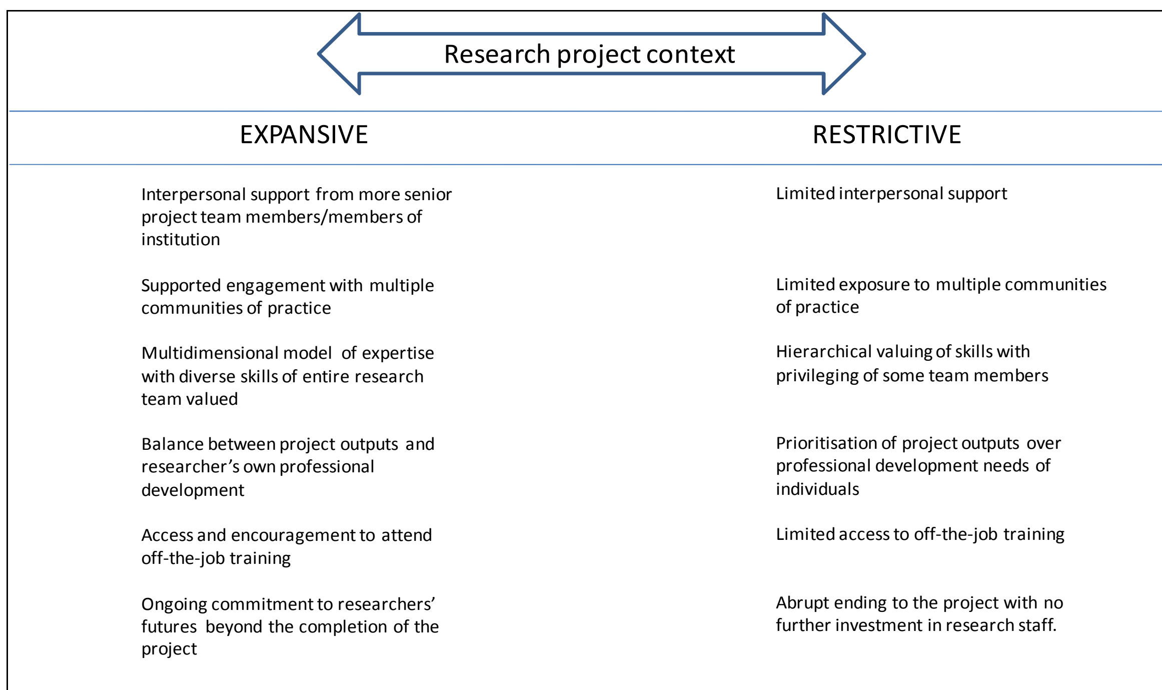

Figure 5: Expansive-restrictive continuum of research project working practices

6a) Interpersonal support

Interpersonal support from members within the project team and/or institution facilitated opportunities to engage with capacity building structures. These relationships also provided researchers with career guidance, professional development advice, and personal support.

A recurring theme across the researcher dataset, in relation to both positive and negative evaluations, was the role of key people within the team and their interactions with the researcher.

Capacity building could be successfully facilitated by the role of a key person providing face-to-face support and guidance. The importance of this role will be explored in more detail in section 8 on the role of the catalyst, but a few examples from the data demonstrate its recurrence as a theme across the dataset. The previous section provided a case study of a researcher who felt that she had received exemplary interpersonal support from her PI, and that this had contributed to her sense that the project was one of the best experiences of her research career. In contrast, the following case studies demonstrate how the absence or loss of support from key individuals can detract from the capacity building of the researcher. One practitioner researcher had previously worked on several research projects,

but at the time of our conversation lacked confidence in the extent of her own research skills. At the start of her research project, she had been allocated a research champion within her institution who had acted as a gatekeeper into the institutional research base and the research sites outside of the practitioner researcher's own organisation. However, early within the project this "research champion" moved to a different institution, and the interviewee felt that this had had a detrimental effect upon her own research career: she no longer had the opportunity to access training opportunities and the visibility of her research within her own institution was reduced.

Another career researcher became increasingly angry during the course of the interview in relation to her experiences of working with the project PI. This PI had been hierarchical and dictatorial in management style: the interviewee repeatedly qualified that she personally liked him, but found him inflexible and rule-bound to work with. At the end of our conversation, this interviewee explained: "*the reason why I applied for this job* [her current position outside of Educational research] *actually, and the only reason that I saw the advert, was because I was so angry about the way that I was being treated that I looked for another job."* In this instance, the final straw was the realisation that the PI had no long term interest in her future after a period during which the interviewee had become aware that she had lost any autonomy within the project, that she was being told what to do and what to write, and that the project had no interest in the substantive and methodological avenues that she wanted to pursue. Both the practitioner researcher and career researcher of these two case studies are no longer working within Educational research, although both said that had circumstances been different they would have been interested in pursuing this career.

The importance of interpersonal support is later returned to in section 9, on the importance of catalysts. Key people act as catalysts upon researcher's capacity building: within this dataset, interpersonal support from key individuals has enhanced the possible value that the capacity building structures of the TLRP.

6b) Engagement with multiple communities of practice

Researchers valued opportunities to engage with multiple communities of practice, and this harmonised with project directors' discussions of the value of this engagement. Through their involvement with the TLRP, many researchers felt part of a wider community of Educational researchers: they felt "*part of a bigger thing"* (survey response B2) and related this to their developing identity as a researcher:

> *"I have developed as a researcher on the project but also enjoyed the networking and social opportunities through TLRP that provide a great support and give huge credibility to the research and to developing as a researcher"* (Survey response B2).

While the processes of engaging with multiple communities was seen by some to be "very hard work", it was valued by many:

> *I have had the great fortune of working with some of the leading researchers in the field, have made new contacts and carried out some inter project work. So I have learnt from more experienced colleagues on other TLRP projects*". (Survey response B2)

Events such as TLRP conferences, RCBN courses, Thematic Seminar Series and thematic groups provided opportunities for researchers to engage with multiple communities within the TLRP, and the availability of funding to attend national and international conferences and wider training events also promoted engagement with multiple communities of practice beyond the projects. Figure 6 shows how the majority of researchers felt that their involvement with the TLRP had provided them with access to a network of researchers who they would not otherwise encountered, despite the fact that on average these researchers had been active in this field for seven years.

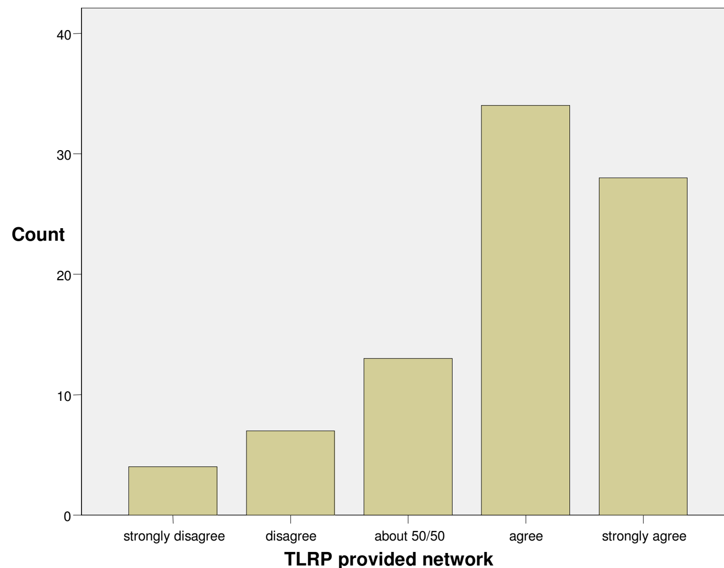

Figure 6: Being involved with the TLRP has provided me with access to a network of researchers who I would not otherwise have encountered (TLRP Researcher Survey question Ej) (n=92)

The value that researchers attached to networking evidences the value of engagement with inter-institutional, inter-project communities as a key element of capacity building. We would argue that alongside skills-building, another important aspect of capacity building is feeling part of a community or network. Rees et al (2007: 765) identify opportunities to interact "with professional colleagues both within and outside of the workplace" as one of the most important aspects of capacity building. This is also recognised as an important aspect by researchers on TLRP projects: 60% of the respondents felt an affinity with other TLRP researchers and this affinity was described in relation to three key attributes:

(1) A shared affinity of social values. This was articulated in relation to the value of opportunities to meet other researchers who were working in similar jobs and who shared similar commitments to and passions for Educational research. This linked to earlier demographic observations on similarities existing across the field more in relation to political and ideological commitments, rather than in terms of backgrounds and career paths. Researchers valued the opportunity to interact with 'like-minded' people.

(2) An intellectual affinity. For many researchers, being part of the TLRP provided them with access to larger groups which could provide the opportunity to gain knowledge and insight into current research and to develop a network which would act as a professional resource. This resource, based on association and meetings through TLRP events, was anticipated to have longer-term benefits beyond the end of individual projects. This emerging affinity linked to some project directors' aims of helping to create "*a critical research culture*", or "*a growth in the collective capacity of the research community."*

(3) A pragmatic affinity. Researchers valued being part of a community of people who faced similar working conditions and potential pitfalls, and who face similar challenges in the future. Researchers cited instances of reflecting upon their career, or engaging with their institution over fixed term contracts as outcomes from this 'affinity'. The major problem for many researchers, which had direct implications for their level of commitment to the field and their professional development, related to working conditions for contract and early career researchers. The development of a pragmatic affinity with other researchers enabled some researchers to engage more effectively with the shortcomings of their employment status.

Generally researchers felt included within the broader TLRP community, and valued their participation in this for the reasons given above. Perceptions of inclusion within HE institutions were more varied with some researchers feeling part of a community within their institution or department, while others felt that they lacked institutional visibility: one researcher was not even given a pigeon hole for mail and office staff remained distant: "*It was difficult: you couldn't really feel full staff membership in that setting."* This researcher felt neither valued by nor visible within the instiution. When the project came to an end she received no support in relation to finding new contracts: "*I would have liked to have been asked".*

Engagement with multiple communities of practice was valued by both research staff and project directors. The sustainability of these networks post-TLRP might be an area worthy of future research and some researchers felt that their access to these communities was not sustained beyond their project. For example, only 15% of the overall population of TLRP researchers attended the 2007 BERA conference.

6c) Multidimensional model of expertise

Some of the TLRP research projects operated around a flattened inclusive management structure, which generated a perceived equity of value across the team, creating the sense that each person's contribution to the research process had been valued. Researchers who had been involved in this kind of a structure frequently spoke highly about their experiences, valuing the perception of collaboration and cooperation across their research teams, and linking this to their own professional development as a researcher. 80% of project directors thought that it was very important to a 'good' research project that research staff feel that their contributions are valued. Researchers who had worked within more rigidly hierarchical teams often considered themselves to have been poorly managed. Some researchers spoke of doing the "*donkey work*", being at the "*bottom of the work hierarchy*", feeling marginalised and having a lack of status within the project team. Within some projects this contributed to a perceived two tier project structure, encapsulated, perhaps, by Reay's (2000) metaphor of senior academics doing the "head work" while more junior colleagues did the "leg work". This polarisation might have a very negative impact upon researchers' capacity building. One researcher described how her project had separate meetings for project directors, followed by whole team meetings. She felt that this meant she was exposed to only a limited perspective of what was happening within the project. In turn, this would limit her experiences of project management. Rather than a gradual progression towards taking on more senior academic positions, this suggests a rift emerging between researchers and more senior colleagues in the field. This could be described as two communities of practice coexisting within the research team with little space for the researchers to participate with the more senior academics.

The following case study details some of the consequences of a particularly hierarchical team. This interviewee entered educational research following a long and relatively senior career, within Further Education. She was passionate about the possibilities of Educational research:

> "*I was very strongly committed to the idea that research should be part of the professional practice of teachers in Further Education: it ties in with arguments about professionalism. I thought that teachers in FE should be able to do it, should have control of it, and that in the long run the only way you really get any improvements in what goes on in practice is through people who are willing to undertake those practices."*

The researcher was disappointed that neither research project team members nor members of her FE institution seemed to be committed to these beliefs. It is relevant that in interview this person struggled to identify any people who might have provided a key influence on her career: when I asked this question she paused for a significant amount of time before, reluctantly it seemed, identifying her PhD supervisor because he was "incredibly conscientious". The interviewee then went on to explain that individuals have not been particularly formative in the development of her identity as a researcher, identifying instead key experiences and communities of practice. Describing the research project, this interviewee was critical of her project's pedagogic approach, which was "pretty primitive", and towards the end of the interview she reflected that had the project director been more interested in the interviewee's professional development she would have attended more workshops, courses and events provided by the TLRP.

The research team's working practices and the lack of opportunity for professional development of more junior researchers was linked to the working practices and "machismo" of the host institution: "*The research culture here is quite atomised – maybe atomised isn't quite the right word – it's quite dispersed. [...] When you get a lot of professors together, all with their own territories to defend, it tends to crowd out many other discourses".* The hierarchies in place within both the research team and the institution, the lack of opportunities for reflective discourse within team meetings, and the lack of commitment to the professional development of research staff were all significant factors within this interviewee's critique of her research project. The outcomes are twofold: on the one hand, the researcher regrets that she did not have many opportunities to build research capacity through her involvement in the TLRP research project; on the other hand, she has realised that she needs to conform to this world: "*I wouldn't say that I've bought into the values of Educational Research, but I have come to terms with them and I have accepted them."* She does not anticipate a long future career in Educational Research.

We triangulated this researcher's survey responses, interview transcript, and the co-authorship networking diagram from the project outputs and we were struck by how the researcher's perception of an 'atomised' culture was visually represented by the project's publications. As is discussed in detail in Appendix 1, project publications and outputs were stored on TLRP's D Space. This data was queried so that the list of papers and authors for any project could be found, and this information was then used to construct a co-authorship network for that project. This researcher's project is depicted in Figure 7. The red circles represent the members of a research project team; the larger red circles indicate the more connected members of the team and the smaller red circles represent the less connected members. SA is used to denote directors and PIs, R for the researchers, and OA is used for authors who were not members of the project. The blue boxes are publications that have arisen from the project. The lines radiating from each publication link to each author named on the publication. This project (figure 7) shows that the constellations of co-authorships are limited to working relationships between individual senior academics and the researchers working closely with them: this is suggestive of the project team being formed of distinct 'tribes' (Becher and Trowler, 2001).

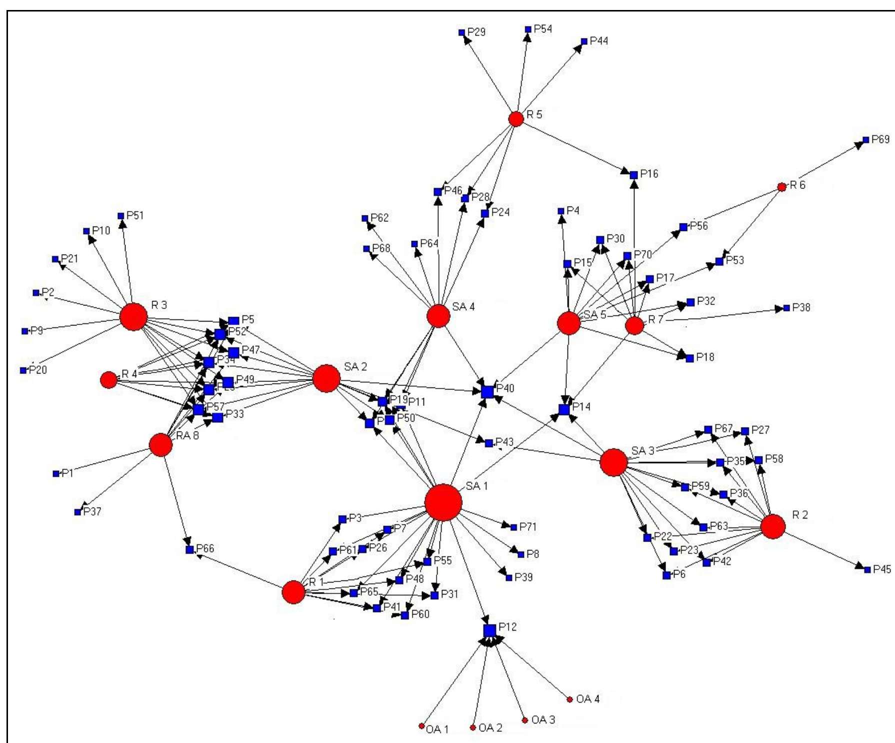

Figure 7: Co-authorship network diagram for project with atomised publications policy

Other diagrams, some of which are included later in this paper, show much greater levels of collaboration across the entire research team, this diagram hints at a lack of collaboration across the team. While this is not to question the value of the project outputs, it suggests that fewer opportunities existed for the individual researchers to develop their capacity than would have been possible in a more inclusive team. Researchers welcomed the opportunities to access expertise from across their research team; this limited association of researchers to one or two team members suggests a more restricted experience. Projects which supported multidimensional models of expertise were valued by many researchers, and criticisms were made about projects which had rigid hierarchies. This was seen to restrict researcher's opportunities to engage fully with their research project.

6d) Balance between project outputs and researcher professional development

The need for a balance between the outputs from the research project and the individual's longer term professional development was returned to repeatedly across the researcher dataset. Annual reports also highlighted a potential tension between project outputs and individual researchers' capacity. This is illustrated, for example, in the following quote from a research project: "A number of the researchers have been involved from the very early stages of the project and attended a variety of events at the beginning. Consequently, there is less need for them to attend generic training events, but they are made aware of and encouraged to participate in local and national training events that are more focused." Here the wording suggests that training has been focused upon the needs of the project, and this was the case for several projects. This might be a consequence of the pro forma where research capacity building has,

perhaps, been understood in relation to ensuring high quality outputs from the project in terms of project findings, rather than in terms of outputs relating to researchers' longer term professional development.

Following the Concordat on Contract Research Staff Career Management (1996) BERA published a charter detailing good practice in the employment of contract researchers (Freedman, 2001). This charter focuses extensively upon the actual nature of the contract and working conditions of the research and the implications that this has for the field of Educational research. They highlight project teams' responsibilities towards the professional development of the research staff – 'research contracts should make explicit that what is being financially supported is not only the research output but also the fostering and development of high quality transferable research skills.' The BERA charter also recommends that research staff should receive 1/5 of their time for staff development activities relating to their own professional development. This was the case for a small number of TLRP researchers, but in conversation many researchers did not perceive this to be a viable option.

The tension between meeting projects' research outputs and progressing individuals' professional development is illustrated particularly well by case studies relating to project's publication strategies. This issue recurred across the researcher sample, both through open-ended sections of the survey and within interview conversations. It was not a recurring issue in relation to the project directors' survey. Some researchers spoke very positively about their project's publications strategy, others were more critical. Not all projects have explicit publications strategies. Researchers welcomed publications strategies which encouraged collaborative writing and which provided opportunities for researchers to be included in the list of authors[3]. These strategies enabled researchers to benefit from the collaborative processes of co-authoring publications as a capacity building activity in its own right. However, there was also a recognition that researchers needed to generate sole-authored publications as a means of enhancing their future employability: that is, in particular, to become eligible for future entry into the Research Assessment Exercise (RAE). Therefore, publications represent an example of practical capacity building, in relation to the project's collaborative working practices, and symbolic capacity building, in terms of building a publications 'capital' which would have value in relation to future employment opportunities. Some researchers also wanted to specialise within an area related to the project and to develop their own papers in relation to this, but recognised that this might be beyond the focus of the research project.

Symbolically, some interviewees commented that a publications strategy which put all researchers' names onto the papers emerging from the project was seen as a means of visibly demonstrating the value of "doing the research" as well as writing the outputs. This was particularly pertinent in relation to two respondents who had taken, or were about to take, periods of maternity leave from a project at the time that outputs were being written. One respondent benefitted from her project's publication strategy: although she was on leave, her name was included on all publications. The other respondent expressed frustration and concern that her involvement in the research was about to be rendered invisible as she would be absent from the project at the point of writing up findings.

One interviewee concentrated upon her frustrations with her project's publications strategy. This had been agreed at the start of the project by the project directors, but this researcher felt that the decision to involve all team members' names on all project outputs prevented her from developing her own visibility and reduced her opportunity of future employment. This researcher was keen to develop expertise on a certain area linked to the project findings, and she wanted the chance to sole author papers linking to this: while she wanted to draw on project data, she was willing to write these papers within her own time. She felt that the rigid publications strategy prevented her from doing this. She had had discussions with the project director and felt that she had been forbidden from developing her own research identity alongside the project. Figure 8 shows the co-authorship networking of this project and the diagram is suggestive of a very constrained publications policy. Symbolically, the listing of all authors on all publications meant that all team members became identical in relation to project outputs: no space is available for individual researchers or smaller subgroups of colleagues to visibly develop their own expertise or specialism. We have described this adherence to a publications policy as 'restrictive' as it seems to restrict all researchers to the shared outputs of the project and does not allow them the freedom to publish beyond this. A further possible consequence of this type of publications strategy is the assumption that all researchers' contributions are equivalent, several researchers were critical of the lack of meritocracy in naming all contributors as authors on a paper when the level of contribution could vary significantly.

[3] The TLRP researcher population gave a mean satisfaction rating of 4.18 (where 0=very dissatisfied and 5=very satisfied) to the question 'How satisfied were you with the encouragement provided to you from your TLRP project to undertake participation in the writing of academic papers'.

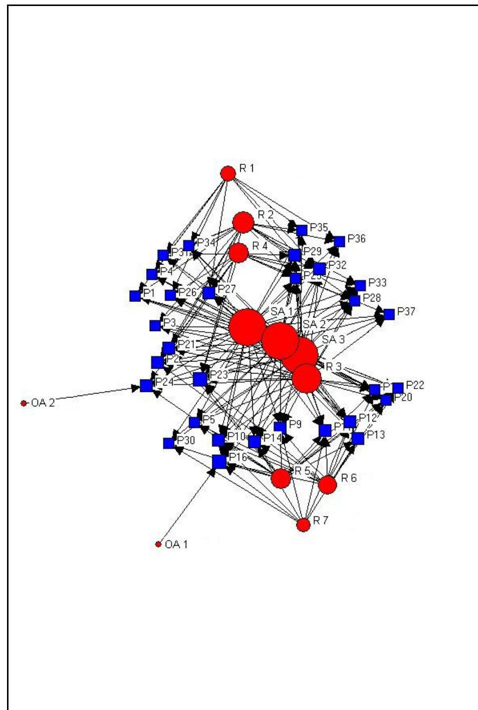

Figure 8: Co-authorship network diagram for project with restrictive publications policy

Figure 8 presents a project within which the publications strategy appears to restrict the potential for individual researchers to develop their own autonomy. Figure 7 presents a project which suggests a polarisation across the research team, and a lack of networking between senior academics, with consequences for the capacity building of individual researchers. Neither project seems to be ideal, although both might be seen to also have good points. Figure 7 enables researchers to develop their own publications profiles, Figure 8 suggests that the research team worked collaboratively and shared expertise. Figure 9 can be seen, perhaps, to merge the best qualities of both of these. In this project, certain central project outputs were written collaboratively across the whole research team and were published using all team members' names. Alongside this, opportunities were provided for researchers to develop their own specialisms and to publish papers relating to these in their own names. In her interview, one researcher from this project spoke very positively about the capacity building opportunities this approach provided her. We refer to this policy as an 'expansive' publications strategy, as it acknowledges the contribution of all team members on central outputs, but also enables researchers to expand beyond this central dissemination to develop their own publications profile in relation to the project's outputs.

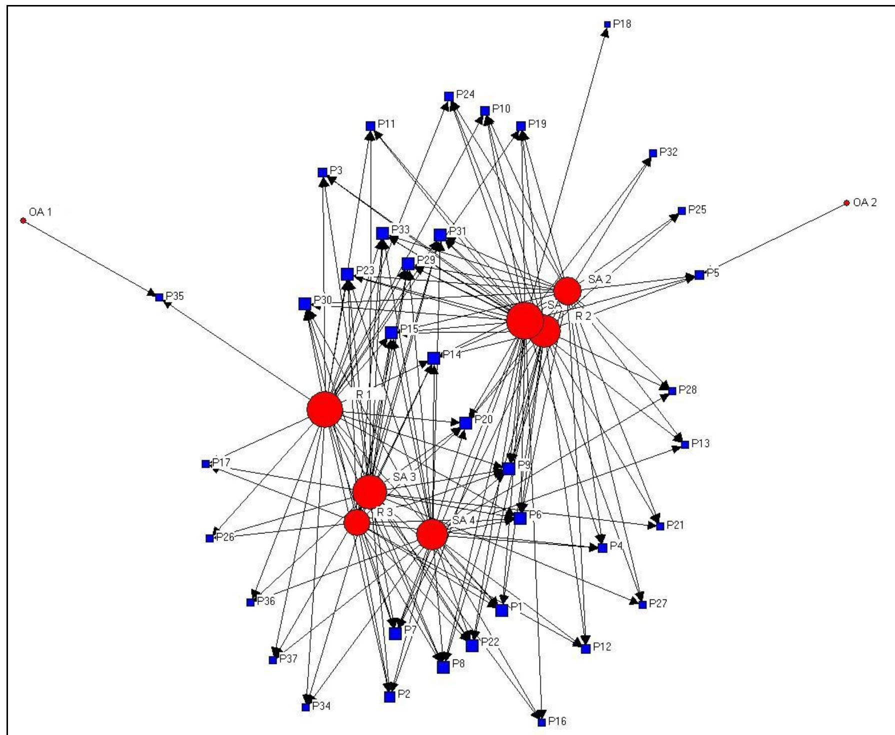

Figure 9: Co-authorship network diagram for project with expansive publications policy

6e) Access and encouragement to attend off-the-job training

The TLRP provided off-the-job training through the RCBN. Across the TLRP researcher sample, some researchers also had opportunities to attend training within their institutions, through the ESRC, and through bespoke courses bought by their projects. One of the key factors in researchers' engagement with these opportunities was the promotion of these opportunities to the researcher by more senior team members. While some project directors supported capacity building of their research staff through the use of both on-the-job and off-the-job training, this was not always the case. One experienced researcher began her interview conversation by reflecting that she felt quite happy about the level of professional development she had accessed through her TLRP project, but as she scrutinised this more closely she realised that this had actually been quite constrained, both through the project demands upon her time and by the lack of prioritisation of her training by other team members. She felt that a more junior researcher's professional development was prioritised over her own opportunities: "*I wanted* [the other researcher] *to have all the professional development opportunities but, if I am being honest, I would have liked some too."* Although she heard about available opportunities, these were never encouraged by the senior members of her project team due to concerns over funding and workload: *"I did feel slightly negative about that."* She perceived wider consequences in not attending courses within her host institution: she did not have the opportunity to become part of these networks, and this disadvantaged her when it came to her looking for a new job. Because she had not attended many courses, she was not able to increase her visibility in the field. "*I could possibly have been more assertive about getting myself onto staff development."* She thinks that maybe there should have been a greater allowance of staff development time for her in the project.

Appendix 3 shows that researchers placed a similar level of satisfaction with the different working practices of their project. There were moderate correlations between all the variables and exploratory factor analysis revealed no distinct underlying explanatory dimensions. Researchers were broadly satisfied with their opportunities to engage with academic activities beyond the immediate needs of their project[4] and researchers identified RCBN and other training courses as key factors which had impacted upon their perceived improvements in research skills. Project directors were asked to grade a similar range of working practices in relation to their importance to a 'well-managed research project'. Their responses showed that opportunities to engage with academic activities beyond the immediate needs of the project were the least valued: this was the only statement considered to be "unimportant"[5]. These senior

[4] See appendix 3. Mean rating of 3.93.
[5] 5% of senior academics identified this as unimportant, 18% stated that they were unsure of its importance, 45% acknowledged it as important, and 32% identified it as very important - the lowest rating of any of the responses.

academics saw the support and development of researchers through the use of on-the-job training or situated learning thus,

> *"most important way is by doing the research work – well and efficiently. Supporting the staff to do this (dealing with social and emotional as well as cognitive issues) is essential. Other wider opportunities relate to this only secondarily".*

For other senior academics the wider opportunities were to be used in conjunction with *"Situated learning within the team. Formal learning opportunities offered by RCBN, host Institutions, and other specialist centres".* The project directors appear to be tending towards a social practices model of capacity building where it is assumed that the individuals' capacity can best be developed through being involved in the day-to-day practices of research rather than through off-the-job training. The researcher sample, in contrast, see similar worth in opportunities to engage with learning activities beyond the confines of their project.

Evans et al (2006) identify value in workers having access to 'off the job' training and stress the importance of the combined value of learning informally through workplace practices and experiencing more formal learning through external training opportunities. Evans et al (2006: 30) acknowledge the value of recognising the workplace as an important site of learning, but stress:

> ... if conceiving all learning as situated has the effect of confining workers to a particular workplace, on the grounds that (all) learning is highly context-dependent, their opportunity to gain new perspectives, to cross boundaries, and to participate in other communities of practice will be denied.

It is important that opportunities for learning off-the-job are available alongside project working practices as a means of building researcher capacity. Off-the-job training provides access to skills and opportunities that might be useful to one's professional and career development beyond the confines of the immediate project, facilitates networking with other people within the field, and enhances confidence in one's own ability, as was demonstrated in the case study in section 5.

6f) Ongoing commitment to researchers' futures beyond the completion of the project

Evans et al (2006) identify the importance of a gradual induction to working practices as a key component of the expansive workplace. This did not emerge as a valuable factor to researchers when interviewed about their research projects. In contrast, the processes through which the researchers' work on the project was concluded were included in many evaluations.

A key aspect of feeling part of the TLRP seemed to relate to the welcome that researchers received when they joined the programme and, similarly, one researcher who felt valued and recognised by the TLRP related this also to the sense that her affiliation with the Programme would continue beyond the end of her research project: "*it was made very clear at the last TLRP conference that anyone who has been involved with the TLRP is welcome to come back: it doesn't close its doors. I liked that and I liked hearing that".* However, this ongoing commitment wasn't one which all researchers felt; the practitioner researcher who comments in the next section on the TLRP conference felt that both her project and the TLRP had ceased to have an interest in him/her when the project came to an end: "*I don't see it as TLRP's responsibility to make sure that I have been looked after post-project [...] I'm a grown-up, I should be able to not feel hurt that I'm not being valued more or being used more etc."* In this instance, this researcher no longer felt part of any research networks and had, therefore, ceased doing any further research alongside her practice. Another researcher did not experience the TLRP's 'open door' policy: when, due to problems, she left the project before its completion and did not hear from the TLRP again. She observed that she would have liked to have heard from the Programme or for the TLRP to have shown an interest in her reasons for leaving.

Researchers who felt undervalued in their work on the project team often felt a lack of ownership and influence. In many cases this linked to a sense of expendability to the project, these researchers saw themselves to be "*hired guns*", "*interchangeable economic units*", "*replaceable at the end of contract*" [open-ended survey responses]. In one interview, a researcher spoke with real emotion about how her involvement with the project abruptly ceased at the end of her project and, although she had offered to continue contributing to the development and dissemination of findings in her own time, the project team ceased communicating with her and no longer had any interest in her observations. This had badly affected her confidence in applying for new research positions.

This researcher was not alone in realising that her research project/research team had no ongoing interest in her career, that she had had a primarily instrumental role within the project. Another researcher experienced a period of unemployment at the end of her TLRP project and related this, in interview, to the lack of support received from the project directors: "*I regret – maybe I should have started sooner to look for work, but I didn't feel very supported at the end".* This contrasts with the feeling that some researchers had of an ongoing association with TLRP beyond their terms of contract, and the ongoing relationship that many researchers had with key people and mentors. In relation to these evaluations, there might be benefits to research projects having explicit guidance on how to seek to facilitate opportunities or to engage with researchers towards the end of their contracts. Given that 67% of the TLRP researcher sample were working on fixed term contracts, this seems particularly pertinent to the capacity building of the field of Educational research.

Many researchers commented on their desire to, or their experience of, having an ongoing association with the project beyond the end of their contract. Frequently, researchers wanted to have an ongoing interest in a project to which they had invested considerable energy and commitment over a long period of time. Some researchers felt that this was, or would be, possible. Other researchers experienced a clear cut-off from the research project when their contracts came to an end. Another interviewed researcher spoke about much more explicit tensions where she had sought to publish papers based on project data following her reemployment elsewhere and was told, explicitly, that she did not have permission to do this. This researcher spoke about her aim to carry out separate research in this area to elicit similar data so that this can inform the paper that the researcher has already written.

7. Evaluation of Institution's contributions to capacity building

One of TLRP's strengths was the facilitation of inter-institutional collaboration (Rickinson et al, 2005) and this was widely valued across the dataset for this project. The evaluative response to the role taken by particular institutions in relation to individuals' research capacity building was more varied. All institutions have obligations towards their contract research staff from the Concordat on Contract Research Staff Career Management (1996). The Concordat guidelines include recommendations for formal performance management arrangements, in-service training, and career guidance and development. However, institutions' commitments to these guidelines vary tremendously.

Principles detailed in the Concordat include the provision of effective career management for researchers, and they stress the importance of regular review and career guidance. In relation to the individual researcher's performance management they recommend that each individual should receive supervision in order that contract researchers gain the maximum benefit from the training and development opportunities provided by the research environment in which they work. Some researchers felt that their institution provided a positive working environment:

> "*I think I have been very luck to progress my career in the way that I have. The university department that I work in and the PI that I (still) work with contributed much to this. I am aware of research fellows in other projects at other universities who have not been so fortunate*."

Others felt neglected by their institution: "*I have never been encouraged within my institution to progress in terms of responsibility, nor are my academic skills valued*"; or felt that their work lacked any kind of visibility of acknowledgement within their host institution: "*While being involved with the project was really worthwhile from a personal point of view, in terms of how my own institution views me, it is as if it never happened.*" (All responses from open-ended survey question B2). Some institutions were clearly very supportive of the research projects which they hosted, but this was not always the case.

Institutional lack of interest in research staff was a recurring theme. Sometimes this lack of interest was related to a lack of interest from other staff: "*I don't think that [my department] is the kind of place that really takes on board what other people are doing to the extent that it should."* For other respondents, the lack of interest was caused by the project's lack of engagement with the host department or institution: several interviewees reflected upon the need for more opportunities for intra-institutional dissemination. A major weakness in the institution's relationship with their contract research staff was their apparent lack of interest when contracts came to an end. While contract researchers tended to be pragmatic about the nature of their employment and recognised their relationship with the institution as a professional one, many felt that the institution's impersonal response to their employment was hurtful: as one researcher said "*You get these horrible letters once in a while about your contract being terminated and things like that... I think maybe the institution is so big and so far away from the ground."* For this researcher, her very positive relationship with members of her Department assuaged the situation but this was not the case for all researchers.

Positive evaluations of institutions focused upon the willingness of the institution to act to resolve problems occurring within the research, the provision of additional training packages for researchers which would benefit their longer term professional development, encouragement and support for researchers to develop their publications record, and a personal interest in the longer term future of the researcher. Sometimes these evaluations were based within the context of the overall institution; sometimes this good practice was located within the context of a particular department or School rather than the overall institution. Respondents varied in the extent that they identified with their host institution and this may have been linked, in part, to the amount of time they had worked for that institution. Where contract researchers had spent a number of years working on contracts through one institution, a greater association with that institution seemed to emerge. The institution's commitment to enhancing the research capacity of their researchers was extremely varied, which meant that although researchers were being funded within the same TLRP programme, their working experiences could differ dramatically.

The relationship between the research project, the host institution, and the TLRP as the research funder was sometimes problematic. The complexities of this financial relationship carried possible ramifications for the professional development opportunities of project researchers. One interviewee was unclear whether funding from the TLRP was quite tight in relation to capacity building opportunities, or whether the financial department at the HE institution was the root of the problem due to its lack of clarity over available funding: *"Certainly staff development funding was tighter than I would have liked."* This researcher recommended that part of TLRP's funding should be ring fenced for professional development opportunities for research staff; she felt that this would have personally benefitted her professional development. Institutions also varied in their commitment to providing maternity cover for research staff: another researcher spoke about the problems faced by her project due to her maternity leave because funding was not made available for the recruitment of another researcher.

Future research might usefully explore whether institutional behaviour has a direct relationship to attrition from the field.

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8. Defining Capacity Building

Project reports and survey evidence show that TLRP projects worked with diverse concepts of capacity building. For example, annual reports from some TLRP projects identify conference attendance and collaborative working practices within the research team as examples of capacity building while other projects report that their research staff have not engaged in any capacity building activities, although these researchers have attended similar conferences and also worked collaboratively. Figure 10 shows some of the activities that have been identified by TLRP projects as examples of capacity building activities within their annual and end of project reports. This lack of consistency across project reports can be linked to the lack of a single definition of the term from which to operate (Rickinson et al, 2005:33). This lack of clarity has repercussions for the professional development opportunities which are made available to researchers and the levels of support that they receive in engaging with these opportunities. Definitions and understandings of capacity building have relevance to the strategies and approaches taken by individual projects, and the level of engagement by researchers of the capacity building structures set up across the Programme. This evaluation focuses upon the research capacity building of research staff. We recognise that capacity building can be conceptualised in relation to the overall improvement of the quality of the field and the abilities of users to engage with research outputs, but our aims are to evaluate the effects of TLRP's capacity building upon researchers in Education. Strengthening the future capacity of research staff is one of seven strategic objectives of the ESRC.

FORMAL

MRes, PhD

Presenting at conferences

Lecturing/teaching

Collaboratively writing articles

Thematic seminar series

Presenting seminars and Dept workshops

Collaboratively preparing conference papers.

Mentoring

TLRP workshops/ RCBN events

PERSONAL | PROJECT | INSTITUTION | PROGRAMME

Project meetings

Participating in Dept networks and discussions

Inter-project meetings

Doing the research

Attending conferences

INFORMAL

Peer support

Figure 10: Summary of main capacity building activities identified by TLRP research projects.

Our dataset not only lacked a unanimous concept of capacity building, but not all researchers agreed that capacity building was, in itself, a good thing: "*An unhelpful, imprecise term".* The decision by 20 researchers not to complete this sample might be indicative over a lack of understanding of the term: as one researcher commented in interview:

> *"I remember being on the project and getting lots of emails about capacity building and never really knowing what it meant, if I'm honest, which is.... I was thinking about that earlier."*

Another interviewee similarly reflected:

> "*I always find these bits on capacity building really hard to fill in when you have to write these forms and things. I'm never sure what's meant..."*

Researchers' responses congregated around 4 main areas: skills building at an individual level, professional development of researchers (where this was seen to more holistic than being only the acquisition of new skills), the development of the research community, and the enhancement of user engagement. Responses are summarised in Table 2.

Table 2: Summary of TLRP researchers' responses to E3, 'Please explain what capacity building means to you?'

Definition of capacity building	**Number of respondents**	**Summary of quotes**
Skills-building	9	Provision of access to new skills, provision of skills-based training including research design and project management.
Professional development	24	All-round development of research ability, capability and competence within a professional community. Building on existing skills and expertise through structured learning activities and personalised support.
Development of research community	12	The development of organisations and communities to conduct robust research in the present and the future. The development of resources and methodologies.
Building user engagement	4	Enhancing the potential of research to inform practice and policy.
Unsure	1	
Unhelpful term	1	
No response	20	

The largest group of researchers discussed capacity building in relation to their overall professional development. Comments included:

> *"Developing my capacity as a well-rounded researcher: to have a tool kit on the one hand but also understanding and knowledge of research contexts, and confidence to go out and do innovative and creative research"*
>
> *"By capacity, I mean capability, competence, and ability to operate at optimal performance rather than scraping by being only partially effective and knowledgeable."*
>
> *"It means opportunities for personal development as part of a professional community, with support for meaningful networking and inter-disciplinary research."*

These comments resonate with a community who have some experience of using research skills (on average, seven years) and who aim to progress to positions of more seniority within the field, including managing research projects and developing new methodologies.

Our senior academics survey asked what they thought capacity building may be. This was asked to see if there was a difference between the conceptions of senior academics compared to that of the researchers within the projects, or if common threads could be found in both sets of conceptions. The senior academics responses have been grouped here into three broad categories of skills, research culture and networks (or networks of expertise)

Senior academics considered skills to be of importance and therefore developing capacity was about the *"Developing of research skills"*. Others gave more reasons why the development of research skills was important;

> *"Developing skills in the collection and analysis of a wider variety of research data and thus being in a better position to address a wider variety of research problems."*
>
> *"Career development through broadening and deepening skills base"*

The development of the skills of the researcher is seen to be useful and gives the researcher the ability to pose and address a broader range of research questions. But if researchers develop and broaden their range of research skills there may be a tension with the perceived need of researchers to specialise within a certain area of the field for good career development.

Other senior academics saw that they had an important role in capacity building, and for them capacity building was the "passing on skills to a new generation first and foremost". They saw themselves as developing the researchers who worked for them on their projects.

The senior academics in our survey also considered research culture and research community to be important aspects of capacity building. In the quotes below senior academics see the skills of the individual to be important in adding to the overall research culture of the field.

> *"Developing research culture in institutions, communities across institutions and personal skills in individuals"*

> *"The development of research personnel and research skills that are transferable to other studies and help create a critical research culture."*

Other senior academics considered capacity building as cultural and adding collectively to the capacity of the field, *"I think of capacity building as cultural - growth in the collective capacity of the research community'" a*nd it is about developing the skills to enable participation within the research community *"developing knowledge, understanding, skills, and capacity for participating in education research community."*

Networks of researchers and the idea of building networks of expertise were seen by the senior academic sample as being important to capacity building. Although these networks need to be built at the same time as the skills of the researchers are increased and the overall number of researchers with these skills is increased

> *"First, building expertise among new researchers, and providing experienced researchers with an opportunity to enhance their skills. And second, building networks of expertise."*

> *"Increasing the number of people who have been and are conducting educational research of high quality and consistency across the UK and also the networking synergy between them and other researchers."*

Overall the themes within the definitions of capacity building that came from the senior academics matched those of the researchers. Although for senior academics the capacity building is seen in terms of the capacity of themselves, of others and of the whole field in general, whereas for researchers this is seen on a much more at a personal development level.

Strategic debates around individual's research capacity building have tended to congregate either around a skills building approach (for example, see Gorard, 2002) or a social practices approach (for example, Rees et al, 2007). Focusing primarily on the development of research skills is problematic due to the diverse range of backgrounds of researchers. Taylor (2002: 28) summarises from his interviews with 25 key stakeholders that "there was a general belief that the diverse, and perhaps ad hoc, creation of research careers may have led to the disparate and limited nature of some educational research". Some of these problems might be endemic to this diversity: Taylor suggests that the diverse practice and policy based backgrounds of researchers "means that new students of educational research might not have the capacities to understand and go on to use sophisticated or advanced research methods" (p. 28) and that the diversity of researcher backgrounds serves to limit the number of researchers in the education community with "formal research training" (p.30) Taylor's approach implies an ideal linear progression of skills from initial Social Science degree, through doctoral study, and into research. This is a more common route for senior academics to have taken according to MTR survey responses, than it is for research staff; whether this should be interpreted as evidence that those researchers who are most successful in their academic careers tend to be those who have followed this kind of linear career path or whether career paths in Educational research are changing is an area needing further research. As evidence discussed earlier in this evaluation shows, researchers are keen to access training which complements their own professional development but they demand that this should be relevant to their level of experience, expertise, and interest.

While skills based approaches to capacity building tend to focus upon the provision of formal skills-based training, social practices approaches assert that learning primarily takes place through participation within practice (Lave and Wenger, 1991). Here, the focus on learning is linked to the everyday working practices of the research project rather than upon external formal provision. Through working alongside more experienced colleagues, researchers may be able to develop their own research competencies: researchers who were working in projects which promoted non-hierarchical models of working were seen to be particularly effective in enabling these opportunities.

There are weaknesses to both the primarily skills-based and the social practices approaches. Both approaches fail to adequately address the potential value that the researcher brings to their work from their own diverse backgrounds and prior experiences. The skills-based approach focuses upon the provision of high quality standards, providing normative expectations of what researchers should be able to do. This implies that the researcher is currently working with a deficit that needs to be addressed, rather than a focus being placed upon what the researcher can currently do.

The risk of social practices approaches is in their reluctance to discuss improvements or change within existing communities: “much more attention is given to how these processes maintain communities in existence than to how communities themselves change” (Tusting, 2005: 44) While researchers valued the opportunities to learn from more experienced colleagues, most researchers were also keen to develop their own expertise: they hoped to emulate more established colleagues but develop their own research profiles, rather than replicating the research profiles of people already established within the field.

Evidence from this evaluation suggests that both approaches have limitations, and that researchers’ own agendas prioritise the need for a holistic professional development which combines the availability of relevant skills-based training and professional development opportunities within the project’s working practices. Strategically there needs to be a combination of relevant and appropriate off-the-job training and opportunities to develop professionally through the project’s everyday working practices. Such a strategic approach to capacity building would also need to engage with the working conditions of early career and contract researchers as, currently, this acts against the potential to specialise and to develop professionally. Contract researchers, especially, tend to be employed through the series of short, often unrelated, projects which mitigates against longer term opportunities to develop a research profile and to gain expertise in one area. Greater clarity around the concept of capacity building might promote a greater level of flexible responsiveness to the needs of the field, the needs of researchers, and the interests of individuals rather than the assumption that new researchers will plug the gaps of older researchers when they retire. Importantly, any evaluation of the effectiveness of capacity building activities needs to have a flexibility of what successful capacity building might mean to the individual. Within this research, one researcher provided a very positive evaluation of both her project and the TLRP generally and concluded that she felt that her capacity had been successfully increased. As an outcome of this, she had decided not to follow a research career: “*It caused me to reflect back on where I was and to accept that I am really happy in FE, that I don’t want to be a lecturer in HE”.*

9. The Importance of Catalysts

The metaphor of catalysis is useful in understanding the success of capacity building by the TLRP and, perhaps, more widely. Including a catalyst increases the rate of reaction: in relation to this data, having a catalyst increases the value that an individual researcher can derive from capacity building structures. In this instance, the capacity building structures provided by the TLRP included the conferences, online resources, and the RCBN. The researchers who derived the most value from these structures tended to be those who had a key person or key persons who catalysed, or increased the rate of, the researcher’s engagement with these structures. The researcher could, of course, get to the capacity building structures by themselves but having a key person or key persons who acted as a catalyst meant that the researcher tended to access more, and more appropriate, structures more quickly and elicited more value from them. The provision of an effective catalyst increased significantly the value which researchers elicited from the capacity building structures evaluated above.

Catalysts work effectively at all levels of capacity building. For example, a professional researcher contacted us shortly after her interview:

> “*You really helped me think about my future as a researcher and about the huge chasm between being a senior academic and a research fellow. I wonder whether it is at all possible to make the upward leap without somebody (a sponsor? Patron?) holding your hand and yanking you onwards.”*

The interpersonal support provided by the catalyst is responsive to the needs and interests of the researcher. This is particularly important given the very diverse nature of the researcher population.

This interpersonal support goes beyond collaboration. Fielding (1999) perceives collaboration to be a form of individualism and rooted in self-interest. While we would not suggest that all instances of collaboration from our dataset represent self-interest, some projects discussed above have worked collaboratively through allocating researchers to functional and purely instrumental roles within the project team, thereby restricting the researcher’s professional development. Quality project outputs may have been achieved, but the researcher has had little opportunity to benefit through the processes of contributing to these. This contrasts with other projects where pronounced commitment to the professional development opportunities of their research staff has been made

throughout the project and throughout the researcher's work. Fielding contrasts collaboration with 'collegiality'. For Fielding (1999: 18),

> "...collegiality is essentially a communal practice in which colleagues' commitment to support one another is informed by their respect for professional expertise articulated and exemplified within the shared goals, values and practices of the profession."

Collegiality has "its own set of internal goods that reflect the roles, values, goals and standards of excellence that are constitutive of it; whereas to talk about collaboration is to remain within the boundaries of a narrowly situational and prudential instrumentality." (10).

Those researchers who identified key people as having been transformative in the professional development often spoke at length about the nature of these relationships. Central to the relationship was a sense that the more senior colleague had an ongoing commitment to the researcher based on an appreciation of the expertise which the individual currently had and a sense of the potential that person might realise in the future. The relationship included key elements:

- Gate-keeping. Earlier examples discussed in this evaluation highlighted the impact that personal introductions to key people at conferences had for individual's sense of belonging to these networks. The catalyst might serve to encourage the researcher to engage with multiple communities of practice, for example the practitioner researcher mentioned earlier whose research champion accompanied her on early visits to research sites.
- Mentoring: One researcher who had a Meetings of Minds fellowship said "[It] has provided me with a unique capacity-building opportunity. […] New members of the academic community are given the opportunity to engage in legitimate peripheral participation, learning informally and personally from 'old-timers'. Such seminal learning is only possible when eminent academics are willing to break the prestige barrier and junior academics are prepared to be intrepid."
- Coaching: another researcher spoke in detail about how her key person had placed high expectations on her and repeatedly pushed her out of "her comfort zone": "*she got me thinking about what I should be publishing, what I should be reading – really directed me in terms of career development and pushed me – there were times when [she] was asking me to do things that I thought I couldn't possibly do, but I knew why she was asking me to do them."* Prior to this, the researcher had felt that she was 'drifting', now she feels that her career and her ability have been transformed. Some researchers linked capacity building as a means of realising their potential, this researcher felt that her key person had recognised potential beyond that of which she thought she was capable.

While this evaluation has focused primarily on the capacity building structures which were put in place by the TLRP programme, a key finding of this research has been the power that key people have to catalyse the researchers' involvement with these structures. With the right level and kind of support, the individual researcher is able to access far more value from available structures. We would recommend that good practice in this area is made more explicit and strategised for in future projects.

10. Conclusions and recommendations

This section brings together key findings from the evaluation of TLRP's capacity building, organised around nine headings. Data from this project illustrates some examples where researchers have experienced participation in exemplary projects which have transformed their careers and their researcher identities. The exploration of understandings of capacity building, by researchers and project directors, is timely and might usefully inform future strategies in this area.

10a) Overall Programme

Overall, the TLRP programme was successful in building research capacity across Educational researchers involved with TLRP projects. At its best, the Programme was seen by researchers to be transformative in relation to their

identities as researchers and in terms of their future career. The majority of researchers feel that their involvement with the TLRP has been useful for their professional development (see figure 2).

The TLRP was valued as being an inclusive and welcoming organisation. Researchers found the TLRP office to be accessible and felt that they were welcomed and valued at TLRP events, for example the conference. The focus on research capacity building was visible through various structures provided by the Programme, including the RCBN, on-line resources, the Meeting of Minds Fellowship, text-based resources to facilitate the development of research capacity, and conferences for TLRP research projects. Individual research projects might have benefitted more from a greater clarity over what the Programme meant by 'research capacity', and this is illustrated in the range of responses that projects gave in the 'capacity building' section of their annual and end of project reports, and in the range of researchers' experiences.

10b) TLRP conference

The TLRP conferences were particularly valued. These provided researchers with opportunities to engage with multiple communities of practice, to access networks of researchers, to attend high quality presentations, to develop their identities as researchers, and to gain motivation in their work which, in turn, increased their commitment to their TLRP projects. Case studies of these events show that a valued balance was achieved within the conferences between a range of high quality papers and discussion groups, and social spaces which promoted networking. Researchers distinguished between their sense of being welcomed and belonging to TLRP events, and their experiences at other non-TLRP conferences. The TLRP is to be commended for being welcoming and inclusive to a broad diversity of researchers.

10c) Formal training courses

Researchers valued the availability of training courses through the RCBN and other training providers, and welcomed the availability of funding which enabled attendance at these courses. Researchers felt that they benefitted professionally and socially from these events through accessing networks of other Educational researchers. Criticisms of this provision tended to be levelled at their content and level. We were surprised by the level of experience of the population we researched and felt that this did not match general perceptions of the field. While we acknowledge that these researchers can be seen to represent the 'luxury end of the market' (Collinson, 2000), the level of experience of this population has implications for any formal provision of capacity building. Researchers were critical of provision where it failed to match their interests and abilities: capacity building structures, such as formal training courses, need to be responsive to the backgrounds and experiences of researchers, rather than assuming that all attendees will be novices. Formal training courses were linked to improvements in research skills, but deepening of theoretical knowledge, substantive knowledge and overall methodological understanding tended to be linked to the working practices of projects and the influences of key people. The particularly diverse nature of the Educational research population requires a greater diversity in terms of provision: a 'one size fits all' model is not appropriate to this population.

10d) Timescale of capacity building

A strength of the TLRP programme was the provision of funding to projects of, typically, three year's length. Researchers felt that they had greater opportunities for professional development because of the length of this funding. Three year projects were seen to provide job security which enabled greater focus to be committed to the project's work rather than upon one's next employment, a greater sense of inclusion within the research team, increased ownership of the project and more influence on the overall work of the project. It is possible that this longer period of funding also enabled a greater harmonisation between the professional development needs of the individual researcher and the capacity needs of the project. In some instances, projects timetabled set amounts of time for researcher's professional development. This was seen as good practice.

Researchers who had been involved with their projects from the outset particularly felt that they had been able to influence the nature of the project and tended to feel that they had had access to a broader range of capacity building

activities, including research design, data collection, project management, and analysis. While Evans et al (2006) identify a gradual induction to a workplace as a key factor of an expansive workplace; this was not particularly valued by the researchers we interviewed who seemed happy to "*jump straight in the deep end"*. However, researchers were concerned by the implications of projects coming to an end. We recommend that systems are put in place across research projects to ensure that researchers feel supported in their transition after the end of the project.

10e) Project's working practices

Researchers particularly valued being part of research teams where they felt that their contribution was valued, and the majority of project directors felt that this was a 'very important' aspect of a well run project. Researchers valued being exposed to the working practices of more experienced colleagues and saw this to contribute to their capacity building, particularly in relation to overall methodological, substantive and theoretical understandings. Opportunities for collaboration, for example in relation to writing, were seen to be important.

Tensions sometimes emerged between the research project's immediate needs and the professional development needs of research staff. In some instances, the research project's outputs were privileged over the professional development needs of researchers: researchers saw this to be detrimental to their own professional development. While researchers tended to evaluate positively projects which had inclusive publications strategies, many also valued or wanted to publish sole-authored papers. This was seen to be important in relation to future employability.

The professional development of research staff should be seen as a valid and valued output of research projects. Projects have responsibilities to the professional development of their research staff. In the best cases, this extends beyond the conclusion of the project. In turn, researchers identified that they have a greater commitment to projects where they feel that they are valued members of the team.

10f) Inter-institutional collaboration

The encouragement of inter-institutional collaboration and the generation of new research networks across institutions is a major strength of the TLRP. However, different institutions demonstrate different levels of commitment to the professional development and pastoral responsibility of their research staff. This can have a significant influence on the capacity building of those research staff. Some very good examples of institutional support were identified by researchers, but these could not be generalised across all institutions. It would be useful if future Programmes were able to standardise good practice across institutions so that all research staff are treated equitably and have a similar entitlement for professional development.

10g) Interpersonal support

Researchers attached importance to a key person(s) acting as a catalyst in encouraging researchers to engage with capacity building structures. The role of key people can have a transformational influence upon researchers. This is an area where project directors might usefully receive more guidance.

10h) Working conditions of research staff

Working conditions of contract researchers are a major influence on researcher's attrition from the field or lack of commitment to professional development. For example, one colleague acknowledged their "*limited motivation to invest in the topic as I knew I had to move on due to my limited contract*". This data describes a workforce who were predominantly doing work that they loved and who had a clear passion for research, but who felt unable to commit completely to their work due to the pressures of short-term contracts. Rather than an accumulation of skill and knowledge being developed through the workforce's ongoing specialisation and development, there is a fragmentation of knowledge and research skill due to the nature of short-term working contracts.

The potential of the workforce seems, therefore, to outweigh what the workforce was able to deliver. In short, early career researchers feel that they are underperforming due to circumstances beyond their control: "*attention that could be spent on deeper more productive research is instead spent on writing multiple grant proposals*". Other researchers felt that the need to acquire new work meant that they were not fully able to commit to the final stages of the projects.

10i) The future of Educational research

Educational research is an evolving field. Debates on capacity building often focus on recent demographic information which suggests an impending shortfall in the workforce due to the imminent retirement of large numbers of senior academics. This evaluation shows that there is a committed and passionate research workforce in Education. Many researchers within this workforce are ambitious and keen to progress to more senior academic positions. Researchers are keen to develop professionally, in terms of developing a range of abilities across the research stages, including writing bids through to project management. This is a wider remit than notions of capacity building which focus on research skills. It may be useful to think explicitly in terms of outcomes for researchers at the end of a project alongside other project outputs and to build this into the overall evaluation of the project.

The projects which were most favourably evaluated by research staff fostered the development of individual expertise which will facilitate the evolution of the field of Educational research in the future. Weaker projects may operate collaboratively but their lack of collegiality is demonstrated through their lack of commitment to external training opportunities for research staff, limited personal development time built into the researcher's contract, and a lack of sustained interest in the researcher once the project concludes. Longer term views of capacity building should co-exist with more immediate perspectives linking capacity to the ability of a project team to deliver quality project outputs. We would argue for a balance between these as a means of achieving quality research outputs from contemporary research and ensuring the health of the field in the future.

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Appendix 1: Methodology

The Surveys

Three on-line surveys were designed, drawing on concepts related to workplace and professional learning (Evans, Hodkinson et al, 2006) and communities of practice (Lave and Wenger, 1991 and Wenger, 1999). These were piloted with and administered to three discrete sample populations: (i) researchers who had worked, or were currently working, on TLRP projects; (ii) researchers in Education with no experience of working on TLRP projects; (iii) senior academics with experience of leading TLRP projects. The population for (i) and (iii) were informed through merging data from TLRP contact details databases, information drawn from the TLRP's D Space digital repository of project publications, and through project reports. To define the 'TLRP researcher sample', we removed project directors, senior academics (where seniority was conferred through the role of Chair or Reader), and administrative staff. We did not remove people working in Senior Lecturer roles because this did not imply research seniority in all cases and we did not omit all Principal Investigators (PIs) from this list because PIs included people who were relatively new to research. Obvious anomalies from this list were removed by administrative staff in the TLRP office. This process left us with 299 researchers who had worked on TLRP projects. Of these, we did not have up-to-date contact details for 67 researchers. Details of the on-line survey were distributed to 232 researchers; 92 researchers completed the survey: a 40% response rate.

Sampling non-TLRP related early career researchers proved more problematic: as will be discussed in section 4, educational researchers are a diverse population with a range of experiences and backgrounds. We targeted educational researchers attending the 2007 British Educational Research Association (BERA) conference, contacted Education departments at a range of institutions across England, Scotland, Wales, and Northern Ireland, advertised for respondents in newsletters circulated at the Institute for Education at the University of London and the University of Stirling, and wrote a short article asking for volunteers within Research Intelligence. While our response rate and opportunistic sampling strategies meant that we felt that the dataset could not be directly compared against the TLRP early career research sample, the 50 responses we received informed our thinking and provided useful data on the experiences of early career researchers across the UK.

The senior academic survey was aimed at project directors. We were aware that not all project directors may be senior academics, but realised that as project directors they would have different experiences of capacity building in their project due to their role. The senior academic survey was launched at the TLRP annual conference. Participants were asked to complete the questionnaire either on paper or online. After the conference other senior academics who were on the TLRP office database but did not attend the conference were emailed for their participation. In total 303 senior academics were invited to participate in the survey of which 68 responses were received, giving an overall response rate of 21%. The initial email to both the TLRP researchers and the senior academics were followed up by two reminder emails. Each time a reminder was only sent to the people on the list who had not previously completed the questionnaires. Three emails were deemed as being the best response that could be received from the sample and that any more reminders would annoy colleagues. Non TLRP researchers could not be reminded by email as an opportunistic sampling strategy meant that the sample was unknown.

The surveys generated both quantitative and qualitative data. Quantitative data from the survey was analysed statistically to describe demographic and experiential aspects of this population and to show trends in opinions across respondents. Open-ended sections were systematically grouped to provide evidence of similarities and differences across cases, and descriptive quotes from this section were used to illustrate findings from the statistical analysis. The qualitative parts of the senior academic survey were analysed by using the qualitative data analysis package Atlas.ti. A coding frame was developed from the themes that were highlighted in the literature and in the TLRP project annual reports. The qualitative data was then coded using the coding frame and also by question number. Thus the data could be analysed by theme and Atlas.ti would highlight which question that data was from. Survey responses informed the conversations held with individuals during the interviews.

Interviews

12 TLRP researchers were interviewed for the project. This sample was informed through our organisation of the survey data. Survey responses were labelled either (1) or (2) depending on whether the RAE rating of their institution was 5*/5 or lower; and either (a) or (b) depending on whether the total sum of respondent's satisfaction ratings for the

project were over 32 (representing a mean of 4, where 4 represented 'satisfied') or less than 32. This meant that each response was categorised 1a, 1b, 2a or 2b.

Table A1: Categorisation of survey responses according to status of institution and evaluation of project

	a	b
1	26	12
2	31	15
	7 (uncategorised institution)	1 (uncategorised institution)

We sought to interview survey respondents distributed across each of these different categories and geographically distributed across the four nations of the UK.

Interviews were semi-structured conversations. Each was recorded and additional fieldnotes were made by the interviewer immediately subsequent to the conversation. A case study was written for each interviewee, structured according to common headings relating to the project, the host institution, and the TLRP. While each interview represented a detailed perspective of one researcher's experiences in Educational research, common headings meant that we were able to analyse across the dataset.

Project outputs

While the survey and interview accounts were the main outcomes of this research, these were enhanced by analysis of documentary evidence located within the TLRP. Each TLRP project was required to submit an annual report and End of Project report based around a pro forma which included obligatory sections on capacity building activities. These reports were thematically analysed. The TLRP has also developed its own digital repository for programme outputs (Procter, 2007) using Dspace. Dspace was originally developed by MIT Libraries and Hewlett Packard labs as an open source digital archiving system (http://www.dspace.org) for digital material. Dspace is a single point of entry for bibliographical information and as well as acting as a secure repository for project and programme outputs, it fulfils both reporting and dissemination roles within the programme.

The digital items stored within Dspace each have their own meta-data record. These records contain bibliographical information about the items as well as keywords, project and sector information. The TLRP Dspace exposes all the data within the repository in the form of an Open Archive Initiative – Protocol for Metadata Harvesting (OAI-PMH) stream, (Lagoze & Van de Sompel, 2001; Van de Sompel & Lagoze, 2002). The data from the OAI-PMH stream is harvested by a custom Perl script, which also allowed the data to be queried in useful ways. The data was queried so that the list of papers and authors for any project could be found. This information could then be used to construct a co-authorship network for that project.

Co-authorship networks are a form of 'affiliation networks' or bi-modal networks in which 'connections among members of one of the modes are based on the linkages established through the second mode' (Wasserman & Faust, 1994, p291). The TLRP Dspace repository provides data relating to researchers and their affiliations, such as project and concepts, but the most obvious affiliation is through specific publications. Co-authorship has been used to look at patterns of collaboration in other academic networks (Newman, 2001a, b, c, 2004a, b; Barabasi *et al.* 2002).

A custom Perl script was used to construct an adjacency matrix relating the affiliations of authors to publications for specific projects. This matrix was then imported into the Ucinet social network analysis software package (http://www.analytictech.com/). Ucinet allows social networks to be analysed and visualised and thus images of the co-authorship networks of specific projects could be generated. The images (figures 7, 8 and 9) show the coauthorship network for a specific project, the publications are blue boxes and the authors are represented by red dots. Images were generated for the projects of which 12 interviewees were members.

The images of the co-authorship networks are powerfully seductive and it is important to resist the temptation to be drawn into an analysis based purely on the large scale structure of the network. The network images were used primarily as a way of generating questions and suggesting patterns. The network images allow a kind of pattern matching (Yin, 2003) against a number of simple structural outcomes which were then explored using the interview data.

Appendix 2: data on preferred forms of communication

Researchers were asked to identify the modes of communication that they would typically use for a range of research project-related working practices (TLRP researcher survey, B5). They were then invited to identify the modes of communication that they would ideally use for the same purposes (TLRP researcher survey, B6). The findings, detailed below, show that actual and preferred practices in this area were similar, with a strong preference for face-to-face communication for most activities.

Table A2: Responses of TLRP researcher population to C5:
'For the following purposes, which forms of communication would you typically use?'

	Telephone	Face-to-face	Written	Instant messaging	Email	VRE	Other
organising meetings	45	45	6	4	96	5	3
carry out meeting	16	94	2	1	9	9	4
developing ideas	31	89	41	3	80	17	1
coordinating data collection	42	69	28	0	86	12	5
data collection	36	82	33	0	44	11	10
collaborative analysis	19	82	40	0	66	13	4
writing academic paper	20	74	64	1	85	5	4
preparing conference presentation	22	75	45	1	80	8	4
total	231	610	259	10	546	80	35

Table A3: Responses of TLRP researcher population to C6:
'For the following purposes, which forms of communication would you prefer to use?'

	Telephone	Face-to-face	Written	Instant messaging	Email	VRE	Other
organising meetings	33	42	7	4	91	9	4
carry out meeting	12	94	4	2	13	12	5
developing ideas	17	90	23	3	32	14	3
coordinating data collection	28	70	14	4	67	14	4
data collection	20	86	25	3	41	14	5
collaborative analysis	13	89	28	2	48	14	4
writing academic paper	15	72	49	3	62	16	5
preparing conference presentation	19	74	41	4	69	17	5
total	157	617	191	25	423	110	35

Appendix 3: Data on researchers' working practices

Researchers were asked (TLRP Researcher survey, B1) to identify how satisfied they felt about the following statements in the context of their work on a TLRP project. Responses ranged from completely satisfied, satisfied, about 50/50, dissatisfied, completely dissatisfied. For the purposes of analysis, completely satisfied was represented as '5', through to completely dissatisfied being represented as '1'.

Table A4: Mean satisfaction responses to statements about researcher's work on TLRP projects

Statement	Mean response
I understood/understand the allocation of research roles within my project team	4.38
I felt/feel that my contribution to project goals are/were valued	4.34
I have felt a progressive growth and responsibility within my project team	4.07
I have had opportunities to explicitly consider my personal career needs and progression with appropriate others	3.91
I have been able to further my personal and career goals through the achievements of the project as a whole	3.97
I have had opportunities to engage with academic activities beyond the immediate needs of my project	3.93
During the project, I have taken opportunities to learn from others within my project and institution	4.34
I have experienced personal development from external courses, conferences, and other events during this project	4.21