National College for School Leadership

Learning networks research legacy

Footprints of practice: exploring the sharing and development of practice through collaborative adult learning

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1. Introduction

In the teaching profession, despite what one researcher has insightfully called 'the persistence of privacy' (Little, 1990), there has always been a strand of collaborative and collegial work that exemplifies the importance of sharing what we do. There are, of course, many reasons for this. They include a desire to understand and develop our own and each other's practices so that students can benefit from each individual's unique personal and professional learning; a collegial desire to contribute towards a common pool of professional knowledge; and a wish to further the cause of democratic society by contributing what we can to a common good characterised as much by educative notions of human flourishing as by the imperatives of economic effectiveness. It is from this rich mix of professional motives and wider economic dynamics that the most recent phase of collaborative work between schools in England draws its energies and support.

The aim in this review is to answer a range of questions about how teachers and other professionals involved in the formal learning of young people collaborate in order to improve and extend good educational practices between institutions. It is based on the very substantial data emerging from the regular internal evaluations of the Networked Learning Communities (NLC) programme and the huge range of work, much of it commissioned by the National College for School Leadership (NCSL), on what is known from around the world about networking and its capacity to change practice in schools for the better. This paper draws on systematic reviews on collaborative continuous professional development (CPD) (Cordingley *et al*, 2005) and the impact of networks (Bell *et al*, 2006). This extensive data resource expands on the earlier work commissioned by the Department for Education and Skills (DfES) by the University of Sussex and Demos on *Factors influencing the transfer of good practice* (Fielding *et al,* 2004). A major external evaluation of the programme was conducted in three phases. It focused on key features of networked learning communities (NLCs) (Earl *et al*, 2006): data from phase 2 (the latest available at the time of writing) are used here. In-depth case studies are derived from the NLC programme enquiry 2005 and from externally commissioned work (Fielding & Robinson, unpublished).

In what follows, these key questions will be considered:

- What new forms of practice transfer and joint practice development are visible in NLCs? (section 2)

- What learning and organisational structures have NLCs used to support their work?
  (section 3)
- How have NLCs chosen to share and disseminate their work? (section 4)
- What has been the effect of networked learning for adults on classroom practice?
  (section 5)

1.1 Spaces for learning and practice development

Current education research on the conjunction of collaboration, learning and leadership is informed by a strong body of research on learning. Ironically, this is only just beginning to be widely applied to teachers' practice. Metaphors of acquisition or building knowledge are being replaced by those of participation, where knowledge suffuses practice rather than being something that is parcelled up and passed on (Desforges, 2000). Learning is situated cognition and is thus comparable to power interpreted as a constellation of relations. Like power, learning is visible in a continuous and developing web of interconnected relationships rather than as discrete chunks of information or skills delivered intermittently through traditional CPD (McGregor *et al*, 2004).

The Networked Learning Communities programme was developed and supported by the Networked Learning Group (NLG) to create new structures and processes to bring people together in learning relationships in and across networks. For NLG, committed to working collaboratively to improve learning opportunities, the question of locating generative and sustainable forms of interaction was a central one: '*scattered opportunities for creative learning in our schools. Where are they? What are they? How do we know?*' (Bentley, 2002 p 6).

The need to identify spaces, adult and student learning spaces, for joint work and engagement in dialogue, is increasingly acknowledged by education researchers (eg Fielding, 2002). This paper uses empirical findings to foreground these different spaces, which are reported as sustained and dynamic knots in the networked web of relations of which the school is a part. The hope is that this will help to differentiate between the metaphorical and practical uses of the term 'learning spaces' and also indicate where future in-depth studies might be focused that can identify '*the footprints of practice*' (Little, 2003). These footprints are the traces left by learning from collaboration when that learning has been transferred beyond the location in which it originated.

1.2 Knowledge creation, knowledge transfer – the complexities of practice

Unlike many recent education initiatives, collaboration is not an idea that needs to be sold to teaching professionals. A MORI survey (2004) involving 3,500 state primary and secondary schools echoes the conviction of many NLG members that:

Teachers are overwhelmingly positive about the benefits of school-to-school collaboration in terms of gaining access to new teaching ideas, improving the motivation of teaching staff, improving their own teaching practice and improving children's learning. Primary school teachers are particularly enthusiastic about these perceived benefits of collaboration with other schools.

MORI, 2004

Fielding *et al* (2004) and Fielding & Robinson (unpublished) identify multiple contexts for dissemination and joint work. These may be external to the school, for example, a networked learning community and sub-networks, or internal, ranging from the whole school to interchanges between individual teachers.

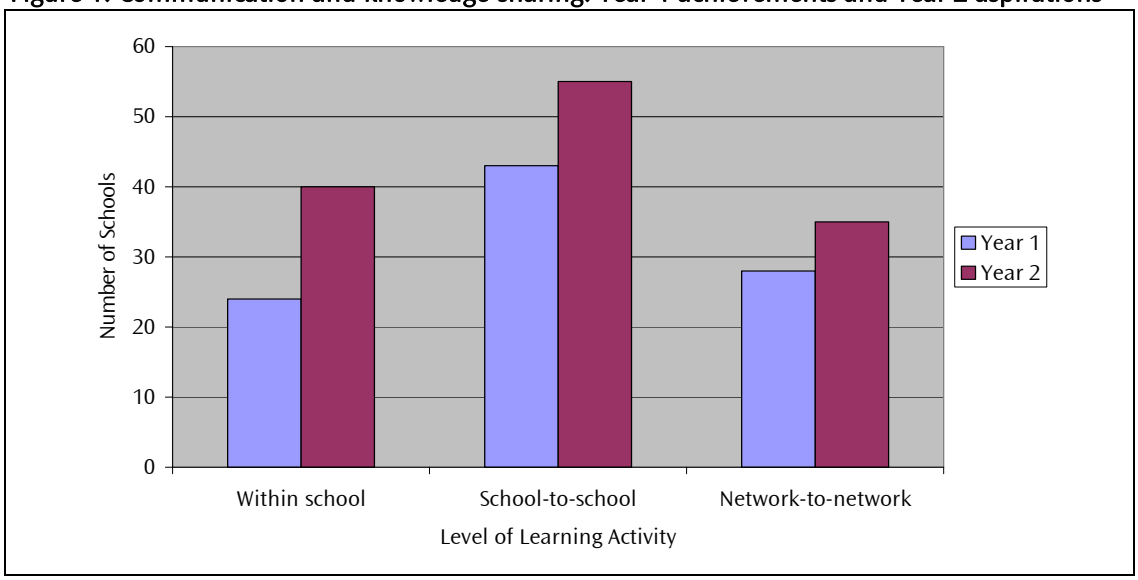
However, a focus on dissemination begs the question of what it is that is being disseminated. What is the knowledge that is shared between or created by NLC schools? The programme's

core principles of sharing and collaboration perhaps guide us towards consideration of process rather than content, but even in considering process there has been a lack of clarity as to form, content and means. The distinctions between different forms of collaboration and their effect, particularly in relation to dissemination and joint practice development, are explored here. It is increasingly argued that the term 'transfer' is too limited as a way of understanding learning and practice development (Eraut, 2000; Fielding *et al*, 2004). The NLC programme grew from knowledge-creation theories of learning as an alternative to replication and transfer. Learning is understood to be the product of participation in cultural practices and shared learning activities, reflecting '*a belief that situated and contextually relevant learning is at the core of professional community*' (Jackson & Burns, 2005 p 6).

1.3 Network activity

The purpose and voluntary nature of the NLG programme were reflected in the guidelines for applying to become a networked learning community and in subsequent review processes. It is not, therefore, surprising that 68 of 76 networks in the first cohort, which began in September 2002, listed some form of *communication and knowledge-sharing* as an achievement in the first year (Hadfield *et al*, 2005a). Interestingly school-to-school communication was seen overall as the area of greatest activity (see Figure 1). However, without an interrogation of what is meant by both 'communication' and 'sharing' it is not possible to differentiate between sharing objects – dissemination of resources, enquiry reports and videotapes etc – and meeting to share *and further develop* practice.

Figure 1: Communication and knowledge-sharing: Year 1 achievements and Year 2 aspirations



An analysis of the data (Hadfield *et al*, 2005a) suggests that communication and knowledge-sharing *achievements* were often much more than simply reporting and cascading. While there was some mention of raising participants' awareness of being in a network, communication and knowledge-sharing were typically reported as focusing on sharing teaching strategies, expertise or good practice. This involved either face-to-face discussion or, more commonly, visits to other schools to observe teaching in action. Networks consistently reported teachers meeting at network events to share practice. Professional experience was a frequent focus of discussion in staff meetings. Enquiry reports commonly referred to a shift in the nature of staffroom discussions towards more professionally oriented dialogue. A closer examination of what network respondents meant by 'knowledge-sharing' is important in discriminating between information-sharing or presentation and joint practice development or 'joint work that challenges thinking and practice' (Earl *et al*, 2006 p 62). The data suggests that sharing processes in networks were structured, involving regular meetings, progress reports,

presentations on classroom practice and joint learning activities, eg reports from classroom observations or teacher enquiry.
Some networks reported achievements around *conditions* for such sharing, variously understood to be a supportive emotional climate, confidentiality protocols, shared vocabularies, group bonding or training in presentation. Such conditions were thought to enhance teachers' feelings of self-esteem, confidence and willingness to share and discuss problems. Some networks mentioned the use of the internet to disseminate practice, share newsletters and reports. However, a survey of online activity in networks revealed relatively low levels of online activity in most (Thorpe, 2003).

Resources such as videotapes of teaching practice, units of work or lesson plans were, in many cases, distributed beyond the network. Sometimes this was through dissemination routes such as publication in *Nexus* magazine or at NLG conferences, where presenters were able to engage with others, for example, through semi-structured learning conversations rather than simply presenting an exhibition or providing handouts. This suggests the possibility of interactions that go beyond show and tell, where individuals from different contexts are interrogating ideas and practices together, reflecting the NLC programme's emphasis on the importance of their learning on behalf of their respective constituencies.

1.4 NLG support

NLG offered a programme of complementary strategies to support the practice of *'intentionally making knowledge explicit and sharing it across NLCs and beyond'* (Earl & Katz, 2005 p 30). These included:

- local, regional and national conferences where representatives of networks met
- NLG development and enquiry programmes
- facilitation by the NLG and external partners
- publications, eg commissioned pieces from academics, *Nexus* magazine, research publications and tools including CDs and simulations
- research activities with protocols demanding that data should be useful at the point of collection
- ICT resources such as Learning Exchange Online (LEO) and talk2learn

These strategies emphasised the importance of facilitating active learning in and between networks, for example, through appreciative enquiry, learning conversations and intervisitations. These were explicitly employed and modelled through NLG events, products and processes. Over the course of the programme, a series of development and enquiry projects was created to support work in particular areas such as intervisitations, pupil involvement in NLCs and teachers as researchers. These provide further evidence of effective transfer and learning mechanisms, as do the outputs of the national and regional conferences held by the NLG throughout the programme.

2. New forms of practice transfer and joint practice development

> *'Networked learning' describes how newly acquired knowledge (learning as a noun) and learning activities and processes (learning as a verb) travel from one context and are applied and adapted in another. Within networked learning communities the primary purpose of the programme is to facilitate the movement of learning (in both senses) from one school to another. Successful networked learning in networked learning communities requires both effective learning in the originating school and adaptive work to enable that learning to be applied in the partner school.*
>
> Dudley & Horne, 2004 p 3

From their study building on an earlier research project on *Factors influencing the transfer of good practice* (Fielding *et al*, 2004), Fielding & Robinson (unpublished) developed a framework of the contexts in which dissemination and joint work takes place. As Table 1 demonstrates, at the broadest level of generality there are *external* and *internal* domains for dissemination. Each of these two domains can then be further sub-divided into smaller units of engagement. In the case of the *external* domain, these comprise the network learning community and sub-network contexts. In the case of the *internal* domain, they comprise a series of contexts that move increasingly nearer the daily realities of classrooms, the school itself being the first context, the team, unit or department being the second and the third being individual teachers or adults.

Table 1: Domains and contexts for dissemination and joint practice development

Dissemination				
Domain		*Domain*		
External		**Internal**		
Context	*Context*	*Context*	*Context*	*Context*
NLC	**Sub-network**	**School**	**Unit / dept**	**Individual**

This section reviews the effectiveness of NLCs across both these domains, moving from generalities authenticated by statistical data and programme-wide reviews to particularities drawn from the reported experiences of individual network members. It revisits the limitations of traditional CPD and discusses the endorsement of and case for different forms of professional development and collaboration. Finally, it reviews the new adult learning activities claimed by NLCs and undertakes a more detailed exploration of the place of collaborative CPD and school-to-school learning and collaborative enquiry, with a consideration of the conditions likely to support such processes.

2.1 The role of CPD

It is crucial to distinguish clearly between the assumption that CPD leads to changes in professional practice and the assumption that this changed practice will necessarily lead to improved learner outcomes. The difficulties of measuring the impact of teachers' CPD on pupil outcomes are highlighted in the literature (eg Flecknoe, 2000; Guskey, 2002; Muijs *et al*, 2004; Reeves *et al*, 2003). These include the problem of timescale – that any changes in teachers' practice are likely to take a long time to impact on pupil outcomes, in particular outcomes such as test scores. They also include the difficulties of attributing any changes to the CPD itself, given the multiple, overlapping initiatives taking place in the system. The impact of CPD therefore tends to be reported in terms of improved knowledge, understanding and practice of teachers and other professionals on the assumption that these will, in time, lead to improved pupil performance and can be considered proxy measurements of improvement. However, many of the studies reviewed (eg Dadds, 1997) and the Ofsted (2004) report on CPD, argue that a clear focus on pupil learning in CPD is more likely to lead to improvements in practice.

A series of systematic reviews of collaborative CPD (Cordingley *et al*, 2003; 2005) reported on studies that either measured increases in student performance or changes in student behaviour or both. The effects noted included increased student motivation, improvement in performance as reflected in test results, enhanced reading fluency, more positive responses to specific subjects, better organisation of work and more sophisticated responses to questions. Brown *et al* (2002), in reporting on the role of LEAs in supporting CPD in schools, noted that an impact on pupil learning was reflected in improved achievement levels, increased self-esteem and greater collaboration.

The initial review (Cordingley *et al*, 2003) noted that collaborative CPD contributed to the development of teachers' knowledge, understanding and practice. Teachers adopted a wider range of learning activities in class, encouraging more active learning, developing co-operative learning strategies between students, enhancing problem-solving and involving students in designing learning activities. Teachers made better connections between learning strategies and the curriculum and improved their capacity to support student self-evaluation (Robinson & Sebba, 2004).

2.2 Why networks work

Emergent evidence suggests that collaborative learning, which occurs in activities such as joint planning groups, problem-solving teams, collaborative enquiry groups and shared professional development activities, is most effective in challenging and changing practice (Earl *et al*, 2006 p 62). This mirrors the forms of joint work which have been empirically identified as most likely to lead to improvements in schools:

> *In successful schools more than in unsuccessful ones, teachers valued and participated in norms of collegiality and continuous improvement (experimentation); they pursued a greater range of professional interactions with fellow teachers including talk about instruction, structured observation, and shared planning or preparation. They did so with greater frequency, with a greater number and diversity of persons and locations, and with a more concrete and precise shared language.*
>
> Little, 1982 p 325

Little's research suggested certain 'critical practices of adaptability' most likely to support collaborative and collegial working, enhance people's capacity to deal with innovation and socialise new members into new ways of working for the benefit of pupils. These included designing and preparing materials together, observation with feedback, making collective agreements to test an idea and joint research and evaluation:

> *Norms of interaction that support mutual assistance or routine sharing may account well for maintaining a certain level of workforce stability, teacher satisfaction and a performance 'floor', they seem less likely, however, to account for high rates of innovation or high levels of collective commitment to specific curricular or instructional policies …* [or to] *force teachers' collective confrontation with the schools' fundamental purposes or with the implications of the pattern of practices that have accumulated over time.*
>
> Little, 1990 p 531

She goes on to identify these strong ties more closely with the need also for what were originally identified as weaker interactions such as storytelling or providing help and assistance. While more recent work (Avila de Lima, 2001; Hargreaves, 2002; Little, 2002) suggests the importance of a meshing of such interactions in creating and recreating workplace cultures or communities of practice, the critical nature of dialogue, joint work and collaborative enquiry should alert us to the significance of such interactions with students, as well as with adults in schools (McGregor, 2003).

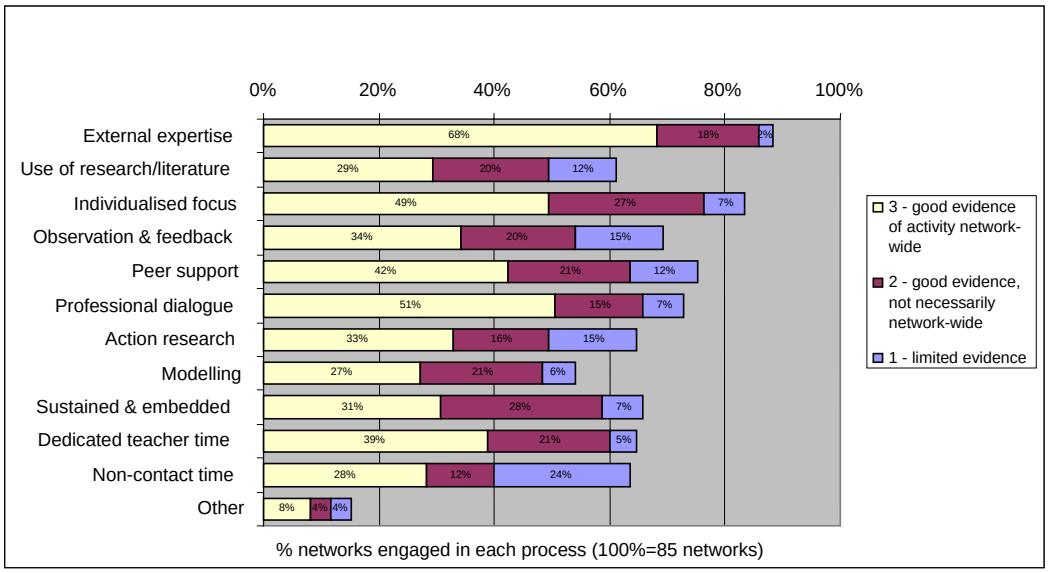
The relationship with school and system-wide reform thus operates by increasing teacher learning and professionalism through working collaboratively, building skills and capacity to generate and support sustainable improvement. As potential professional learning communities (Stoll, 2004), networks have the advantage of being able to move good practice and innovation rapidly, thereby accelerating knowledge creation and innovation.

2.3 Adult learning in NLCs

If learning is where changes come about, then an important question is what *networks* are doing to enable adult learning to take place that will ultimately influence pupil learning. Little (2005) suggests that, given the current difference in research focuses on professional learning communities in networks and schools, '*investigations would benefit from a focus on the activity that constitutes networks and networking*' (Little, 2005 p14). Responses to the NLC programme enquiry 2004 (Hadfield *et al*, 2005b), which focused on what NLCs regarded as their best examples of networked adult learning, indicated a focus on pedagogical knowledge and knowledge of learners. These areas appeared to be more highly networked than others. Such focuses may be more likely to lead to changes in teacher and adult activity in the classroom. Similarly the programme's year 1 review identified the importance of a specific, well-defined pupil-learning focus as a key motivator for adult learning and collaboration (Hadfield *et al*, 2005a).

Initially, NLCs concentrated on building capacity for adult learning, for example, through developing external links, with the degree of internal capacity to make use of this varying from school to school. Figure 2 indicates particular appreciation of processes supported by external expertise, such as keynote speakers, in-service providers, critical friends, facilitators and higher education institution (HEI) partners. Peer support and professional dialogue were also seen as important. What is meant by dialogue and peer support can vary widely, although those carrying out the enquiry were provided with descriptors of the processes identified as effective by the evidence for policy and practice information (EPPI) and co-ordinating review on collaborative CPD.

Figure 2: Adult learning processes identified by NLCs in annual enquiry 2004 (EPPI grid)



Learning activities new to NLCs

The new learning activities that the 76 networks in the year 1 review described as having engaged in and their subsequent plans are illustrated in Figure 3. This highlights the importance of conferences, training and workshops but also shows a bias towards knowledge-

sharing, communication, enquiry and research. Two initially unexpected areas that were reported by networks in the programme-wide studies were new *activities* in relation to work in and beyond networks, specifically intervisitations, initially known as networked learning walks, and pupil voice activity. Pupil voice is not specifically recorded as a new activity in Figure 3 but, in many cases, it was an integral element of other activities, for example, in combination with intervisitations in the form of student intervisitations. These activities could be school-to-school, or more widely networked.

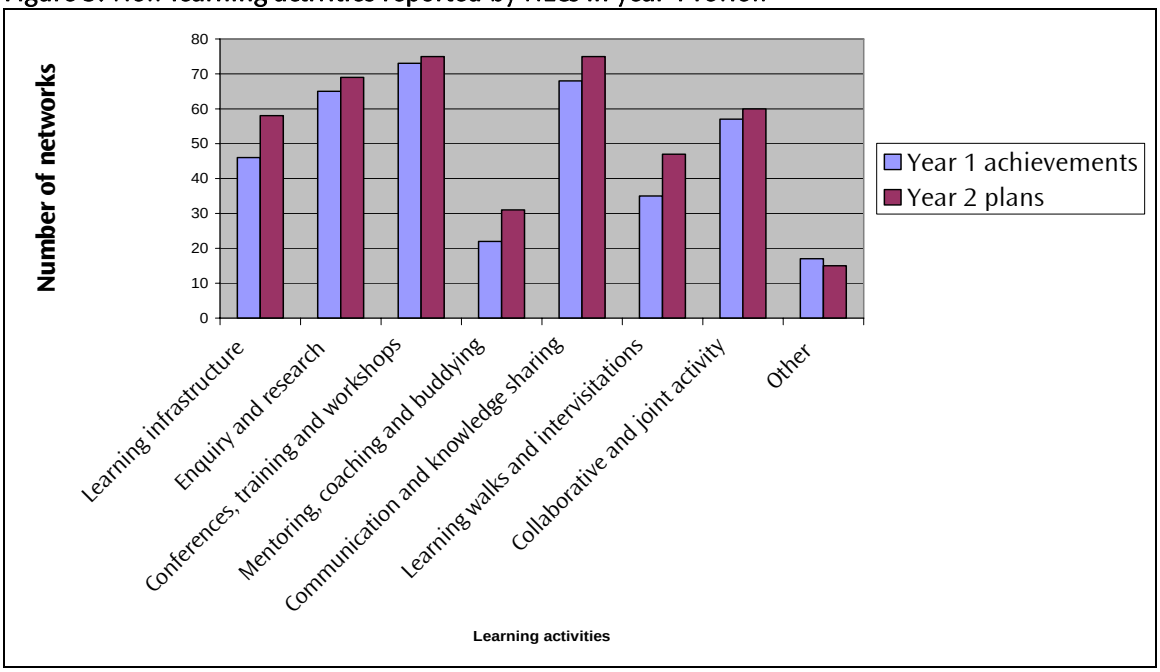
Vignette 1: Adults learning from students (N188)

The network is a leading proponent of student intervisitations. The inspiration for student-led intervisitations came from an NCSL national conference: '*I'd heard about learning walks at the conference in the first year and it had caught my attention. It was about a learning walk in one school with adults, then R and I came up with doing it with pupils. None of it would have happened if we weren't involved in the network*' (co-leader). This attests to the considerable generative power and potential of networking at multiple levels, particularly in active work with students.

The network has produced written and electronic guidance material to help other schools interested in their approach. As with adult intervisitations, the knowledge that is produced arises from a negotiated, shared focus and a serious commitment to a disciplined collaborative process in which each participating institution is both host to and critical friend for fellow members.

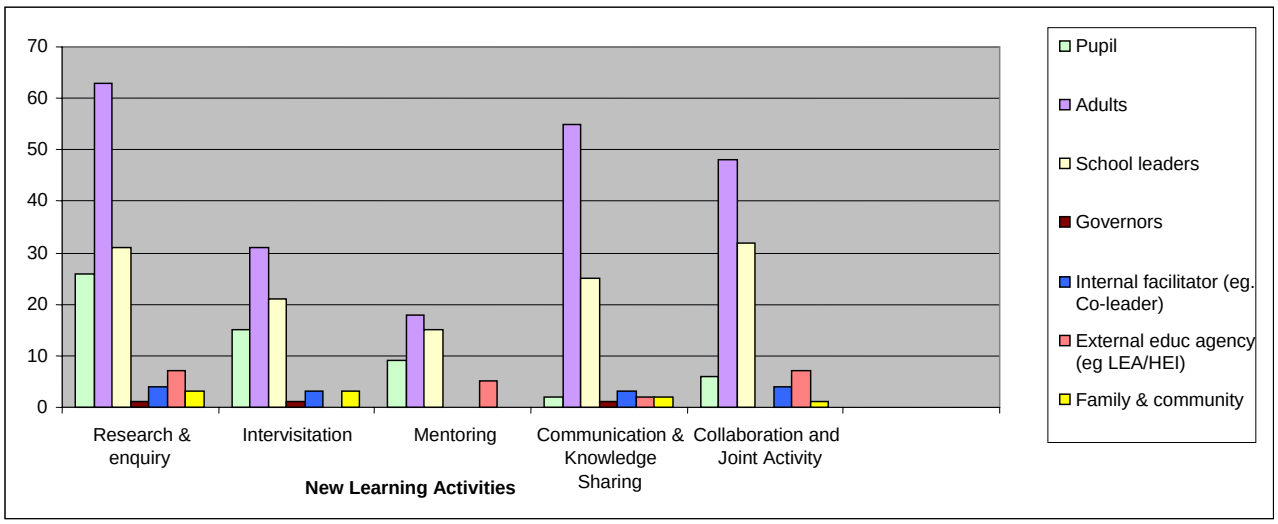
Consulting students about the whole of their experience of the curriculum was not just the stimulus for developing groundbreaking forms of dissemination and practice transfer. Student voice was also the prompt for substantial, subject-based network activity leading to change in the 14–19 Personal Social and Health Education (PSHE) curriculum: '*We talked to the pupils, looked at their self-esteem and their needs and altered the curriculum to suit what they needed*'. In an important sense, the new knowledge emerging from this kind of work is *co-produced* and not just by members of staff involved. Student voice played a legitimate role in the emergence of a new understanding of appropriate, contemporary curriculum offerings.

Figure 3: New learning activities reported by NLCs in year 1 review



The constituencies involved in these activities, eg pupils, adults, school leaders, were also surveyed as represented in Figure 4. The involvement of pupils in networked enquiry and intervisitations was reported to be significant.

Figure 4: Number of references to *new* kinds of learning experienced by different constituencies in cohort 1a during the first year of being a networked learning community



These new activities are described, in the order shown in Figure 4, as:

- **research and enquiry** – the use of both action research and research literature as a springboard for dialogue and experimentation, including observation, explicit and self-conscious modelling and assessment for learning
- **intervisitations** – visits to observe practice in other classrooms or schools, including learning walks with a specific protocol (see Vignette 1)
- **mentoring and support** – group or individual provision of support around teaching and learning, coaching and mentoring relationships (see Vignette 2)
- **communication and knowledge-sharing** – the dissemination of knowledge and information, either face-to-face or mediated through ICT and multimedia
- **collaborative and joint activity** – references to working collaboratively, including planning, teaching and adoption of common processes

Research and enquiry were cited as the most frequent new activity for adults, including learning support assistants and others, with more than 20 references also to pupil enquiry and intervisitations. The emphasis on enquiry and pupil voice and also the value placed upon these activities are seen to have been maintained over time (see Table 2).

Table 2: Best practice identified by networked learning communities (n=83) attending NLG national conference June 2005	
Joint in-service education and training (INSET) days or conferences	8
Joint CPD	7
Cross-curricular planning	6
School inquiry group (SIG)	4
Assessment for learning (AfL)	3
Intervisitations	6
Research/enquiry	21
Pupil voice	15
Dissemination	3
Leadership	6
Pedagogy	11
Network evaluation	2
Other	10
	n= 101 mentions

The data was derived from the learning conversation cards that networks were asked to provide for the NLG annual conference in 2005 identifying what they saw as their best practice.

Vignette 2: Critical friendship, assessment for learning and data analysis (N294)

The network has developed three major ways of sharing new knowledge and practice between its schools. These are through:

- *intervisitations* – the NLC steering group wanted teachers to visit other schools with the aim of developing mutual learning. However, they realised that teachers did not have the skills to do this. This led to the steering group deciding that all teachers and should be trained in critical friendship. Some have already been trained, including several who are now critical friendship trainers. By the end of 2005–06, the steering group intends that all teachers and will have completed a critical friendship training course

- *assessment for learning (AfL) training* – all teachers have been trained in AfL. As a result, classes now have their learning intentions written up for pupils to see. *'We're actually organising twilight sessions to which all the people come'* (co-leader)

- *data analysis* – all schools within the network have decided to adopt a common approach to data analysis on pupils' achievement. They will send a joint booklet out to parents in the area informing to tell them about this. *'We've just committed ourselves … to all getting a level playing field in terms of how we do our data analysis across the schools'* (co-leader)

Networks also provided an indication of the impact that these practices had on pupil learning and, in addition, offered advice to new networks. Impact often related to improved motivation, engagement and feelings of self-efficacy of both staff and students, as discussed in section 5 and illustrated in the following example, which illustrates how adult learning about pupil voice has changed practice and pupil learning:

> *It includes disseminating strategies for children to express their feelings, gain self-esteem and build relationships. We have developed a range of resources, videos and publications which are being used by other network's children's conferences [and] peer support through sharing good practice on a regular basis … In socially disadvantaged areas a school's significant improvement in results has been seen as a direct result of developing whole-school emotional literacy strategies. Children have been able to develop peer mentoring at*

children's conferences, sharing successful classroom strategies with others and doing learning walks in different network schools. Children have been able to initiate and develop ideas in class and in a whole-school context relating to circle time, school councils reward and self-esteem strategies. Relationships amongst staff and pupils and the wider community have significantly improved with behaviour problems being minimised.

Co-leader N258

2.4 Enquiry and school-to-school learning

While most enquiry in NLCs occurred in schools, networks reported a range of approaches to inter-school learning. Some saw networked learning as a goal in itself, to be achieved incrementally, while others saw it both as a goal and as a means to an end.

Approaches to enquiry have taken various forms. Some networks initially concentrated on working on an individual school basis to raise confidence, with school-to-school and networked learning being the second and third stages of the learning process. Others adopted an incremental model of learning in which groups of schools learned in parallel, supported by their local authority or HEI partner. They then came together to share what they have learnt, or encouraged individual schools to develop different aspects of the network's learning focus before sharing the learning across the network. A third group attempted to secure network-wide learning from the start through cross-school groups and leadership. Table 3 illustrates these different approaches. It shows the locations of enquiry that were identified by cohort 1 networks in their year 1 review.

Table 3: The location of collaborative enquiry in year 1

Location of enquiry	Percentage of networks
Within schools	42%
School-to-school	28%
Network-wide	37%
Network-to-network	17%

Table 4 describes what these enquiry activities looked like and illustrates the importance of training and INSET, often from external consultants or partners initially, and of communication and knowledge-sharing (McGregor *et al*, 2004).

Table 4: Activities carried out as part of teacher enquiry

Activity	Percentage of networks	Activity
Training, INSET, speakers	34%	Training sessions to launch enquiry or present outcomes, workshops and learning days to disseminate or embed findings, presentations on enquiry outcomes
Mentoring and support	7%	Research mentors, shadowing, observation and coaching partnerships
Communication and knowledge-sharing	30%	Sharing findings, ideas and practices, summarised literature reviews, production of toolkits
Intervisitations and observation	11%	Observations of practice in other schools
Collaborative and joint activity	28%	Joint CPD, collaborative groups, collaborative planning, research lesson study, collaborative, joint review

Hadfield *et al*, 2005a p 19

Many networks adopted an explicit capacity-building approach in which a member of staff from the network team worked with and alongside staff from network schools.

Vignette 3: Sharing contexts and experience to build capacity (N187)

Network schools worked together on the development of a PSHE programme for one of their number that was deemed to be failing. They trained the staff who were to take the programme forward. The individual most involved in driving this work used a very rich, experiential form of engagement, not only at the failing school but at her own school. Colleagues from the failing school visited her school to get a feel for how she worked in her own context. She told us that '*schools have got to build capacity to take on the work that they are learning about, otherwise it won't work. They'll just continue doing everything as they always have done*'.

There was a recognition that, while changing practice might entail giving people ideas and encouraging people to pick each other's brains, this would never be enough on its own: *'Giving people information to read about what we do is helpful. You can transfer facts that way and they've got something to refer to, but it's more than that'*. Anyone seeking to change the daily realities of classrooms had to understand that '*it's not just about communication, it's about giving people the opportunity to experience something*'.

This vignette and case study data from different networks emphasise the value of *experiential learning* and coaching and mentoring, and the usefulness of providing contexts in which participants can purposefully pursue matters of live concern. In the network highlighted above, sub-networks reported a strong view that new learning arises from the need to address a problem. Effective networking was in other words needs-led: '*I think that you only really start to learn from each other when you're faced with new problems, so if a problem comes up that maybe normally you'd struggle with, to have those people at the other end of a phone or online, makes a huge difference*' (ICT sub-network, N187).

Real problems – real relationships

Various types of interpersonal contact, as opposed to print or electronic communications, are prevalent means of adult learning and skill sharing. Many of these are integral aspects of networks' CPD interventions (Bell *et al*, 2006). The allusion to '*people at the other end of a phone or online*' (N187) highlights an important issue that was clear from a number of networked learning community informants, namely that the fine-grained texture of real-life examples which required an accompanying narrative of some kind was seen to be one of the most fruitful forms of cross-school learning. The narrative might be through a visit to a school or a telephone conversation or a dialogic encounter at a meeting or an online exchange. Key elements seem to be richness of texture and opportunity for learners to ask questions that matter to them in their contexts so they could then make judgements about the relevance or resonance of what they were hearing. In the words of a member of a geography sub-network, '*the way we've learnt best is having these meetings and having people stand up and say "This is what I've done" and actually guided us through a typical example of a lesson or a part of a lesson*' (N187).

A key feature of networks is that they can offer individuals access to multiple relationships with possible solutions for a much wider range of problems and a '*forum for colleagues to address genuinely new, and often difficult, ideas in a safe environment, away from the risk of retribution or censure in their daily place of work*' (Earl *et al*, 2006 p 63). This is complemented by their capacity to enable people to solve or tackle problems and issues with greater speed and efficiency, as '*every school, rather than having one knowledgeable individual about technology, [has] got 10 or 20. So … when you hit a problem you start to share your knowledge. It's almost like on-the-job training*' (N187).

3. Learning and organisational structures in networked learning communities

Developing the right organisational support, processes and structures is a perennial issue in network development (Stott *et al*, 2006). In this section, case study findings, data from interviews with network members and programme reports are used to help develop an understanding of the learning and organisational structures which support effective networking.

3.1 The learning infrastructure

The year 1 review of NLCs (Hadfield *et al*, 2005a) looked at ways in which adult learning processes were supported. One aspect described by approximately half of the 76 networks in the review was the learning infrastructure of a network: the way that networks provide the time, space, roles and opportunities that people need to share practice, engage in enquiry or plan units of work together. It concluded that networks with no infrastructure cannot support networked learning. In this document, networks described how they had created the right infrastructure through:

- scheduling within-school time for teachers to undertake joint work
- providing supply cover
- buying external learning resources such as libraries of books or resource packs
- providing accreditation for network activity through external bodies such as universities
- carving out space throughout the school year by planning a programme of learning
- legitimising new teacher activity by creating new roles such as lead learner, researcher or ICT innovator
- putting in place systems to collect data on pupil performance (Hadfield *et al*, 2005a)

Other adult learning structures and processes were identified in the year 1 review:

- events – such as network conferences, training days and workshops which brought practitioners together
- collaborative and joint activity – including team teaching and joint planning and the use of the same CPD processes
- enquiry and research – including all research-based learning activity
- learning walks and intervisitations – including all formal or informal visits by staff from one school to another
- mentoring and coaching – all processes aimed at pairing adult learners with a colleague with the aim of sharing learning
- communication and knowledge-sharing – including processes for the dissemination of knowledge and information either face-to-face or mediated, eg print, video, audio, displays, making packs of resources available to others (Hadfield *et al*, 2005a pp 161–7)

This list provides us with an insight into the range of learning structures and processes present in NLCs. Some of the structures and processes will be considered in more detail as firstly the organisational arrangements in place to support learning and development at individual and

sub-network level are examined and then some of the organisational and learning structures deployed by the NLG to support learning and development across networks generally.

3.2 Support for learning and development at network and sub-network levels

NLCs developed increasingly sophisticated and imaginative organisational forms to enable and share professional learning for the benefit of teachers and young people. However, structures can only provide an enabling framework for creative and satisfying activity. Networks need to develop a culture of trust (Stott *et al*, 2006) in which teachers and others who support the learning of young people can take risks, feel excited, feel valued and have the satisfaction of knowing their best endeavours have been worthwhile. A culture of dissemination was acknowledged as important. Many of the strategies and processes used to support network activity were designed to build this culture.

Findings from case studies and from interviews with network members suggest that several forms of learning and organisational structures in NLCs operated at network and sub-network levels.

Funding and time matter

Cross-network activity comes to life and is more effective where: key people are trained who can then operate in a capacity-building mode across the network; there is expertise to make high-quality videos and DVDs of key NLC events, particularly in connection with student voice; and there is investment in good-quality printed professional materials in attractively designed folders.

Time is a key element in enabling the organisational framework to operate effectively:

> *These 12 twilight sessions we've got, 6 for the subject learning communities, 6 for the teacher leadership commitments, [time] is far and above the most significant thing that had happened to allow us to make significant progress.*
>
> network co-ordinator N187

Similarly, funding enables *'things to happen, it has kick-started some of the projects ... We've done some coaching, we have given a lot of people knowledge ...* [Funding] *has allowed us to hold meetings in nice venues, to hold a network conference'* (co-leader N187). In terms of building capacity, the network built sub-network meetings into the school meeting timetables to allow them to meet twice a term. In another network, a member of staff commented *'we tend to do in-house workshops and then roll it out. It's a conscious process of building critical mass'.*

Shared targets build community

Another catalyst that can help networks move forward effectively is the development of shared targets and shared responsibility (Earl *et al*, 2006 p 26). An example is all secondary schools in a network building the same transformational agenda into their school improvement plan.

It is important to develop highly structured learning communities and learning activities for specific groups of people

Highly structured learning communities and learning activities in one of the networks led to the development of a number of sub-networks. Sub-networks were specifically created for various groups of people, for example, headteachers, members of senior management teams, subject staff and support staff in particular subject areas. Their development and sustainability was assisted by emphasis on high-quality administrative support, facilitation and co-ordination.

Sub-networks need an official launch

In one network, the way in which subject sub-networks were launched is instructive. A network co-leader stated:

> *The launch is useful and I think it's got to be a little bit more high profile, a little bit special. You don't want a couple of curled-up sandwiches there ... the socialisation of eating with people is very important. The word 'companion' comes from someone you share bread with and there is that element that you will not eat with people that you don't get on with. So the eating element is more than just a bit of a treat and to keep people fresh and watered ... A different type of relationship takes place when people eat together.*
>
> network co-leader N187

When setting up a new subject network, the co-leaders identified who might be the initial leaders as follows.

Network research

In one network, a network research officer conducted a case study of a newly formed networked learning activity. Her aim was to track network development with a view to determining factors that assist sustainability.

High-quality administrators and facilitators are crucial to success

Colleagues from one network constantly underscored the importance of high-quality administrative support in developing effective communication across the network and sub-networks. In the words of a senior member of the network, the administrator turned out to be *'very, very important. I don't think we even understood how important that would be when we defined the job and recruited'*. The job of the network administrator was to:

- manage the day-to-day administration of network finances
- work with teachers and leaders in the school to make available their knowledge for the whole network
- research, set up and manage knowledge management systems that supported network work
- manage communications in the network and with relevant external parties

Communication matters

Communication and successful contact were key elements in effective network activity. An administrator in one network moved knowledge around the network in a range of ways, including building up personal contacts and connections. A network's mode of operating and its culture can fuel enthusiasm and passionate commitment to its work. It is difficult to analyse or map, but there is no doubt that evidence suggests that teaching staff found membership of an effective networked learning community to be liberating, energising and inspiring. The network's appeal and engagement reach into many different dimensions of activity.

3.3 NLG support for programme-wide networked learning and development

Throughout the first year of the NLC programme, the NLG provided opportunities to support network development and learning. The NLG received consistent messages about catalysts and accelerants for change with requests to the programme team for advice and targeted support. These led to a hypothesis that certain kinds of activity offered high leverage in achieving network aims. They were identified as:

- collaborative enquiry
- enquiry-based leadership learning
- pupil participation

A series of development and enquiry groups was set up by the NLG specifically designed to test this hypothesis. Seven development and enquiry groups, working within these areas, advertised for NLC membership in June 2003 with a view to offering opportunities for groups of networks to work and learn together as they developed tools, products and processes for networks and other groups of schools.

As leadership learning is discussed elsewhere (Jopling & Crandall, 2006), this section will concentrate on collaborative enquiry and pupil participation and attempt to broaden the understanding of how these activities supported networked learning and development. Three groups explored and provided support for different forms of collaborative enquiry. The areas explored were teacher researchers, research lesson studies and intervisitations.

Teacher researchers

The teacher researcher programme was developed both to learn from and provide additional support to NLC teachers engaged in practitioner enquiry. The programme was based on the premise that collaborative enquiry can generate professional energy and enthusiasm among teacher advocates and can also stimulate and energise the network (Street & Temperley, 2004; McGregor *et al*, 2004). As adult enquiry in NLCs was specifically designed around a commitment to working on behalf of others, it soon became apparent that there was a need for assistance in presenting and sharing enquiry findings. Hence, in conjunction with the Centre for the Use of Research Evidence in Education (CUREE, 2003), a series of workshops was organised with practitioners who had been identified as research advocates in their schools and networks. The workshops developed writing support tools (Cordingley, 2004).

Research lesson studies

Networked research lesson studies were developed from the initial Japanese model to support a common enquiry design for collaborative classroom innovation and transfer of practice. A research lesson is designed, observed and analysed by more than one teacher and sometimes by pupils. It focuses on the intended and actual learning of selected case pupils. The lesson is discussed, the findings are recorded and new knowledge is generated. The overall result of the study captures replicable practices, which can be accessed across schools, phases, subjects and networks. However, it was found that, while there was considerable enthusiasm for research lesson studies in schools, relatively few interventions were in fact networked across different schools (Dudley, 2005).

Intervisitations

In schools and across networks, the use of the study visit as an enquiry tool provided opportunities for professionals to share what they know and to learn from and on behalf of others. The original model was developed by the Institute for Learning at the University of Pittsburgh with the aim of seeing how enquiries in the form of structured and focused visits to other schools, with feedback on classroom practice, could contribute to school improvement and self-evaluation. This rigorous and robust enquiry process built upon areas that contribute to effective networked learning such as joint planning, shared problem-solving and relationship and community building (NCSL, 2006).

Pupil participation

In their original applications, 30 per cent of NLCs identified pupil voice as a strong feature of their networked learning and 27 per cent did so in the appreciative programme enquiry of spring 2003 (Dudley *et al*, 2003). Networks reported use of pupil voice activity in a variety of ways, including:

- pupil perception questionnaires and feedback on teaching and learning
- conferences for young people
- pupil intervisitations
- pupils as co-researchers and students as researchers

The pupil involvement development and enquiry group focused on supporting joint work between adults and pupils through a series of events, materials and coaching relationships (McGregor & Tyrer, 2004).

These examples give us an idea of the types of programmes provided by the NLG to support networked learning and development. In addition to such programmes, research undertaken throughout the programme has suggested that working with a pupil perspective was particularly positive, both in engaging participants and, subsequently, in sustaining energy and motivation in the process of enquiry (Hadfield *et al*, 2005a; Worrall & Noden, 2006; Stott *et al*, 2006).

4. New forms of dissemination

NLCs have the capacity to provide supportive and creative contexts for knowledge creation and the development of joint practice. In order to build upon that capacity, it is essential to create effective means of dissemination – mechanisms for the sharing of information. Hargreaves (2003 p 13) comments that the '*common methods of transfer* [which] *rely on the documentation of good practice in glossy booklets, websites, videos etc … are weak mechanisms for disseminating new practices*'. Instead, peer-to-peer interactions in a practice-relevant context that has been voluntarily chosen are said to be more likely to lead to the adoption and modification of practice.

This section begins with an observation from a network practitioner about his own experience of the development of transfer. It then moves on to programme-level data provided by NLCs on their network activities and the management of relationships. Programme design incorporated the '*levels of learning*' framework and activity (NCSL, 2002 p 5) which invited all network members to consider how their school and network managed key issues such as knowledge transfer and professional dialogue at six different levels – pupil, adult, leadership, school, school-to-school and network-to-network learning. The interpretation of this data was further developed by an examination of ways in which staff and students in three case study networks went about the process of sharing their work and activity with interested others, looking particularly at what, for those involved, were new forms of dissemination. The section then considers how those developing good work went beyond the provision of information to actual engagement with other professionals in such a way as to bring about desirable changes in classrooms and other places of learning in schools.

4.1 The psychology of transfer

Few examples have emerged of practice illustrating meta-level thinking about different kinds of knowledge or of co-ordinated transfer or joint development arrangements. There were, however, some exceptions. Some work involved bringing staff from different schools together to share ideas. This seemed to be different in kind from a straightforward dissemination model. Here the process was more dialogic and seemed to be driven by a more active form of reciprocity through which those attending engaged, not just out of curiosity, but out of a need to solve particular issues or to take forward developments in a particular area of work. One co-leader had some very interesting things to say on the developmental psychology of transfer and what it did or did not enable. His view was that networks went through different stages of psychological development, largely connected to the gradual build-up of trust in an individual's own judgement and in other people's capacity to be interested in and respectful of people's work.

Different kinds of knowledge seem to be revealed and shared at different stages of the psychological growth of this sharing process:

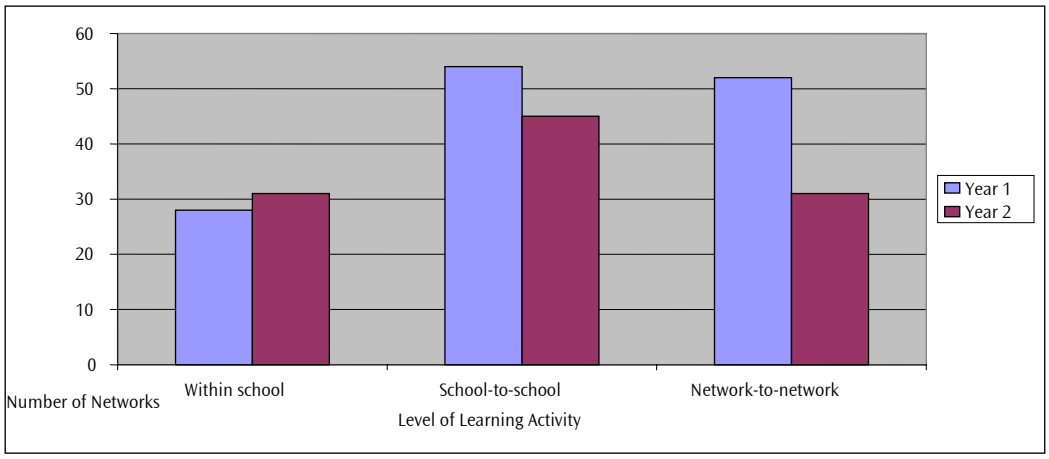
- telling – '*when networks are in their first stages, I think it just tends to be "I've got an interesting resource"*
- sharing – '*It is only later when people actually have the confidence at one level to say "I've got a new way, I've been trying this, what do people think about this?"*". This co-leader thought leadership made an important difference here. Too often, colleagues '*never get past the idea of sharing each other's resources*'
- developing – *'the next stage after sharing resources is you turn into "my staff are rubbish, what did you do with your kids today?"* Whilst accepting that to *'let it descend into that sort of conversation … is very natural and very easy to get into',* the challenge is to move it to the next stage that '*requires somebody with their head on to say: "Try*

this, this is an interesting thing, could this be developed?'" and that encourages people to come forward with ideas' (co-leader N187)

4.2 Network conferences

The year 1 review, corroborated by responses to the programme enquiry which asked about the *most powerful* networked adult learning, revealed that conferences, training and workshops were a major peak of activity in the network life of cohort 1. In particular, they operated beyond the school, thus begging major questions about how non-participants in schools engaged with the work. Such conferences often brought together previously disparate schools in an area and, sometimes, representatives of the whole community.

Figure 5: Conferences, training and workshops: number of cohort 1 networks by level of learning.



(n=76 cohort 1 networks)

The purposes of such conferences determined the structure of the events and highlighted distinctions between NLCs, particularly between those that were pre-existing or newly created. Many representatives of networks were extremely enthusiastic about the opportunity to meet at national, regional and local conferences and reported taking up active learning processes that had been modelled at NLG conferences, such as speed-meeting and learning conversations. Keynote speeches, often by external consultants, were also popular.

Four major reasons were given for investing time and effort in such activities, and these are detailed below.

Launching the network

More new networks had network-wide conferences than mature ones, 66 per cent compared with 33 per cent respectively, reflecting the significance of launches for this group.

Re-focusing and re-establishing momentum

Established networks used them to establish regular spaces in which teachers could work together.

Creating forums to share good practice

For established networks, peer-driven or co-constructed conferences were more popular than more transmission-driven presentations by external experts (Hadfield *et al*, 2005a). Examples

were classroom teachers or students making presentations; and sessions that involved a greater degree of dialogue or engagement in each other's learning than formal training.

Increasing reach

Network-wide events were held by 68 per cent of cohort 1a NLCs, often modelling structures and processes experienced at NLC national or regional events. High profile events and launch conferences helped NLCs achieve a broader reach, beyond the early enthusiasts.

Much of the dissemination activity at NLC conferences went well beyond traditional formats. For example, at an event for the teachers as researchers development and enquiry project, in an activity specifically designed to stimulate network-to-network contacts, the 36 delegates recorded an average of 4 named contacts, with whom they shared details of their enquiry projects.

4.3 Workshops and training

In comparison, the activities cited in the year 1 review were often narrowly focused, both in terms of participants and purpose. Although typically teacher-driven, there was often considerable involvement from an external consultant or partner who provided theoretical perspectives or building skills perceived to be absent in the network. The forums were not always a network conference. Often they were concerned with developing the network in specific areas and, as such, involved a special interest group. Evidence from elsewhere in the programme suggests that the purposes of these forums reflected the nature and focus of the network itself. Purposes of workshops could be categorised as:

Capacity building

For example, teachers intending to engage in enquiry may have attended sessions to develop skills in research or mentoring.

Clarifying roles, focuses and task

Special interest groups or lead learner groups may have been established, for example, through a seminar in which the roles and focuses of their work were co-constructed.

Developing an understanding of each other's context

These workshops were often used by leaders such as headteachers and were instrumental in building relationships of openness and trust.

Developing or refining the pupil or leadership learning focus

This was particularly important at the time of the year 1 review of progress and was also supported by a development and enquiry project.

4.4 Engagement and change

Learning conversations, speed-meeting and other NLG and NLC activities proved vital for many NLC members, not just because they were reaching a wider audience, but also because the process of engaging in presenting their work to others entailed a deepening of their own understanding of the development in which they were involved:

> [We] *have … done presentations to other areas of the country, particularly on AfL or on transition and it's been great because when you do presentations for people it helps you to reflect on your own practice and how you are moving your own self forward. And yesterday we were having our learning conversation, there were seven of us with the people from other networks who had come to listen to us and you're actually sitting there and you're*

actually doing a sort of self-review when we're talking and they're asking us questions which are then moving our own thinking.

teacher N269

This reflective element in creating and giving presentations to others is significant in professional development and presumably learning (Fielding *et al*, 2004; Cordingley *et al*, 2005). The quote above illustrates that situations explicitly designed to facilitate interaction can move well beyond information-giving or dissemination, towards a more active engagement with ideas and possibilities that may subsequently be taken up and developed back in the network or in school.

Vignette 4: *Organic growth and the emergence of companion structures* (N294)

It was quite clear for some colleagues that starting small, with enthusiastic, like-minded people facing similar situations and challenges in their work, had the potential to lead to very powerful cumulative learning, often in the most unexpected directions:

> *From initially just 4 of us getting together, we now have termly meetings and we have up to about 30 people ... It's expanded beyond the literacy project. Now, fired up with that we then started a numeracy project … We've got an ICT project where the children start a PowerPoint presentation in the primary and they continue working on that in the secondary.*

Innovative work has to be supported by appropriate structures. Visible results are important:

> *At the end of the day, there's a purpose as to why we're getting together, and I think that's probably important for all the network groups. We have a purpose ... There's quite a clear structure as well for what goes on. We've got timetable s... People see it as it's helped them and we've had, not necessarily quick wins, but successes and it's made people see that this is making a difference.*

The end result of this intensive and enthusiastic work is increased motivation and commitment to changing individual practice for the better in order to serve children's learning needs in a more productive and satisfying way. This last point is particularly important because it connects directly with improvement in the classroom:

> *The curriculum group has gone further. We've had Key Stage 3 staff come and do observations in the primary and the other way. We've had Key Stage 3 staff go and see what goes on in a literacy and numeracy lesson ... and the key thing that has come out of it is that expectations* [placed on pupils] *have been raised.*

Table 5:. Forms of dissemination evidenced from the Sussex case studies

NLC 1 (N188) (no evidence of sub-networks) Facilitated by network administrator	NLC 2 (N187) (a secondary network with mostly subject-based sub-networks) Mostly text-based, supported by network administrator and researcher	NLC 3 (N294)
Training the trainers Building capacity by creating a cadre of trainers to work with colleagues on specific developments **Big events for young people** Widely publicised, professionally run and managed events designed to appeal to young people and focused on issues of concern to them **Video and DVD** Based on big events, used widely as a dissemination tool in the NLG programme and beyond. New approaches, eg student intervisitations, can be captured in this way **Individual and group contacts** • contributions to *Nexus* magazine • co-leader distributed conference videos within and beyond the NLC programme and was active in national and policy circles on pupil voice and Every Child Matters • network groups attended (and ran) NLC regional conferences and seminars. They contributed exhibitions and workshops to annual NLG conferences and participated • in activities designed to facilitate information-sharing	**Colourful newsletters** 1,600 copies sent to all network employees and to 150 learning assistant staff from assistant director to administrative assistants and educational psychologists, other networks and contacts. Some get multiple copies for distribution. Copies also sent to *TES*. Network-based content: • photos of members • information about activities • pictures, quotes from teachers **Newsletters** from the network administrator Smaller circulation eg 260 copies of a subject leader newsletter go to headteachers and subject leaders. Every newsletter carries a statement of purpose eg '*This is to update you on the series of skills workshops for subject leaders',* details of activities and speakers, audience evaluations of usefulness, links to workshop notes or publications, fliers for forthcoming events, including photos. **E-newsletters** Sent to *Leaders of Professional Learning* (CPD co-ordinators) and *Behaviour for Learning* groups. They also get e-newsletters from the network administrator updating them on activities in their groups. Content overlaps with newsletters with statistics of staff attendance from each school and a link to see attendance lists. **Knowledge prompt sheets*** An imaginative approach to encourage knowledge-sharing. Leaders of professional learning complete a knowledge prompt sheet with items they want to share. The network administrator adds outcomes to e-newsletters. **Virtual learning environment (VLE)** Supported by one of the network facilitation team. The aim is '*to go and take knowledge off teachers and put it where other people can find it, spread it around and a VLE is the obvious place … it depends on the facilitation … a teacher is not just going to put it on'.* **Individual and group contacts** • contributions to NLG *Nexus* magazine • co-leader contributed to the NLG publication *Making Mathematics Count* • network groups attended NLC regional conferences and seminars. They contributed exhibitions and workshops to annual NLG conferences and participated in activities designed to facilitate information-sharing	**Training the trainers** Investment in processes that help the network to deepen capacity to learn from mutual professional encounters: an approach adopted after disappointing experiences with networked study visits. 20 staff trained as trainers using a critical friendship approach **Big events for adults** Sub-networks had slots in whole network conferences **Reports** • Steering group heads met monthly. Each reported orally from their NLC sub-group. • A formal written report from sub-networks was sent to heads. Written reports went to other key groups. Multiple feedback, from identified key people in different groups, contributed to developing network synergy and the capacity of different groups to form links with allied or complementary activity in the wider network. **Individual and group contacts** • contributions to *Nexus* magazine • network involved in a national research project on Assessment for Learning • network groups attended NLC regional conferences and seminars. They contributed exhibitions and workshops to annual NLG conferences and participated in activities designed to facilitate information-sharing

Sample knowledge prompt sheet (see table above)

- ✓ Have you heard that … ?(*news related to professional learning)*
- ✓ I have used and would recommend. .. (*professional learning literature, people you have used, websites related to professional learning)*
- ✓ Something we do at our place … (*sharing particular practices which support professional learning in your school*)
- ✓ Would you like a copy of … ?(*sharing things you have produced in your own school such as policies, papers)*
- ✓ Would you like to come to … ? (*invitations to professional learning activities in your school that you are happy to open up)*
- ✓ Can anybody help by ..? (*information, ideas, invitations etc)*

5. Changes in classroom practice

It is the issue of translating new adult learning into real change in the classroom that provides the most compelling reason for the promotion of learning networks. However, hard evidence of networks' effectiveness in this sphere is more elusive, more difficult to define than any other type of outcome. Changes in classroom practice that bear the hallmarks of network engagement are not hard to find at the level of individual and collective testimony. What is more difficult to detect and describe are the footprints of practice that lead from network activity to institutional change at classroom level.

There is programme-wide data testifying to impact on attainment in SATs and GCSEs (Mujtaba & Sammons, 2006; Crowe *et al*, 2006). The difficulty lies in establishing a causal link between these improvements and what the network has done. It is also important to consider what it is about networking that enables such improvement at the level of the individual in the classroom. It is, as ever, difficult to track the precise trajectory of activity from macro to micro, from collective processes to individual outcomes.

It is also important to remember that the programme placed considerable emphasis on benefits to the whole pupil, beyond the mere acquisition of higher examination grades:

> *The impact of learning networks has been as much about making a difference to both the children and adults involved, in terms of personal motivation, professional development and engagement with learning as about achieving measurable improvements in attainment Sustainable improvement must be built upon a healthy and happy system which is culturally congruent with the challenges it is facing.*
>
> Howard, 2006 p 29

The other benefits that Howard touches on in his review of the programme, the difference he refers to, are less susceptible to quantitative analysis. This does not mean such changes in practice have not taken place or that the footprints do not exist. Rather it is to say that, at the level of the classroom practitioner, NLC data rarely goes beyond self-report and the conviction of recent engagement. The strength of that testimony certainly suggests that more fine-grained ethnographically based research is needed and that the likelihood of its success is high. Nonetheless, with some notable exceptions, the data from NLCs does not have the depth and richness that enable confident answers to questions that have to do with:

- the internal structures and cultures that facilitate the move from network experience to in-school engagement
- how meso-level school engagement continues the short, but difficult, journey to classroom encounter and possible change in the routines and realities of daily teaching

In spite of this difficulty, this section offers a series of vignettes of changed practice from individual networks.

5.1 How adults changed

Recent studies detailing what constituted high impact on teachers reported gains in teacher skills, knowledge and understanding as a result of networked interventions (Bell *et al*, 2006). These included:

- deeper understanding of the vocational aspects of learning
- understanding of mediated learning
- awareness of the mechanics of change

- awareness of the role of the community
- greater knowledge and understanding of inclusive practice, classroom-level skills and communication and networking skills
- new knowledge and understanding about integrated reading, language and arts
- greater understanding of the learning process

Those interviewed for the programme-level enquiry in 2004 spoke of precisely this enhanced appreciation of learners and the learning environment, with the reports indicating a particular focus on pedagogic knowledge and knowledge of learners.

The enquiry indicated that changes in teachers' knowledge and understanding were felt to lead to clearly identifiable behaviour changes. These were extensive and broad reaching in some high-impact studies, eg less didactic and more facilitative teaching, enhanced use of technology, teachers teaching teachers, and rather more tightly focused in others, eg advances in understanding of inclusive environments leading to changes in practice, connecting content to previous lessons, or developing new approaches and materials. The interventions also influenced teacher attitudes, skills, confidence, motivation and feelings of efficacy, all of which were identified as critical elements of professional communities (Louis & Kruse, 1995; Stoll *et al*, 2006).

Vignette 5: One for all and all for one (N224)

The network ICT co-ordinators' group ensured that resources were open to others on shared drives in schools and via training and on CD. Where a school developed expertise in a particular area, such as film and digital video in one case, that expertise was not confined within the school gates.

Governors, parents and local authority advisers were all impressed by the integration of ICT into the curriculum. All of the schools visited were doing interesting things with ICT and multimedia to promote children's and adults' learning. What the network added was a collaborative dimension that meant ideas were shared at the same time as resources and practices were being constructed.

For example, the Chocolate Palace was a multimedia resource for literacy, created by children and overseen by a Year 3 teacher in one network school. She wanted to make cross-curricular links between literacy, ICT and design and technology. The class spent three weeks on this one activity, writing their own fairy story, creating shoebox scenes and recording them with digital cameras to create interactive e-books using PowerPoint. As a finishing touch, the children recorded themselves reading their part of the story.

When the project was finished, it became a network artefact shared at first in school, then used in staff ICT training for the network as a whole, where it was shown as an example of how cross-curricular literacy links could be created. At one network school, one boy spoke about how much he had enjoyed working on the project. It was the first time he had felt confident in his ability to produce extended writing.

5.2 How changing culture changed practice

Adopting a culture of enquiry influenced the practice of many networks. NLCs were required by the NLC programme to identify and work with an external partner such as an HEI. Alongside this, the programme established a series of workshops with HEIs to explore ways of creating more equal and flexible partnerships. Many NLCs took advantage of this opportunity to reinforce their commitment to collaborative research and enquiry. In a review of NLC and HEI partnerships, Plummer & McLaughlin (2006) drew together evidence of the positive impact of collaborative enquiry:

> *Teachers reported considerable influence on and changes in their classroom practice. They argued that increased awareness of and reflection on practice, combined with data*

collection and collaboration, led to changes in classroom practice which were deeply connected to a sense of professionalism, professional learning and professional development. The collaborative element was a very important factor and there were a range of forms of collaboration. Secondary schools groups that were formed around subjects and departments seemed to show a clearer impact trail (McLaughlin et al, 2005). The biggest impacts at school level were on practitioners' professional self-image, motivation, professional learning and development. Many talked of how effective and different it was as a form of staff development. Engaging in research and enquiry strengthened schools as learning communities. Many interviewees talked of a shift in professional conversations, with a more learning-centred focus, with both teachers and pupils being considered as learners. Others commented on a shift in discourse in schools, the discourse from one focused on the move from performance to a more enquiring style of debate and sharing.

Plummer & McLaughlin, 2006 p 23

Vignette 6: Research in the classroom (N193)

The network selected three broad research themes: independence in learning for students and staff; the development of student voice in learning and the use of evidence; and learning about leadership. Schools and individuals interpreted these according to their contexts and interests. New roles and responsibilities were established in each school to support both research and networking activities among schools and with the network's HEI partner:

- *Teacher research co-ordinators (TRCs)* were tasked with co-ordinating and supporting research in their schools and networking with each other and the HEI. They were released from timetable for the equivalent of one day a week and they were found to be most effective in schools where this time was protected most consistently.
- *Student voice co-ordinators (SVCs)* co-ordinated research in their schools around issues of student voice.
- *Headteachers* were expected to support the management of research in schools and to network actively with each other and HEI members. It was clear that the support of headteachers in the creative use of resources was important for all those engaged in research activities, for example, by building research into the school development plan and engaging in research themselves.

An HEI partner provided research support and critical friendship to the schools' development of a research culture, co-leadership – particularly in the areas of research and the development of structures – and financial and administrative co-ordination. Earlier efforts to engage the network as a whole in more focused collaborative research had been less successful. The three shared research themes provided a common structure for the network's research activities, while being sufficiently flexible to be customised for individual schools, teachers and students.

However, where partnerships were less effective, this was found often to be related to cultural tensions which caused clashing value systems and beliefs, with schools and HEIs having different attitudes to accountability and to the function and status of research (Plummer & McLaughlin, 2006).

5.3 Network-wide impact

Little (2005) refers to a substantial body of research on the professional benefits of reflexive practice that involves collective questioning of ineffective teaching and examination of new concepts of teaching and learning. In their evaluation of the NLC programme, Earl *et al* (2006) explain how these collective practices are enhanced in enquiry-based networks:

The enquiry processes of questioning practice, reflecting, seeking alternatives, and weighing consequences promote the 'transparency' of what otherwise might remain unobservable facets of practice, making tacit knowledge visible and open to scrutiny.

Earl *et al,* 2006 p 24

However, a Wolverhampton University study of six networks (n=72 schools) uncovered some of the problems of introducing genuinely network-based enquiry. The study explored the way in which NLCs can support schools to learn from research and evidence (Devlin & Beresford, 2006). Networks were selected because they had evolved a '*positive attitude to evidence-informed change agendas over the 3 year funding period'* (Devlin & Beresford, 2006 p 19) and had demonstrably established the status of practitioner research: *'In most networks this represented a substantial cultural change … some of the networks have established a considerable research portfolio from a very low level of research awareness and capacity'* (ibid p 12).

The researchers noted limitations when it came to the dissemination of enquiry outcomes and a consequent ambiguity about ensuring that teacher research was understood and used by all colleagues in the network and not just those who attended the same meetings as the researchers. Written reports, newsletters, articles and websites were used less often for this purpose than formal meetings and, in terms of dissemination beyond the school, the profile of these research-active networks was illustrated in their presenting research papers at conferences: a way for originators to articulate their own learning. The accumulation of enquiry knowledge in archives raised the question of the need for ongoing support if such a resource was to be used. Thus, although the development of a culture of research and enquiry was seen as very positive, the dissemination, sharing and use of research findings beyond the committed few were relatively undeveloped. Commitment to collaborative enquiry was nevertheless confirmed as a key factor in changing institutional cultures.

Vignette 7: Enquiry changes network schools (N187)

Initially the network engaged in considerable work around thinking skills in maths, which developed an enquiry into problem-solving in maths. This enquiry process had an exceptional impact. The headteacher of one network school acknowledged that as a result the school had adopted a research approach in everything it did, describing the process as 'empowering'. The deputy teacher commented: *'As a result of the teacher enquiry, we are more determined to try new things. I now look for evidence in everything I try and the school* [is] *now more innovative and reflective*'. A senior teacher described how engaging in research that captured perceptions about the classroom climate had informed her own practice.

This commitment to research and evidence-informed practice also demonstrated the developing reciprocity between school and network. The school, for example, focused on assessment for learning and contributed to networked learning through leading on peer marking. Different schools tried different things and fed back half-termly. Making this possible at school level, however, required strategic planning.

One teacher in the school incorporated some of the maths problem-solving and thinking skills strategies into her classroom, ensuring, for example, that there was a problem on the board for Year 4 pupils to solve every morning as a settling exercise. Furthermore, the iterative processes in the network's strategic development are also apparent at school level. Adapting the maths problem-solving framework for literacy had an 'extremely positive' impact on students. The impact of the network's focus on student voice, thinking skills and oracy was evident in classroom displays, activities and pupil responses.

> *The learning policy – the implementation of that – is having the impact of seeing motivated children, creative. We're getting there and it's fantastic. The results, the attitudes, the calmness in the school – that's what we've been striving towards – and as a network the impact of some of the inputs really have had that direct impact. And they're so confident, that's one of the key things.*
>
> Head teacher N187

The impact of the network's focus on pupil voice was felt at school level, to differing degrees. One network school had begun to include students in interviews for teaching posts while others were concentrating on the development of student councils. Schools across the network believed that it had supported innovation and also acted as an accelerant in areas such as school councils.

6. Conclusion

This final chapter stands back from the research and evaluation work considered in the main body of the report and focuses on what seem to be some of the key issues and messages suggested by the corpus of work reviewed.

6.1 Summary

Section 1 identified the key questions for this overview of the available research on NLCs. This does not mean that the answers that have been provided are either comprehensive or definitive, but they are logical conclusions reached in the light of the evidence and analysis available. The evidence is summarised below.

What new forms of practice transfer and joint practice development are visible in NLCs?

NLCs were quick to see the potential of **intervisitations** (see 2.3 and Vignette 1) as a mechanism for creating new working relationships, a practical approach to collaborative problem-solving and a means of fostering new forms of professional dialogue. They have adopted and adapted intervisitations to cater for a growing interest in **pupil voice** (see 2.3 and Vignette 1).

Other new forms of practice included **research and enquiry** (2.3, 2.4), **mentoring and support** (2.3) and **communication and knowledge-sharing** (2.3).

Other forms of collaboration and joint activity included **planning**, **teaching** and **adoption of common processes** (see 2.3 and Vignette 2).

The new learning generated in NLCs was needs-led and pupil-centred. It was dependent on an expanded range of professional dialogue and the access to a wider range of experience and of professional relationships that a network can offer. **Sharing experiential learning** offers access to a greater variety of peer expertise than can be found in any one school (see 2.4 and Vignette 3).

What learning and organisational structures have NLCs used to support their work?

NLCs did not begin with the objective of creating new structures and processes but, in order to achieve their learning objectives, they had to adopt different ways of working. They had to engage in **network-wide planning** in order to secure regular meeting times and work schedules. They had to develop **shared targets** (see 3.2 and Vignette 6). Both teaching and support staff took on **new roles** such as lead learner, teacher-researcher, ICT innovator or network administrator (Vignette 6). This often entailed **training** for specific tasks (see 3.2). Large-scale **events** were particularly popular (3.2).

In addition, to maximise use of their internal resources, the most successful NLCs became adept at taking advantage of external provision such as that offered by the **NLG** (see 3.3) or brokered through partnerships with **HEIs** (see 5.2 and Vignette 6).

How have NLCs chosen to share and disseminate their work?

Many network members exhibited a marked preference for **face-to-face contact** and **professional dialogue**, particularly when it was structured to address a specific problem (see 4.1). This was frequently managed in **workshops** and **targeted training** (see 4.3).

Written and multimedia products eg DVDs and newsletters, also had an important role to play, with some networks, though not as many as expected, making effective use of **ICT** (see Table 5). These were most effective where they had a specific purpose that was clearly relevant to classroom practice (see Vignette 4).

What has been the impact of networked learning for adults on classroom practice?

Statistical data indicates that there has been significant change in some classrooms in some networks but it is more difficult to define exactly what innovation produced that change. Individual reports attest to positive differences in practice and culture since networks' inception.

Many classrooms benefited from **shared resources** with the added benefit that these frequently came with advice from practitioners who had already used them (see Vignette 5).

Increased activity around practical issues produced a climate in which **professional dialogue** flourished (see 5.2).

Involvement in collaborative enquiry encouraged **greater reflexivity** and adherence to **evidence-based practice** (see 5.2 and Vignettes 6 and 7).

6.2 Emerging issues

Dialogic engagement

These answers are, in many cases, highly suggestive. This review of NLC activity suggests that processes and dissemination strategies which entail significant elements of *dialogic* engagement stand a good chance of preparing the way for educational change. This change becomes yet more likely if the processes themselves model dialogic engagement and are supported by accessible materials. What emerges strongly from the data is evidence that some of the dissemination practices modelled by networks and the NLG encouraged participants to use those *processes of engagement* that were both experiential and dialogic. Some NLCs appear to have developed and supported broader forms of dissemination, such as intervisitations and learning conversations, which were based on active, reciprocal learning techniques. This led in some cases to learning which inspired and enthused participants and changed their thinking. This may have implications for both professional development and school cultures more generally.

Joint practice development for classroom change

Given the importance of the distinction underscored by the University of Sussex and Demos research (Fielding et al 2004) between dissemination and actual change in classrooms and other contexts for learning, attention was paid to how engagement with different kinds of joint work influenced what teachers actually did as part of their daily interactions with young people and with each other. This is an area where the NLC programme achieved some major successes. The fundamental necessity of attentive and respectful reciprocity is threaded through the accounts of joint practice development as a priority among the professional requirements for sustainable changes in practice at classroom level. This is reflected in the NLC programme's external evaluation report which described joint work that challenges thinking and practices as occurring '*when teachers and headteachers move beyond comfortable relationships and sharing ideas to work together on projects that compel them to stand back and reserve judgement, make their beliefs and practices transparent and open to scrutiny and participate in collaborative enquiry that either reinforces their perspectives or replaces them with higher leverage alternatives'* (Earl *et al*, 2006 p 76).

Sharing the learning

However, not all NLCs have succeeded in following the path from adult learning through to joint practice and the ultimate goal of classroom change. The three stimulants identified by networks themselves as high leverage in producing change – collaborative enquiry, enquiry-based leadership learning and pupil participation (see 3.3) – were strong features in the successful networks that have provided the basis for many of the case studies and vignettes but,

despite the encouragement offered by the NLG, they were not common to all networks. The external evaluation (Earl *et al*, 2006) confirms this paper's hypothesis that, while there is no directly observable link between school-based enquiry and changes in pupil learning, both are associated with changes in thinking and practice. So it is a matter of concern that many schools, including many in NLCs, choose not to engage in enquiry or to undertake systematic data analysis to inform practice: *'the least frequent activities in both schools and networks were drawing on research to improve practice and sharing and discussing research with colleagues'* (Earl *et al*, 2006 p 44). It is now a major challenge to ensure that the many benefits accruing to schools in networks are shared by all those, both in and outside NLCs, who are not yet actively involved in networked learning.

6.3 Implications for further research

A number of issues have emerged that call out for further research as networks and collaborative practice develop. This section focuses on two that seem to be particularly pressing.

From network to classroom

It has been hard to establish what evidence there was that the products of network engagement translated themselves into things that went on in classrooms that benefited children's learning. It is therefore suggested that research could identify networks with strong track records of practice development and derive a more fine-grained feel for how that is translated into the practical realities of either classroom practice or some other dimension of school life that exemplifies learning, primarily through participant observation.

Similarly, the enthusiasm unleashed for collaborative enquiry and pupil voice were hallmarks of the programme, supported by considerable resources and events such as national conferences. It was disappointing, but perhaps not surprising, that the external evaluation could not uncover more evidence of change in the perceptions of teachers as a result (Earl *et al*, 2006 pp 52–3). Further enquiry into the relationship between networked learning, pupil participation and school improvement would be of value.

Learning on behalf of

It has also been very difficult to establish whether colleagues at school were able to benefit from the learning of those engaged in networking. There was little evidence that pointed to ways in which schools made arrangements to learn as a community from their colleagues' involvement in the NLC. This is not to say that the evidence is not there, rather that this is a very important professional issue to address. It is also closely linked to a broader concern with the conceptual, and consequently the empirical, looseness of a number of key aspects of NLC advocacy, notably what is meant by 'community' and its operational realisation in the influential notion of 'learning on behalf of'. There seems to have been little attempt in the literature to articulate important distinctions of the kind that Fielding suggests in Table 6 below and yet a huge amount hangs on their capacity to mark out matters of ethical, aesthetic, pragmatic, political and educational importance.

Table 6: Towards a new typology of human association

Collaboration	Collegiality
Co-existence	Community

Fielding, 2006

Investigation of what these terms connote in practice, of what is meant by 'learning on behalf of others' and how others access that learning would be potentially helpful in establishing a better understanding of how the benefits of networking are realised and supported, both organisationally and culturally, in individual schools and classrooms.

Sources

Data examined for this paper came from the following sources:

Programme-level enquiries

- year 1 annual review 2004 (cohort 1)
- year 2 annual review – activity logs
- programme enquiry 2004 *Leading adult learning in networks*
- external evaluation phases 2 and 3
- annual conference 2005 data

In-depth case studies

- 1 network case study conducted for practitioner research report (McLaughlin *et al*, 2005)
- 3 case studies of networks conducted for footprints of practice interim report (Fielding & Robinson, unpublished)
- 10 case studies of networks conducted for the programme enquiry 2005 into the impact of networks on pupils

Other data

MORI report (MORI, 2004) on collaboration
Unpublished material (2006) from Michael Fielding on collaboration and collegiality

This paper was produced as one of a series of four research legacy papers based on comprehensive analysis of all the research conducted and commissioned by the NLC programme. The other papers examine pupil learning in networks; leadership in networks; and how school-to-school networks work.

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