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Researching Teachers, Researching Schools, Researching Networks: A Review of the Literature

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INTRODUCTION

This review is part of a larger research project that is being undertaken for Networked Learning Communities, the main theme of which is the sustainability and development of practitioner research and enquiry in networked learning communities. We have aimed to examine critically existing international and national research and thinking in the following key areas:

1. Practitioners as researchers and enquirers. This includes both individual and collaborative teacher research.
2. Schools as researching institutions, which includes students as researchers or participants in enquiry. This section and others examine relationships between schools and other external organisations focused on enquiry and research.
3. Networks with other schools which are focused on enquiry and research

Throughout these three sections we have pursued the following research questions:

- What is understood by research and enquiry?
  - By different people who engage in this activity?
  - What do people chose to do as research and enquiry?
  - Why do they do it?
- What is the effect of research and enquiry on a school?
  - How does it benefit a school or schools?
  - How is it understood by those engaging in and promoting research and enquiry?
- What sustains the effective use of research and enquiry in schools? What are the implications for sustainability and organisational redesign at the following levels:
  - The organisational level.
  - The leadership level.
  - The level of external support (e.g. relationships between schools and other organisations such as LEAs, universities, national government bodies and other professionally related organisations).

We have undertaken a systematic search of the literature, using electronic databases, recommendations from key personnel in the field and by searching the Internet. We have aimed to include research studies but have also included key writings that have been conceptually influential or ground breaking. The first two sections build to the final section but all sections can be read as free-standing. The extent of the writing in this field is considerable and we cannot claim to have been comprehensive, but we have aimed to be representative of different views and to have considered key research studies.

PRACTITIONER RESEARCH AND ENQUIRY

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Introduction

This section will explore the traditions of individual and collaborative practitioner research and enquiry and the different conceptions and purposes of practitioner research contained within them. Current debates about the place and form of this research are debated and research on the effects of and conditions for practitioner research and enquiry explored. The argument is that practitioner research and enquiry is a particular form of knowledge generation with its own particular warrants and place in the generation of knowledge about practice.

The arguments for practitioner research and enquiry

Dewey described teachers' contributions to educational research as an 'unworked mine' (1929). This theme echoes in the work of Lawrence Stenhouse, 'It is teachers who in the end will change the world of the school by understanding it' (1981), Hargreaves, 'One alternative is to treat practitioners themselves as the main (but not only) source for creation of professional knowledge' (1999, p.125), and others (Elliott, 1991; Rudduck & McIntyre, 1998; Zeichner & Noffke, 2001). These writers have argued for teachers to be more than the subjects or consumers of educational research and for practitioner research and enquiry to have a particular role in the generation of educational knowledge. However, the traditions contain different conceptions and place a different emphasis on the role, nature and purposes of practitioner research and enquiry. There has also been much debate about the quality, status and type of engagement of practitioners.

There is a long tradition of tension between two contrasting aspirations for practitioner research and enquiry. One is that teachers should investigate their own practice to improve it. The other is for practitioner research to contribute to public knowledge about teaching and learning. The following quote from Bridget Somekh illustrates the contrast:

> ‘If action research is not recognised as a research methodology, the knowledge generated from action research is neither taken seriously nor disseminated widely and effectively. The knowledge is seen merely as an outcome of a professional development process, devalued into something that concerns only the individual who carried out the action research – local, private and unimportant. In this way the operation of power in the social system works to neutralize the voice and influence of practitioners and promote the hegemony of traditional academic researchers’ (1993, p. 28).

The different traditions, conceptions and purposes of practitioner research and enquiry

One can distinguish different traditions and purposes in practitioner research and enquiry: research and enquiry undertaken for primarily personal purposes; research and enquiry undertaken for primarily political purposes; and research and enquiry undertaken for primarily school improvement purposes. Often these are interwoven, not simple and distinguishable or as neat as here presented. This section of the review will deal with the first two of these. The following section will deal with the third of these categories. The first two can be characterised as a ‘bottom up’ tradition, while the third might often be ‘top down’.

1. *Research and enquiry undertaken for primarily personal purposes*

   This framework contains the teacher as researcher, action research and reflective practitioner traditions, as well as the work undertaken by subject associations in the USA and the UK. Research and enquiry can be individual or collaborative but largely the work is characterised by practitioners following their own agendas for research and enquiry, rather than those of the school or policy makers.

   The action research tradition in the USA

   The action research tradition can be traced back to Kurt Lewin (1946) and John Collier (1945). These two were concerned with a form of research that would redress some of the social imbalances, promote democratic forms of leadership and address the needs of disenfranchised groups. Corey (1953) built on the Deweyan idea of enquiry and advocated

action research specifically for the study of education. He felt that it would help teachers to make better pedagogical decisions and his work focused on curriculum problems. Action research here was a collaborative group activity, with those in higher education or outside of the classroom often leading the collaboration.

Action research was generally seen as a cyclical process of identification of a problem area; selection of a specific problem; the collection of evidence on actions; inferring generalisations from the evidence regarding the degree to which the goal had been achieved; and the continuous retesting of the generalisations. Others, however, saw action research as a linear (Taba & Noel, 1957) and hypothesis testing process.

Action research fell into disrepute in the USA in the 1960s due to the dominance of the positivistic paradigm in research; the use of action research as an in-service education method rather than a methodology of knowledge production; and a shift in the form of educational research at a federal level, whereby research and development centres were set up in universities across the country (Zeichner & Noffke, 2001).

Zeichner and Noffke (2001) show that the teacher research movement re-emerged in the USA in the 1980s influenced by the growing acceptance of qualitative and case study methods; the pioneering work of many teachers of writing, who conducted case studies on the teaching of writing; the increased emphasis on action research in university programmes and the reflective practitioner movement inspired by the work of Schön (1983). It included conceptual work, both theoretical and philosophical, and empirical research. Included in empirical research is journal work; oral inquiries in groups; classroom studies based on observation, interview and document collection.

Zeichner and Noffke (2001) note that despite this resurgence, 'Much practitioner research, however, still remains as part of a fugitive literature that is accessible only locally' (p. 304). It remains a knowledge that is largely shared orally at conferences and other meetings. Cochran-Smith and Lytle (1993) define teacher research as 'systematic intentional inquiry by teachers about their own school and classroom work' (pp. 23-24). They argue that this is the purpose of practitioner research and enquiry. This tradition of

research and enquiry undertaken by practitioners in their own subject area is also to be found in the UK.

The teacher-as-researcher movement in the UK

Stenhouse initiated much of this work while at the University of East Anglia. He coined the term teacher-as-researcher in 1975. He argued that, 'It is teachers who in the end will change the world of the school by understanding it' (1981) and that being an extended professional involved studying the work of teaching and researching it oneself, not leaving it to others (1975). It involved three main elements:

- 'The commitment to systematic questioning of one's own teaching as a basis for development.
- The commitment and the skills to study one's own teaching and
- The concern to question and to test theory in practice' (p. 143).

Research and enquiry were connected to school-based curriculum developments such as 'Man a Course of Study', the 'Humanities Curriculum Project' and later the 'Ford Teaching Project' and 'Teacher-Student Interaction and Quality of Learning Project' (Elliott, 1976-1977; Elliott & Ebutt, 1991). Stenhouse (1979), Elliott (1976), Rudduck (1998) and Adelman (1993) were all concerned to develop and document developments that were 'bottom up', made the curriculum more relevant to the life themes of students, and changed pedagogy to employ more interactive and discussion-based approaches.

In the UK, Elliott (1991) argued that action research was a distinct form of research, distinguished by its aims to transform practice not just study it. He summarised the methodology thus:

> 'It is directed towards the realization of an educational ideal (e.g. as represented by a pedagogical aim);
> It focuses on changing practice to make it more consistent with the ideal;
> It gathers evidence of the extent to which the practice is consistent/inconsistent with the ideal and seeks explanations for inconsistencies by gathering evidence about the operation of contextual factors;

> It problematizes some of the tacit theories which underpin and shape practice (i.e. taken-for-granted beliefs and norms), and
> It involves practitioners in generating and testing action-hypotheses about how to effect worthwhile educational change' (p25).

Elliott and the British researchers were concerned with the transformation of practice, not just the improvement of teacher decision-making. This overlaps with the second framework of research and enquiry undertaken for primarily political purposes.

2. *Research and enquiry undertaken for primarily political purposes*

Those working within this framework conceive of research and enquiry as primarily to increase democracy and justice (Elliott, 1991; Lewin, 1946; Carr & Kemmis, 1986) or the rights of the oppressed (Freire, 1970). It includes the following conceptions.

Critical emancipatory action research

Carr worked at the University of East Anglia and took to Deakin University in Australia ideas from work with John Elliott and colleagues, where he worked with Kemmis. They developed emancipatory action research, an approach based on the ideas of Habermas, which challenged the former approaches and saw them as conservative. They saw action research as a series of cycles of planning, acting, observing and reflecting.

> 'Action research is a form of collective self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their social or educational practices, as well as their understanding of these practices and the situation in which these practices are carried out' (Kemmis & McTaggart, 1988, p. 5).

Participatory research

Participatory research has taken place most fully in Latin America, Africa and Asia (e.g. Freire, 1970). It differs in that it is rooted in liberation pedagogy and aims to 'produce knowledge and action directly useful to a group of people through research, adult education and socio-political action. The second aim is to empower people through a

second and deeper level through the process of constructing their own knowledge.' (Reason, 1994, p. 328) The aim is to engage the people in every stage of the research process and to alter the normal power relations between researcher and researched, by engaging those inside and outside the social situation in devising every stage of the research process. The outsider is usually more in the role of facilitator.

Key issues arising from these traditions

If we examine these traditions we see that individual and collaborative practitioner research and enquiry has largely occurred in collaboration with those in universities or others working outside the mainstream educational system. It has involved personal and political purposes, but has been seen primarily as a form of 'bottom up' practitioner research and enquiry that is outside of the institutional and policy making frameworks, or indeed aims to critique them. This independence was highly prized and debates have ensued about attempts to capture or colonise practitioner research and enquiry. Colonisers have included academics as well as policy makers.

Research was conceptualised by Stenhouse (1981) as the basis for teaching that was critical and this was the basis for teacher development. The audience for the research was the 'village' of the school or the individual practitioner, not necessarily the wider educational community. Cochran Smith (2001) argues for the importance of this conception of enquiry and for the generation of local knowledge:

> 'Evaluation might be measured by learning gains in the student or by emphasising that critique of curriculum standards and practices … with inquiry as outcome. The focus on how teacher candidates work with professional commitments to construct local knowledge, open their decision making strategies to critique ... with multiple perspectives and use the research of others as generative of new questions and strategies' (p. 537).

This argument for the importance and distinctiveness of the knowledge generated by practitioners links to the work of Gibbons et al. (1994), as noted by Hargreaves (1999) who distinguished between Mode 1 and Mode 2 knowledge. Mode 1 knowledge is tacit, generalisable and more similar to traditional academic research. Mode 2 knowledge

production is increasingly produced in the context of practice itself – in industry and the professions.

> 'Out of Mode 1 grows Mode 2 knowledge production, which is applied, problem-focused, trans-disciplinary, heterogeneous, hybrid, demand-driven, entrepreneurial, accountability-tested, embedded in networks … Mode 1 knowledge is not created and then applied: it evolves within the context of its application, but then may not fit neatly into Mode 1 knowledge structures' (Hargreaves 1999, p. 136).

Practitioner research and enquiry can be seen as Mode 2 knowledge production.

3. *Current conceptions and developments*

There have been some important recent developments in this field. Stimulated by criticisms of educational research in general and in particular of the credibility and usefulness of research produced in university departments (Hillage et al., 1998), different claims for practitioner research have been put forward.

Practitioner research as evidence-based practice

The arguments put forward by Hargreaves in 1999 were that there was an

> 'urgent need for better professional knowledge about the management of schools and effective teaching and learning. This demand arises in part because university-based researchers have not hitherto been very successful in either the creation or dissemination of such knowledge' (p. 122).

He argued that education should learn from industry and medicine in creating knowledge. Hargreaves argues for a more central and different place for practitioner research in knowledge creation and he links it directly to the agenda of school improvement.

The debate was also met by a range of initiatives by government and other bodies in the UK such as the Teacher Training Agency, the Department for Education and Science (DfEE, 2000), the National College for School Leadership, Networked Learning Communities, the National Union of Teachers and the General Teaching Council, all of

which aimed to support practitioner research through various initiatives. Examples of these initiatives are: Best Practice Research Scholarships (TTA, 2000); the National Union of Teachers' Scholarships; the National College of School Leadership's promotion of practitioner research through a range of means including attached research associates and support for the development of Networked Learning Communities. A Teacher Research Panel was established by the GTC and TTA to develop practitioner involvement. Research consortia were established by the TTA (TTA, 1998a & 1998b). Some of these initiatives were based on the conception of research and enquiry as evidence-based practice (TTA, 1996) but the Best Practice Research Scholarships were the most significant in the field of individual practitioner research and enquiry. They gave rise to a further conception of practitioner research and enquiry.

Practitioner research and enquiry as best practice research

This conception differs from the arguments put forward by Hargreaves in that teachers were working on their own agendas and it was much more in the domain of personal practitioner research. An evaluation of the BPRS scheme conducted by Cardiff School of Social Sciences (Furlong, et al., 2003). found that 'lone scholars' undertook 70% of projects and that 67% of them were classroom teachers. The largest numbers of project were classified as 'subject based' and 55% focused on aspects of pedagogy. An analysis of the BPRS website (June 2004) showed the following as the major areas of research and enquiry undertaken:

Table 1 Analysis of the BPRS site on June 2004

Major areas of research	*Percentage in each area*
Cross-curricular	36
English	20
Maths	11.5
Science	8.7
Geography	4.3

Topics researched	*Percentage in each area*
ICT- use of	13 (n 115)
Thinking skills	12 (n 106)
Specific teaching strategies	11 (n 96)
Attainment - raising of	8 (n74)
Special Educational Needs	5 (n46)
Assessment of learning	4 (n 38)
Behavioural issues	4 (n37)

So this scheme seemed to reflect the individual practitioner research and enquiry traditions described earlier.

Some have seen this as an attempt to harness or colonise practitioner research to serve the purposes of policy makers and to restrict the agenda of what is researched. Presage et al. (2003) highlight some of the tensions of purpose and style in the BPRS Scheme. They argue that the scheme was primarily aimed at raising pupil standards and that this was in tension with teacher development purposes. Outcomes were measured solely in terms of pupil outcomes. Each proposal was asked to define the way that the suggested research would raise standards. 'This aim remains paramount and will form the underlying rationale for departmental dissemination strategy' (DFEE, letter 28 September 2000 p. 3 cited in Presage et al., 2001).

High quality research was seen as a prime aim of the scheme. Higher Education Institutions were asked to

> 'Support teacher using research processes to investigate their classroom practices as a valuable tool for building knowledge and understanding about raising standards of teaching and learning … ensuring high quality research' (Estelle Morris, 2000).

Presage et al. (2001) highlight the tensions in these aspirations. Research is often a slow and deliberative process, which if it is to be of high quality requires that issues of validity and generalisability be explored. There may be confusion here between the Mode 1 knowledge production and the Mode 2 referred to earlier. The extent to which useful and

meaningful individual practitioner research can be transferred to other contexts or produced amidst the pressures of teaching is one that needs further exploration and research. Presage et al. (2003) also argue, as did Stenhouse, that critical reflection is central to good research and this involves being critical of both practice and the research process.

> 'The development of critical intelligence may not be the intentions of the BPRS scheme, where the public language 'raising standards', 'research outcomes', 'best practice' sets a specific agenda' (Presage et al., 2003, p. 62).

The TTA (TTA, 2000) characterised the projects undertaken in 1999 as having the following qualities:

- 'The research looks at how thing are done as well as whether they should be done and does in relation to pupil outcomes.
- The projects contain a wealth of detail of teaching learning processes in classrooms.
- Many of them are cumulative; they build effectively on previous projects, moving the work forward progressively.
- The projects start from and try to contribute to what's known already. This shapes methods and analysis rather being an 'add-on'.
- The projects are steered and supported by colleagues able to combine sympathy and support with challenge and relevant expert knowledge' (p. 11).

The report for the OECD (DfES, 2002) on research and development in the UK concluded thus in relation to these initiatives to develop and support practitioner research and enquiry: 'While progress is being made there is no justification for complacency. The "juries" of researchers, teachers, policy-makers and funders are still out on the progress made over the last five years' (p. 24). The report identified the need to continue 'to develop and make more transparent the criteria for judging quality across the range of

> methodologies in educational research; to develop greater demand for, understanding of and opportunities to participate in research amongst practitioners; to provide more development opportunities in research methods; and to improving the access to currently available "best" evidence'(p. 24).

These recent developments emphasise the role and importance of practitioner research and enquiry but there can be tensions in terms of the agenda for research and the conceptualisations of practitioner research and enquiry.

A summary of the purposes and conceptions of practitioner research and enquiry

So if these traditions are examined we see the following purposes and conceptions of practitioner research and enquiry:

> For practitioners to develop their own practice through understanding particular or general aspects of practice or solving pedagogical problems.
>
> To address issues of power and injustice, through critiquing policy, promoting equity and seeking to optimise the social conditions of practice for practitioners and learners.
>
> Contributing to official agendas by validating and disseminating 'best practice'.
>
> Contributing to public knowledge about education, teaching and learning.

The effects of practitioners engaging in research and enquiry

There is a growing body of evidence about the effects of practitioners engaging in research and enquiry. First, we see that through engaging in research teachers gain a better understanding of their practice and ways to improve it. This often involves close studies of children's learning or curriculum innovations (Elliott & Adelman, 1973; Dadds, 1995; Posch, 1993), as well as examining theories that are part of educational practice. There is still an ongoing debate about whether practitioner research has contributed significantly to public knowledge, but there are some significant and promising examples of this e.g. Hart et al., 2004. There is some evidence that engaging in this type of research and enquiry gives

teachers an enhanced sense of the student's perspective in the classroom (McLaughlin & Black Hawkins, 2004).

Richert's (1996) study of the effects on teachers of engaging in research and enquiry in the Bay Region IV Professional Development Consortium mirrors the findings of many others (Elliott, 1991; Dadds, 1995; Zeichner, 1999; TTA 2000; McLaughlin & Black Hawkins, 2004). The effects were:

> It resulted in a renewed feeling of pride and excitement about teaching and in a revitalised sense of oneself as a teacher.
>
> The research experience reminded teachers of their intellectual capability and the importance of that capability to their professional lives.
>
> The research experience allowed teachers to see that the work that they do in school matters.
>
> The research experience reconnected many of the teachers to their colleagues and to their initial commitments to teach.
>
> The research experience encouraged teacher to develop an expanded sense of what teachers can and ought to do.
>
> The research experience restored in teachers a sense of professionalism and power in the sense of having a voice.

The conditions for practitioner research and enquiry

When one looks at studies of the conditions for practitioner research and enquiry (e.g. Cordingley et al., 2003; Presage et al., 2003; James & Worrall, 2000; TTA, 2000; Elliott, 1991) the following emerge as important factors in its power and effectiveness.[1]

> External and internal agents support it. External agents, often colleagues in universities, are important in providing research knowledge and training. An example of the need for experienced mentoring is in the TTA (2000) study. They

[1] Many of these factors are discussed more fully in the two ensuing sections, especially those that relate to school or network learning.

found it was important that the focus was systematic and manageable so that practitioners were not swamped by problems or enthusiasm. Internal support from heads, senior management and teacher colleagues is also significant.

Access to libraries and other information resources in an accessible form was also important to teachers.

There is the support of a group. This can be an internal or external group but it is characterised by support, development and problem solving around the research process. This links to the next point.

There is a process of critical debate in either a partnership or community, which is also supportive. This was one of the key issues in the Stenhousian conception of research as critical enquiry.

The support of the headteacher is vital if change goes beyond one classroom, and at least one member of each school group should have direct access to the formal structures of school management in order to influence decisions concerning the removal of institutional barriers to change. The chances for development are enhanced in collaborative research if at least one member of each team has experience of research and development. Where practitioner research and enquiry aims to influence more than the individual practitioner's classroom then the involvement and commitment of the senior decision-makers is very important.

When the focus of the research and enquiry is important to the practitioner. The commitment and ownership of the problem or the topic are clearly linked to the motivation to undertake and act on the research and enquiry process.

There is time, space and the appropriate resources to undertake the research and enquiry. The financial support of the BPRS scheme (TTA, 2000) was found to be very important.

Dilemmas in and debates about practitioner research and enquiry

Many of the dilemmas and debates have already been referred to and are highly interrelated. They are as follows:

Knowledge construction, validity and trustworthiness

There has been much debate about the value of practitioner research and of the criteria on which it should be evaluated. Should it be undertaken with a view to meeting the same criteria as those on which academic research is judged, or not? Some have emphasised the contrast between the expertise needed for teaching and that needed for research (Hitchcock & Hughes, 1995). Practitioners researching their own practice have been seen as a distraction from teaching by some, although the interaction between researchers and practitioners has been seen as a valuable synergy (Huberman, 1996; Ruthven, 2002).

The criteria for the validity of practitioner research are rarely the same as those for judging other forms of research. James et al. (2003) argue that the warranted claims appropriate to the outcomes of varied research projects are different and different kinds of assurances about trustworthy conclusions will be sought by and of different groups of researchers. Other important considerations that will affect the warrant are:

- The intended users of the research.
- The cumulative nature of the research.
- The theoretical framework drawn on and generated.
- The nature of the empirical work.

McIntyre (2004) suggests that we view educational research as a continuum of possibilities. He argues that there are three general criteria for judging educational research: its usefulness, its contribution to knowledge, and its methodological rigour. If the continuum of possibilities includes, for example, reflective teaching, action research and researching teaching and learning, then the application of these criteria would be different depending on the type of research being undertaken.

Anderson and Herr (1994) offer a definition of validity for practitioner research. They argue for five criteria for practitioner research:

i. *Democratic validity:* the extent to which the research is done in collaboration with all parties who have a stake in the problem under investigation, and multiple perspective and interests are taken into account.

ii. *Outcome validity:* the extent to which actions occur that lead to a resolution of the problem under study or to the completion of an action research cycle.

iii. *Process validity:* the adequacy of the processes used in the different phases of the research such as data collection, analysis etc. This validity includes the issue of triangulation as a guard against viewing events from one data source or perspective. It also goes beyond research methods to include several general criteria such as the plausibility of the research.

iv. *Catalytic validity:* taken directly from Lather's (1991) work. This validity describes the degree to which the research energises the participants to know reality so that they can transform it.

v. *Dialogic validity:* the degree to which the research promotes a reflective dialogue among all the participants in the research.

So the critical outcome for Anderson and Herr relates to changes in practice and in the dialogue among participants, not to contributions to public knowledge. Their view is attractive but many, like Somekh (1993), find it demeaning to practitioner researchers. This position of Anderson's and Herr's does not address whether the research needs to be disseminated to a wider group.

Problems of dissemination and sharing

The dissemination of knowledge beyond the immediate group or the practitioner is a major issue. The BPRS scheme used a website to assist this. Others have noted that many practitioners are uneasy with the discourse of the current traditional academic literature and lack the time to write up their findings for others in the wider educational community. Whether it is realistic to expect practitioners focused on their own purposes to write up their research in conventional ways, in academic journals for example, has also been debated.

Complexity of the setting for research

The complexity of classrooms and the inability to use students as experimental subjects means that undertaking worthwhile research is highly complex. This relates to the issues of validity and the criteria suggested by Anderson and Herr is one way of addressing this issue.

Conditions for practitioner research and enquiry to flourish

Given the recent increased claims for practitioner research and enquiry the conditions, i.e. the time, space and resources for practitioners to conduct research and enquiry on top of a highly demanding job, is a serious one. There is a strong argument for teachers to have the necessary conditions to undertake this activity, no matter how rewarding. This would necessitate a change in current working arrangements and be very expensive. Recent initiatives such as the BPRS and the like previously described, have explored ways of addressing issues of funding and the resourcing of practitioner research. However, if there is to be an expectation that practitioners should conduct rigorous research, then radical changes would be required to teachers' conditions.

Support for the process and the development of the very particular problems of this methodology

The methodology used by practitioners needs to be acknowledged by those who have expectations of this mode of knowledge generation, and the issue of the warrants for this work needs to be further researched and developed. This relates to the role of those in higher education who have been criticised for not developing research that is useful, easy to access and assists those in the classroom. The collaboration of those in higher education and practitioner researchers is one that continues to need development. Partnerships between these arms of educational research have been seen to be powerful when well-focused, whilst polarisation of the two is unhelpful. This relates to the purposes and conceptions of practitioner research. The potential differences and tensions have been highlighted earlier. These include concerns that practitioner research can be reduced to an approach which serves only a standards agenda controlled by policy makers, and that it is in danger of being colonised. Elliott (1991) argued strongly for practitioner research and enquiry to continue to have a role in going against the grain and in critiquing policy and practice. These different purposes are not necessarily exclusive.

SCHOOLS AS RESEARCH INSTITUTIONS

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Introduction

This section involves a major shift of perspective from that of the previous section. The latter was concerned with the very robust and well established tradition of individual teachers engaging in research or enquiry on their own or in collaborating groups. But here we have to concern ourselves with the idea of schools as institutions committing and organising themselves to conduct or support, and to use, educational research. This shift from personal projects to institutional projects has profound implications.

There is of course some considerable continuity in the ideas involved. Most fundamentally, there is continuity in that the primary purposes are to question current or proposed practices and so to improve the quality of educational practice. Just as the research of individual teachers has been most commonly aimed at their own professional development, and thus the improvement of both their educational understanding and their professional practice, so the dominant concern of schools as research institutions is with their institutional learning, and thus with the improvement of both their policies and their practice. And just as the aspirations of some individual teachers have been to go beyond development of their own thinking and practice, to challenge and enhance existing understandings, settlements, policies and practices more widely, so there has been some aspiration at the school level for schools not just to be concerned with their own improvement but also to become 'knowledge-creating' institutions.

It may even be argued that it is historically misleading to distinguish strongly between the tradition of individual teachers engaging in research on their practice and schools seeking to become research institutions. Elliott (1991), for example, in his account of the origins of educational action research in England, suggests that in the 1960s some secondary modern schools developed in which innovative teachers were able, through debate and enquiry, to challenge and change the schools' curricula. His account suggests that, although it was

collaborating individual teachers who were the prime movers in such developments, one crucial facilitating condition was 'a management structure which supported a "bottom-up" rather than a "top-down" change process, and "a collegial, rather than an individualistic or bureaucratic form of accountability"' (p. 7). He emphasises too the importance of a 'free, open and tolerant professional discourse among all the school staff, fostered by frequent face-to-face interactions' (p. 6). As Elliott's account develops, however, the initiative continues over the subsequent decades to lie with individual teachers, usually collaborating with external academics like himself. And while Elliott clearly recognises the importance of facilitation from people in senior management positions, this facilitation was not found to be self-generating or self-perpetuating: 'It was as if the internal facilitators required their strategies within schools to be validated by a strong external support team possessing influential sponsorship' (ibid., p. 41). More generally, the idea of schools developing themselves as research institutions has seemed to be much more complex than that of teacher-as-researcher, and one that has developed more slowly.

It is important to note here, however, a striking resemblance between the picture that Elliott paints of these innovative secondary modern schools of the 1960s and the characteristics of schools identified in the 1990s as those in which staff have operated as 'professional learning communities'. The use of this concept for thinking about schools was stimulated by the work of such organisation theorists as Senge (1990) and Sergiovanni (1994). Hord (1997), reviewing research findings on professional learning communities, as the staff of 'change-ready schools (those that value change and seek change that will improve their schools)', emphasises first inclusiveness: all teaching staff should understand the proposed mission for change and should be involved in deciding about change. School principals in such schools work supportively as peers and colleagues with teachers, engaging with them in professional development, being in the middle of things, easily accessible and making opportunities to stimulate conversation about teaching and learning. Active support is given by leaders for teachers seeking to develop their teaching strategies and skills. A culture of inquiry and questioning, searching for new ideas, critical thinking, dialogue, debate and collective problem-solving is deliberately fostered. Partly this is done by creating conditions for teachers to work together, protected time and space being crucial resources, and partly through policies which prioritise effective communication, collaboration and an undeviating focus on meaningful student learning. Emphasis is placed too on fostering community solidarity within

the staff and the development of trust and mutual respect among colleagues. Conflicts are not avoided but are actively addressed and resolved through discussion and debate. Fullan (1991, p. 353) is quoted approvingly as recommending 'a redesign of the workplace so that innovation and improvement are built into the daily activities of teachers.' These then are the suggested characteristics of schools in which staff are committed to learning and to changing their practices in the light of that learning. These might then be necessary but probably not sufficient conditions for schools to become research institutions.

It was primarily in the 1990s that the idea of schools as research institutions developed, apparently in close relationship to ideas about schools as self-improving institutions. Building on the already well established idea that it is on their thoughtful research into their own practice that teachers' professional growth can be most fruitfully based, the idea was promoted that school improvement was closely tied to teachers' professional development (Hargreaves, 1994; Bradley et al., 1994) and so to schools in which teachers' research was actively promoted as facilitating school improvement. One widely influential version of such ideas was in the movement for Professional Development Schools in the USA (Darling-Hammond, 1994).

Just like the Professional Development Schools initiative, so more generally the movement for schools improving themselves through becoming research institutions has been internally quite diverse. At least five different and not closely related strands may be distinguished, and although it is the fourth of these which is most central and which will merit most attention, all five are potentially significant facets of such schools:

- schools using academic research
- schools making use of their 'data-rich environments'
- school self-evaluation
- corporate engagement of teachers as action researchers
- involving students and other members of schools as researchers

It would be wrong however to suggest that the only important argument that has been advanced for schools becoming research institutions is that it is a way in which each school can improve itself. A quite different argument that has bubbled for decades is that the kinds

of research done by university departments of education have not generally been helpful to schools and that, given the necessary resources, schools might themselves do more useful kinds of research. Here the focus shifts from schools engaging with research for their individual improvement to schools becoming generators of knowledge for much wider use. In recent years arguments for this kind of development has been advanced most strongly and coherently by Hargreaves (1996; 1999; 2000) and the final task of this section will be to review these arguments.

The contribution of research to school improvement

'During the last ten years a number of school improvement strategies have been developed in order to ... provide the coherence and sense of strategic direction missing from previous efforts' (Gray et al., 1999, p. 25). Deliberate engagement with research has been one important strand in some of these strategies for school improvement. But what 'engagement with research' means has, as noted above, not been uniform or straightforward.

Schools using academic research

If educational research is to contribute to school improvement, the most obvious way for that to happen is for schools to be able to take advantage of the large amounts of research that is done by academic researchers. There has been longstanding concern that this does not happen at all effectively, in England or elsewhere, but also uncertainty about the main sources of the problem and therefore about likely solutions to it. Criticism has been primarily directed at academic researchers, but the Hillage Report (1998), commissioned by the DfES to make recommendations for 'the pursuit of excellence in research relating to schools' (ibid., p. ix), is not unusual in spreading the responsibility more widely.

> 'Practice among researchers on dissemination varies considerably, but the conclusions and implications of much research are not reaching their intended audience and those who could benefit from it. However, this is not just an issue for researchers. Practitioners and policy-makers (e.g. teachers and local and central government officials) need to be 'research aware', i.e. open to and interested in research, and have an understanding of what it can offer. They

> also need to have access to intermediary support to be able to interpret research and assimilate findings into their decision-making processes' (ibid., p. 52);

and later:

> 'whatever the relevance and the quality of the research and the user-friendliness of the output, its eventual impact will depend on the willingness and capacity of policy-makers and practitioners to take research into account in their decision-making and actions. This relies on a commitment to the principle, an understanding of what research can offer, and the practical capacity to interpret research …'
>
> 'In our view, one of the biggest weaknesses of the current system is the absence of the interpretation of research findings to help inform decision-making and actions at all levels. It is not easy to articulate a solution to this issue succinctly, as effective mediation depends crucially on the context 'the nature of the research and the knowledge of the practitioner or policy-maker' but it lies at the heart of a system that effectively integrates research, development, policy formation, implementation and reflective practice' (ibid., p.53).

It may be suggested that the Hillage report underestimates greatly the complexity and uncertainty of 'understanding what research can offer'. Baumfield and McGrane (2000) provide an interesting account of the slow process whereby teachers move, through engaging in research, from rather crude expectations that research should reveal 'what works' to necessary but more subtle concerns with 'why' and 'how' questions; and they conclude that 'It does seem to be the case that the catalyst for productive engagement with research is engagement in research'. Hillage is surely right however in its emphasis on the inadequacy of present provision for interpreting research findings to help inform decision-making and action. It is in university contexts, both in initial teacher education and in subsequent professional development programmes, that teachers most commonly are helped to learn about research and to reflect on its implications. But experience suggests that such decontextualised learning about research findings often does not help even individual teachers to develop their practice, far less helping whole schools to do so. If schools are to use academic research to improve their practice, it is clear that becoming informed about relevant

research and interpreting it in relation to a school's needs has to be integrated into the processes of generating and implementing the school's development plans.

Schools could in principle develop their own structures and personnel resources for doing this, but a more efficient way might be for CPD courses to be jointly planned by groups of schools with similar research-oriented agendas working with university faculties of education. One good example of this is the Masters course jointly planned by Hertfordshire LEA (as part of its own development plan), some of its schools and Cambridge University's Faculty of Education (Frost et al., 2003). While the LEA involvement here does add a valuable extra dimension, any network of around ten schools, prepared to commit resources for (say) two teachers from each at any one time to be engaged on such a Masters course, could reasonably expect enthusiastic collaboration from a local faculty of education. Such a collaborative programme should of course be expected to go much further than selecting and interpreting academic research relevant to the schools' planning; it should also support schools in developing other facets of their own research agendas.

Using 'data-rich environments'

Changes in recent years, in England and elsewhere, have meant that schools have available to them very much more information (or 'data') about themselves than ever before. Since much of that data comes from official sources and is directly related to government agendas for what schools should view as most important (e.g. SATs and GCSE results, OfSTED reports), an obvious starting point for becoming a researching school is to make active use of such already available data, using it to ask questions about the school's strengths and weaknesses and about how the school might set about improving. The 'data rich environments' in which schools find themselves can thus perhaps offer both stimuli and tools for schools to become researching institutions.

Earl and Katz (2001) offer one thoughtful analysis of the possibilities that such data richness offers for school leaders. One important distinction that they make is between the 'extrinsic' and the 'intrinsic' motivation that can be aroused by data about schools. It is the extrinsic impact of externally provided data that is most likely to be apparent. For example, referring to the impact of national or state testing programmes, Earl and Katz report that 'certainly, there is considerable evidence that such assessments have been the impetus for awareness or

conscious attention to educational issues that might not have been considered without them.' (ibid., p. 5) They note that such awareness raising and the actions that follow from it can be desirable or undesirable, intended or unintended.

It is of course the less obvious 'intrinsic' motivation that data can arouse, where school staff are stimulated to ask and to investigate their own questions, that is most potentially valuable and most relevant to schools as researching institutions. It is in the context of thoughtful questioning of this kind, Earl and Katz suggest, that 'data provide tools for the investigation necessary to plan appropriate and focused improvement strategies.' (ibid., p. 9) 'But', they go on to note, 'using data is not a mechanistic process. It is a skill and an art and a way of thinking'; and the greater part of their paper is devoted to elaborating the many conditions necessary for the use of data to be productive and helpful.

For example, Earl and Katz perceptively comment that 'Data almost never provide answers. Instead, using data usually leads to more and more focused investigation and to better questions' (ibid., p.13). Put another way, this means that careful and thoughtful use of the data available to schools almost always leads them to a realisation that such data is not good enough, and that quite new data will be needed to deepen understanding and to improve practice. There are two very good reasons for this. First, it is obvious that the data needed for answering any question has to be relevant to that question and data collected for another purpose is not likely to have that relevance: in particular, data from national agencies is unlikely to be relevant to school improvement strategies. Second, even where data collected for one purpose superficially seems relevant for another purpose, the quality of data will frequently be inadequate for that other purpose, so great caution is needed in using it.

If schools are stimulated by their data rich environments to reflect thoughtfully on what they are doing, that may very well lead them to ask good questions about themselves and so to become researching schools. But among the basic characteristics of a researching school must surely be that it asks its own questions and that it evaluates critically the quality and the appropriateness of any available data for answering these questions.

School self-evaluation

The distinction between 'evaluation' and 'research' can be a fine one. It may involve nothing more than whether the main intention behind an investigation is that research is potentially

generalisable to other contexts, while evaluation is to help decision-making in one particular context. And in practice investigations often lead to ideas and insights that are less context-bound than was originally intended, or more so. So it must be expected that the practice of school self-evaluation, which has quite a long history, will have much to contribute to the development of schools as research institutions.

In the UK the idea of school self-evaluation appears to have developed in the first instance (e.g. ILEA, 1977) under the growing pressure in the 1970s for accountability. If schools had to be accountable for what they were doing, it was argued, then it was the schools themselves that should, at least in the first instance, assess their strengths and weaknesses. While accountability to external audiences was the prime motivating force, there were those who from the beginning were arguing that self-evaluation did not make much sense unless it led to further research and development. For Elliott (1981), for example, this implied an action research framework for self-evaluation.

As it has developed over the last quarter-century, and as it can be seen in its fullest current manifestations (e.g. MacBeath, 1999), school self-evaluation has come to involve a number of key characteristics, all of which are highly relevant to schools as research institutions:

i. The primary premise for school self-evaluation, supported by extensive evidence, is that members of school communities know an enormous amount (and much more than non-members) both about their own good and bad school experiences and about what contributes to these experiences.

ii. Whether or not external accountability is an important purpose of school self-evaluation, an important purpose should always be school self-improvement: self-evaluation that is not used as a basis for self-improvement is demoralising; and valid school self-evaluation is a necessary condition for school improvement.

iii. Schools are very complex organisations, so many different aspects of them need to be evaluated, many different criteria need to be used, and so many different sources and kinds of evidence are necessary.

iv. Whether or not externally imposed or suggested criteria are used, valid school self-evaluation involves discovering and using the diverse criteria that are important for

different groups in a school (different groups of students, of teachers and other staff, of parents, and also senior management and governors).

v. Considerable care and expertise is needed in order to develop and use valid procedures for gathering evidence for school self-evaluation, procedures which for example are comprehensible to the various groups of people involved, allow them to say what is important to them, and motivate them to express thoughtful and honest views. Comparable care and expertise is necessary for valid analysis and interpretation of the evidence gathered.

vi. Self-evaluation procedures need not only to be valid but also to be credibly demonstrated to be valid. The usefulness of self-evaluation is likely to depend on such credible validation.

Taking all these considerations into account, it seems clear that valid self-evaluation can be of enormous value to schools, but is not a minor undertaking, depending as it does on quite considerable investment and planning. Furthermore, while as we have noted valid school self-evaluation does seem to be a necessary condition for school improvement, it is not a sufficient condition for school improvement. While valid self-evaluation will certainly lead to better understanding of the school as it is, how to improve the school may remain far from clear. So something more is needed, and that something extra may well be the further move towards being a researching school.

MacBeath (1999) not only suggests that schools with whom he worked engaged in valid self-evaluation, but also offers a very clear (although quite demanding) framework to help other schools to do so. It does seem that we have reached a stage where both the value of becoming a self-evaluating school and also how to do so are relatively clear. So being validly self-evaluating could be a very useful platform from which a school might launch its efforts to become a researching school, something about which we do not know quite so much.

Corporate teacher engagement in action research

> 'Enquiry for school improvement involves purposeful, focused and informed engagement with the context of the school as a means of learning about our practice and with a view to designing informed improvement interventions. It

> does not matter whether we start by finding out, or we start by deciding to act in a new or different way and then to study that action. The point is the purposeful engagement with the world of the school in a systematic, planned and collaborative way and to plan informed actions designed to improve practice, based upon what we are confident that we know' (Jackson, 2002).

At the core of the notion of the researching school is the idea of schools systematically encouraging and supporting teacher engagement in research. There is now a considerable literature giving accounts of such schools. Most, though not all, of these accounts explicitly suggest that the promotion of teacher research is directed towards school improvement.

On the other hand, it needs to be recognised that teacher research has not been a very widely used approach by schools seeking to improve themselves. And even where teacher research is viewed as important for school improvement, it tends to be adopted as one element integrated into a more overarching improvement strategy. It can be difficult, therefore, and perhaps misleading, to distinguish characteristics of the research element from other features of the overall improvement strategy. Often, furthermore, what might be seen as a research element is construed in broader and looser terms, with the word 'enquiry' frequently being preferred. Thus, while there is a frequent recognition that improvement is likely to be fostered by schools being 'learning organisations', there is often a vagueness as to the nature and extent of any research element implied by that. And while a general openness to learning is surely important in fostering improvement, there does not seem yet to be clear evidence about the specific importance of teacher research. Gray et al. (1999), for example, conducted twelve case studies of schools deliberately trying to improve and found strong correlations between 'improvements in effectiveness' and four 'change measures'. One of these four change measures was described as follows:

> 'the extent to which the school had begun to tackle the processes of teaching and learning at classroom level, including the use of classroom observation as part of the appraisal process, the fostering of collaborative work as a means of sharing good practice among teachers and the encouragement of discussion and an enquiry orientation towards teaching and learning' (p. 130).

It is evident that such observation, collaboration and 'enquiry orientation' might or might not lead to something approaching research activity.

Most of the literature about schools fostering teacher research is in the form of accounts of particular school improvement schemes or of what has seemed important in particular schools or groups of schools. Most are insider accounts, offering rationales for what was done and/or insights about what facilitated or constrained success, and generally seeming both thoughtful and persuasive. Given both the specificity and the relative subjectivity of these accounts, but taking advantage of the common elements between them, we can infer some tentative hypotheses about what facilitates the corporate engagement of teachers in research.

Hypothesis 1: The value for school improvement of teachers engaging in research depends on this being merely one element of an integrated strategy. A number of complementary policies for structural and cultural change or 'micropolitical strategies' (Johnson, 2003) are frequently mentioned in accounts of schools using teacher research as a strategy for school improvement (e.g. Baumfield & McGrane, 2000, Jackson, n.d., Johnson, 1998, Johnson, 2003, Frost et al., 2000). It is often not clear whether these strategies are seen primarily as instrumental to the development of researching schools or instead as complementary elements of overall strategies for school improvement. In practice, the distinction seems unimportant. Three such strategies may be highlighted. First is a strong emphasis on dialogue and collaboration, involving deep listening, sharing professional knowledge, sharing also the questioning of assumptions, openness about problems, and so ending the traditional privatised life of teachers. Second is an emphasis on multi-level or distributed leadership, where 'freedom to act, opportunity to experiment and authority to question historical assumptions' and 'emancipation through collaborative learning' (Jackson, n.d.) are to be shared inclusively throughout the school. Third is establishing moral purpose (Johnson, 2003) whereby senior managers use moral arguments, including a discourse of hope and efficacy, about the need to do things differently in order to better foster students' well- being. This involves building a consensus around what members of the school community believe in, including asserting the nature of the problems to be confronted in terms that are calculated to overcome teacher weariness and cynicism and to establish a non-negotiable rationale for fundamental reform.

Hypothesis 2: The value for school improvement of teachers engaging in research depends on the overall commitment to this strategy of the senior management. One of the striking characteristics of schools which appear to make productive use of teacher research is the commitment to such research of senior management and usually the personal enthusiasm of the school principal. As a result, these schools seem to be pervaded by practices that are supportive to teacher research. For example, Ebbutt (2000) investigated staff perceptions of the conditions for research in six schools with which he was working as a research facilitator on behalf of Cambridge University. Also, knowing the schools well, he was able to rate the extent to which a research culture had developed in each. There was only one school that he judged to have an 'embedded research culture' and of it he reported that 'What this school is seen by its staff to be providing is in part a swathe of conditions supportive to a culture of school-based research. But it is also the case that the school is seen by its staff to provide few disincentives or few conditions demotivating to research'. It is not one or two particular things that help a school to take advantage of teacher research: it is the whole orientation of its senior management.

Hypothesis 3: The value for school improvement of teachers engaging in research depends on effective co-ordination of overall school development plans. with research projects voluntarily undertaken by individuals or groups of teachers. Although there are some schools which recognise value in both whole-school research projects and small-group projects (e.g. Johnson, 1998), there seems to be a strong consensus about the merits of teacher research projects being initiated and conducted by small groups of teachers. The usefulness of such projects for school improvement depends of course on them relating to an agreed agenda for improvement, one which is supported and sustained by senior managers. Co-ordination is necessary between research activities and development agendas at any one time and also in a sequential way, with research findings being disseminated, used as a basis for reflection and planning, and also leading to further enquiry.

Such co-ordination can be problematic and there are conflicting views about how best it can be managed. For example, the IQEA approach (Hopkins et al., 1994) was to create temporary new school structures, with a key School Improvement Group involving teaching staff from all levels, with pairs or trios from the SIG each engaging in separate enquiries planned by themselves, but agreed, evaluated and critiqued by the whole SIG, and with changing SIG

membership each year. But such complex temporary structures seem in some cases to have been difficult to manage and to be potentially divisive (Richards, 2003). A more radical solution has been to emphasise individual teacher leadership (Frost et al., 2000, Frost & Durrant, 2003), placing on teachers the responsibility both to generate their own ideas for research and development and also to negotiate these ideas with senior staff so that their projects are integrated with school development plans. Either way, success seems to depend on senior management being prepared to take risks, committing themselves to the necessary support structures not only for the conduct of the research but also for the dissemination of the research findings within the school, and to their critical examination and possible use.

Hypothesis 4: The value for school improvement of teachers engaging in research depends on active, informed and sensitive support for their research activities from a university department of education. It is difficult to find examples of schools that have adopted this kind of approach to school improvement with apparent success and without having established a partnership with one or more university departments. Johnson (1998) for example notes not only the importance of such relationships with universities, but also some of the significant barriers that teachers have to be helped to overcome: fear of being judged by academic standards; fear of feeling inadequate in relation to academic discourse; a perception of academic knowledge as irrelevant to school realities. She discusses how dependent the success of her school's progress as a research institution was on academics who showed in practical ways that they valued the work and working context of the school, who became genuine respectful partners, and who shared with teachers both their knowledge and expertise and their enthusiasm for the joint research.

Hypothesis 5: An unresolved dilemma in relation to the value for school improvement of teachers engaging in research concerns the rigour and quality of the research that is necessary for school improvement purposes. The word 'research' brings with it a number of associations related to rigour, reliability, validity, generalisability, ethics, scale, objectivity and so on. In reality, though, what we are talking about when engaging with school-based enquiry activities does not have to conform to the same exacting standards. There is a term known as 'good enough research' — which means generating research designs that are valid and reliable in relation to their purpose and their context, rather than to the purity of the

knowledge or its generalisability. School-based enquiry is often 'good enough research' (Jackson, 2002).

Jackson's comments capture very effectively three features of discussions in this field. First, they echo the views of many teachers that academic standards of rigour are quite inappropriate for their use of research for school improvement purposes. It is 'good enough' to think of what they wish to do as 'enquiry', without any aspirations to meeting academic research standards. Second, however, the questions of what kind of research or enquiry is 'good enough', and how one might decide this, are left unanswered. And third, there is equally little discussion of why, when research is seen to be valuable, normal research standards are seen to be unnecessary.

Teachers understandably experience diverse conflicting feelings about this. On one hand, research is such a minor part of their work, and teaching is such a demanding and very different kind of discipline, that they are fully justified in feeling that it is unreasonable to ask them to meet professional research standards. On the other, suggestions that teachers cannot be expected to do research 'properly' can seem very insulting. Furthermore, teachers' views and feelings clearly change as they become more experienced in doing research and so in taking a research perspective. Johnson (1998), for example, documents the tensions that teachers felt as they were pressed into relying more on writing in their communications in order to take advantage of their research achievements. Blaumfield and McGrane (2000), similarly, note how with experience in research teachers change their perspective, for example changing in their preferred research questions from 'What works?' to 'How?' and 'Why?'

The solution to this dilemma will perhaps be found through working from the insights of Stenhouse (1975), who understood that the crucial research task that he was asking teachers to undertake in their classrooms was first and foremost an extension of their teaching work, not an imitation of academic research. The purpose of the classroom action research that he proposed for teachers was to examine critically the implications and merits of specific new or established elements of their practice, but to do so in context, without a need to make explicit the complex realities of their classroom situation and practice, which they knew intimately and necessarily took for granted in their daily work. This was research that was for their own

professional purposes, not for wider public knowledge. (Teachers might of course wish to do research to add to public knowledge, but that would be a quite different matter). Research for school improvement is of course different in that it is research addressed to members of the school community (or perhaps to a departmental community) not just for oneself. It may be, however, that it is possible to extrapolate, from Stenhouse's idea for individual teachers in their classrooms, the idea of doing research on certain highly selected themes within a community context where a great deal can be taken for granted. Working out what that would imply is likely to be a challenging task, but it may hold the key to what is 'good enough research' in the context of school improvement.

Hypothesis 6: The value for school improvement of teachers engaging in research depends on senior management's reliable provision of significant resources, especially resources of time, to facilitate both the research and its effective use. Every account of researching schools refers to the crucial importance of resourcing for research. Perhaps most fundamentally this includes the resourcing of support structures, including protected time for in-school groups to meet and also the expense of working in partnership with universities and possibly with other schools. Time is the most expensive commodity and therefore the most difficult to provide. Johnson (2003) for example emphasises the importance for senior management of protecting teachers' time from other school and external demands. Equally important, he suggests, is taking the lead in showing how the time and energies devoted to research fits within a coherent and realistic overall school plan for reform, and reframing talk about work intensification to emphasise teachers' capacity to make realistic changes in arrangements in the interests of students.

Among the environmental characteristics emphasised by Jackson (n.d.) as conducive to learning are, in addition to time, supportive social structures, information and knowledge sources, a caring management, inclusiveness, opportunities for teachers to observe each others' good practice, and fun and social cohesion support. The crucial importance of social and emotional supports are emphasised too by Johnson (2003), who quotes one of his informants: 'We spent a lot of time eating and drinking and socialising together but having professional discussions.'

Hypothesis 7: The value for school improvement of teachers engaging in research depends on a long-term commitment by the school, including its governors. Ebbutt (2000) judged that

only two of the six SUPER partnership schools that he studied had established research cultures (with one of the two having an embedded or taken for granted research culture). What was common to these two schools, in contrast to the other four, was that they had each been working at being research schools for some ten years. Fortunately we have detailed histories of these two schools as researching schools, from James and Worrall (2000) and from Richards (2003). Each of these histories gives us some understanding both of the distinctive individuality of each school's concerns, opportunities, aspirations and strategies and also of the complexities of the tasks involved for them in becoming research schools.

Two issues may be noted in addition to the considerable fruitfulness of the long-term efforts and commitment of the two schools. The first is that in both schools, despite all the encouragement and support given over ten years, there was still a substantial minority of teachers who wanted no part in the research culture and who were indeed opposed to such a culture. Johnson (2003) sensibly suggests that such dissent and resistance are to be expected and need to be consciously addressed using appropriate micropolitical strategies. Demonstration of respect for the resistant teachers and multiple opportunities for them to 'work things through' are of course the most constructive strategies but, as in the above two schools, that alone is unlikely to overcome all resistance. The deeper problem that this reflects is that teachers' working conditions are such that neither national government nor the governors of a specific school can reasonably demand of teachers that they should accept a researcher role as part of their basic contract. That would be taking a step too far. Before it would be possible to make such a demand of teachers it would be necessary to make other rather fundamental changes in teachers' conditions.

The second issue is no doubt related. In both schools, when quite recently the headteachers retired, there was a severe lack of continuity. Neither set of governors seemed when appointing successors to treat the researching nature of their schools as a matter of importance. In one school, the new head was initially quite hostile. He himself reported that:

> 'When I arrived I interviewed every head of department asking what the research that had been going on was all about and what results it had achieved. Several felt it was too low level and a waste of time. Only science remained enthusiastic, and they felt that their CASE work had been very successful and

> influential. I questioned the amount of time that had been devoted to research and decided that if research was to continue, it should be into what was valued in the school — cognitive acceleration …' (Richards, 2003).

In the other school, an even more serious crisis developed, such that the long-term hostility of the anti-research minority of the staff towards the Deputy Headteacher who had led the research for ten years was treated in such a way that she was left with little option but to take early retirement. Thus among governors too, even governors of schools that have made long-term commitments to research, the status of research as part of the work of schools can remain very fragile indeed.

Involving students and other members of schools as researchers

Teachers are of course not the only members of schools. Teachers are not only greatly outnumbered by their students but students are purportedly the people for whose benefit schools exist. In addition, increasing numbers of adults other than teachers are directly involved in the work of schools. And just as it has been argued that teacher research can contribute in important ways to school improvement, so it has increasingly been argued that members of these other groups could fruitfully be active as researchers. It is the case for students as researchers that has been pursued most vigorously, both in principle and in practice.

That schools can be greatly improved through much increased and improved consultation with, and listening to, their students has been very persuasively argued in recent years (e.g. Rudduck et al., 1996; Rudduck & Flutter, 2004); and there is now available a rich variety of tools for use in doing this (MacBeath et al., 2003). But the suggestion that students should themselves be researchers involves much more than seeking to give pupils an effective voice: it involves asking students to take on a new and demanding role, one which even the majority of teachers have not yet felt able to accept. Why should students be asked to undertake such a role?

Fielding (1998) argues that research by others about students, as about other less powerful members of a society, carries a number of endemic dangers. Information about students' ideas and practices can easily be accommodated so that it can be fitted comfortably into established ways of thinking about students. New information about students can be accumulated in ways

that, far from empowering students, make it easier to monitor and regulate their lives. And through both these processes, researchers or users of the research can appropriate the research findings to validate their own views and to consolidate their own power. Fielding quotes Rudduck et al. (1996) to summarise these dangers: 'However much we convince ourselves that we are presenting their authentic voice, we are likely to be refracting their meanings through the lens of our own interests and concerns' (p. 177). He points out that these dangers are compounded if research about students is used as a basis for speaking for students, because among other things the research is necessarily conceived and conducted from the researcher's position, and because students have multiple identities, not just those of particular groups or categories that have been investigated.

On the other hand, Fielding points out, simply letting students speak for themselves may be no solution, because whether and how they are listened to will be shaped by the complex historical context in which they are speaking. He advocates in principle the idea of 'dialogic research' and in practice the involvement of students as co-researchers. Reviewing a number of initiatives involving students as co-researchers in North America, he notes that:

> 'All involve student volunteers who either have dedicated lesson time or institutionally supported external time to carry out their work. All started life and most continue as the brain child or particular enthusiasm of a person or persons external to the school. All have significant external expert help' (p.12).

Fielding and Bragg (2003) provide a wide range of examples of initiatives in which students have worked as co-researchers with individual teachers, with teams of teachers or departments and in whole schools. They explain that their own work with students as researchers is based on the following premises:

- 'Young people and adults often have quite different views of what is significant or important in their experience of or hopes for learning.
- Even when they identify similar issues as important, they can mean quite different things by them.
- These differences are potentially a source of creativity rather than unproductive conflict.

- If we start from students' questions and support their capacity to pursue their enquiries, we often find that new knowledge emerges about learning, about teaching and about ourselves as teachers and learners.
- For this process to be productive and engaging, we need to create conditions of dialogue in which we listen to and learn from each other in new ways for new purposes' (p. 5).

'Students as researchers' is in practice a very important element of the researching schools movement. It is quite difficult to find case studies of researching schools which do not assert the importance of students as researchers. Yet there is a need for some caution. All the arguments advanced by Fielding and others for students as researchers are powerful arguments for serious consultation with students, but it is much less obvious why they should lead to the conclusion that students should take on the role of researchers. The most convincing arguments are those concerning the inherent limitations of research about students by others, and those concerning the benefits for students of the adoption of enquiry approaches in their school learning; but neither of these are arguments for students being asked to act as educational researchers. There is furthermore one additional problem: Rudduck (1996) and Fielding (1998) both rightly emphasise the crucial importance of all students being consulted; yet in practice it always seems to be only a minority who are involved in research. This is only one of a number of dilemmas regarding students as researchers which remains unresolved and merits further study.

Knowledge creating schools

Throughout this section the focus has until now been on schools engaging with research as a strategy for their own improvement. A quite different and much more ambitious argument is that much of the research-based knowledge needed for educational policy and practice might be better produced by schools than it has been, or perhaps can be, by university departments of education. How plausible is this argument and how far should schools' engagement with research be influenced by it?

Hargreaves (1996) initiated recent debate on this theme by contrasting sharply the close relationship between research and practice in medicine and the severe lack of such a relationship in education. He related this difference to the fact that much medical research,

but very little educational research, is done by practitioners. The solution, he suggested, would include much more research being focussed on generating evidence about effective practice, and much of this research being done in schools by teacher-researchers, with the necessary finance being diverted from universities to schools in order to make this possible. Three years later, Hargreaves (1999) pursued this theme more analytically, and developed it in terms of schools as organisations, by exploring what a 'knowledge-creating school' might involve.

For this, Hargreaves (1999) borrowed from models of the process of knowledge-creation in industrial firms and in particular from that of Nonaka and Takeuchi (1995). The basic elements of their model are explicit knowledge (codified, declarative, propositional) and tacit knowledge (practical, procedural, craft knowledge) and the model concerns the interactions between knowledge of these two forms. One kind of knowledge creation is externalisation, by which tacit knowledge is articulated into explicit knowledge. An increasing amount of educational research in recent years has been directed towards such externalisation of teachers' and also of students' tacit knowledge (e.g. Brown and McIntyre, 1993; Cooper and McIntyre, 1996; Hart et al., 2004). Another kind of knowledge creation is combination, a process of systematising and elaborating explicit knowledge by combining different bodies of knowledge, possibly through networking. In addition, as Hargreaves notes: 'Knowledge creation, though a difficult process, has to be followed by knowledge validation. In professional life, knowledge reaches validation when it is turned into a practice which demonstrably and repeatedly works' (p. 5). He goes on to argue the crucial and neglected need for an evidential base for claims about good practice or best practice. It is the failure of educational researchers to generate a significant body of validated knowledge about good or best practice that properly most concerns him.

Hargreaves (1999) persuasively argues that 'the seeds of professional knowledge creation already lie within the school system, ready to germinate if the right conditions can be provided by managers or government' (p. 7). The 'four principal seeds' that he identifies are: 'tinkering', which he notes is widespread among the professions, including teaching, and involves individuals' readiness constantly to try out small amendments to their practice in the interests of greater effectiveness; school-based initial teacher training, in which experienced teachers articulate and explain what would otherwise be largely tacit craft knowledge; school-

based teacher research, of the kind supported for example, by the Teacher Training Agency research consortia; the work of middle managers, whose roles are critical for supporting the development and sharing of new 'hands-on' knowledge. However, Hargreaves argues, quite radical change is needed:

> 'If the objective is the creation of high quality knowledge about effective teaching and learning that is applicable and actionable in classrooms, then practising teachers have to be at the heart of professional knowledge creation and researchers will have to get closer to them, just as in industry R and D staff had to move closer to manufacturing … The further steps that must now be taken lead directly into a different mode of educational research' (ibid., p. 12).

In articulating this different mode, Hargreaves draws directly on the distinction made by Gibbons et al. (1994) between Mode 1 and Mode 2 knowledge production in science and technology. Mode 1 knowledge production is the university-based kind of research with which we are familiar. Mode 2:

> 'is strongly concerned with knowledge that is useful. Mode 2 knowledge is not created and then applied: it evolves within the context of its application. The number of sites where such knowledge can be generated is greatly increased: they are linked by functioning networks of communication … The team generating the knowledge may consist of people of many different backgrounds working together temporarily to solve a problem … Quality control is more broadly based than in Mode 1' (ibid., p.12).

One can see clearly the attractions for Hargreaves of Gibbon's Mode 2 knowledge production for filling the current gap in 'the creation of high quality knowledge about effective teaching and learning that is applicable and actionable in classrooms'. What Mode 2 would mean in a school context and whether or not the idea is helpful for understanding or for guiding professional knowledge creation and validation for teaching is however not yet clear. Hargreaves (1999) is certainly right in his recognition that national government or school managers would need to create conditions that do not currently exist before any such

knowledge production could flourish in schools. One certainly should not be misled into thinking that Mode 2 would provide an easy option, either for school organisations or for teacher-researchers. In particular, Hargreaves' proper emphasis on knowledge validation would retain its importance and would indeed be likely to become a more complex concern in a context where 'quality control is more broadly based': as well as asking whether claims about the generalisable effectiveness of any particular practice are valid, it will also be necessary to ask about such things as the educational merits, the cost-effectiveness, the social acceptability and the general practicality of that practice. Hargreaves (1996, 1999, 2000), almost single-handed, has pointed the way towards a potentially very exciting future, but the task of exploring what that future might involve has yet to be undertaken.

DEVELOPING AND SUSTAINING SCHOOL-BASED PRACTITIONER RESEARCH, ENQUIRY AND EVIDENCE WITHIN NETWORKS

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The following section explores how school-based practitioner research, enquiry and evidence are developed and sustained within educational networks. It begins by examining the concepts of school networks and in doing so identifies some key elements and principal purposes. It is clear from the literature that it is only in a minority of such networks that school-based research has a central role. Therefore this section draws on a range of sources including those in which research plays a more minor part. The issues raised are then illustrated by three descriptions of school networks in which practitioner research is more of a primary focus.

Introducing school networks

> 'Networks are purposeful social entities characterised by a commitment to quality, rigour, and a focus on outcomes. They are also an effective means of supporting innovation in times of change. In education, networks promote the dissemination of good practice, enhance the professional development of teachers, support capacity building in schools, mediate between centralised and decentralised structures, and assist in the process of re-structuring and re-culturing educational organisations and systems' (Hopkins, 2000, p. 1).

‘The kind of sharing that goes on in educational networks often has the effect of dignifying and giving shape to the process and content of educators’ experiences, the daily-ness of their work, which is often invisible to outsiders yet binds insiders together ... They encourage and seem to support many of the key ideas that … are needed to produce change and improvement in schools, teaching and learning’ (Lieberman, 1999).

Over the last few decades there has been evidence of an increased interest in, and commitment to, members of schools coming together to form networks. Hopkins's definition was constructed by the attendees at an OECD/CERI seminar, the purpose of which was to examine how networking amongst European schools has led (could lead) to innovative educational policies and practices. In contrast, Liebermann (1999) provides what appears to be a more modest justification for educators working collaboratively in this way. When Hopkins writes of large-scale, possibly international, *re-structuring of educational organisations and systems*, Lieberman describes *dignifying the daily-ness of teachers' work.*

Despite their differences in scope, these two extracts highlight key elements of school networks which are reflected in much of the associated literature. That is, networks involve people working together (social / sharing), they usually have a clear focus (purposeful / give shape) and are primarily concerned with what actually takes place in classrooms and schools (good practice / educators' experiences). Finally, there is a consensus that the overall purpose of any school network is to bring about improvement with a focus on outcomes, whether across a number of classrooms, a group of schools or entire educational systems.

However networks are understood in theory and conducted in practice they are almost unfailingly presented as worthwhile undertakings, of clear benefit to their members and also often to a wider community. For example, the Bay Area School Reform Collaborative, based in San Francisco, has the following 'mission and vision … to transform schools across the Bay Area into vital places to learn and teach' (BASRC, 2004). These intentions are, of course, unquestionably right and proper and, as such, they resonate with the general aims of many other networks. For example, underpinning the Networked Learning Community (NLC) initiative in England is the stated 'aspiration of generating morally purposeful partnerships between teachers and schools' (Jackson, 2002, p. 3). As with BASRC, this aim can not be disputed. However, it is through such statements, based on ethical stances, that networks per se may be given an uncontested legitimacy. This is expressed not only in terms of their inherent democratic values which encourage the contribution of a range of participants, but also through the commonality of their aims based on improving the educational experiences of students in schools.

Thus, whilst some of the literature explores potential tensions and dilemmas in the processes of networking, there is, it seems, little reporting of 'bad' or 'weak' networks, or evidence

regarding whether networking is necessarily the 'best' means by which to accomplish a particular sets of ends. This sometimes unquestioning belief in the intrinsic rightness of school networks and networking schools may detract from a more useful and rigorous critique of what does and does not work well, and why. To return to the extracts from Hopkins and from Lieberman: they describe very clearly the potential strengths of schools working together in these ways, but it may be that in reality these opportunities are not always realised by all schools which set out to belong to networks.

The promotion of school networks is also evident in increasing levels of local and national government support for their development. The NLC initiative, referred to above, provides a clear example of this. In 2002, the first cohort of networks were funded by the Department for Education and Skills, under the auspices of the National College for School Leadership (NCSL, 2002). By 2003 there were a total of one hundred and ten networks, comprising over one thousand and twenty schools. This governmental support of, and interest in, schools working together is also reflected in the White paper, Education and Skills: Investment for Reform which argues the case for 'the creation of school federations' (DfES, 2002, p. 2), as well as in recent works published by the DfES's Innovation Unit (see Hargreaves, 2003a).

The who, why and how of school networks

Networks comprise three necessary elements which are closely related to each other. These are: people (*who*), with a shared purpose (*why*), organised so as to engage in activities (*how*). Such interconnections are clearly found in networks which involve school-based practitioner research. *Who* participates in the research (in terms of the researchers and the researched, as well as the *doers* and the *users* of research), *why* research is undertaken and *how* it is conducted and subsequently made use of, will shape and be shaped by the nature of each particular network. For example, the EPIC (Educating Professionals for Informal Classrooms) network in Ohio, is part of the larger US Professional Development Schools networking project (see Darling-Hammond, 1994). It comprises teachers from four elementary schools, plus academic staff from Ohio University. The primary purpose of the network has been to improve teachers' day-to-day classroom practices through engaging in practitioner enquiry, supported by university staff. As one of the teacher explains:

> ‘By becoming a PDS, we hoped to increase our capacity to engage in systematic inquiry into our practice by bringing together teachers’ practical experience and knowledge with university faculty’s theoretical and research expertise in joint inquiries into ways to meet the needs of all children’ (Kirschner, Dickinson & Blosser: 1996, p. 206).

The relationship between the three elements of *who, why* and *how* can also be noted in the overall scope and scale of educational networks. Consequently, larger networks, with more powerful membership, may well have more ambitious intentions and also more means by which to achieve them. Hopkins (2000, p. 11) offers a helpful typology of networks, organised into five levels. The first he describes as: ‘Basic … simply groups of teachers joining together for a common curriculum purpose and for the sharing of good practice.’ By the fifth level, however, networking is depicted as an activity involving a range of different interest groups, possibly with political influence, with the purpose of bringing about major changes through national and even international legislation. Hopkins describes this final level as: ‘Groups of networks … act[ing] explicitly as an agency for system renewal and transformation.’

Finally, networks, of course, necessarily involve real people engaged in real activities and therefore are unlikely to remain static in their composition, intentions and activities, (*who*, *why* and *how*). Such evolutions can be traced through the literature. For example, the description of the SUPER (Schools-University Partnership in Educational Research) network as it was first formed in 1999 is both similar to and different from its incarnation some four years later (see Ebbutt, 2002; Black-Hawkins, 2003). Some schools have left, others have joined; key participants have been replaced in schools and the university; purposes have been developed; new structures have been introduced; changes have been made in funding arrangements. Yet even this does not tell a complete story. How the schools and the Faculty of Education first came together has its own history which continues to shape the network’s current activities and its future possibilities (see, for example, James & Worrall, 2000).

Also, however explicit the stated aims of a network may be, individuals within it may interpret them, and how they might be fulfilled, in a variety of ways. Richmond (1996, p. 215), a lecturer at the University of Michigan, notes ‘the particular challenges’ posed by such

tensions between herself and the science teachers with whom she sets out to collaborate. Somekh (1994) not only experiences similar concerns *between* university and school staff, but also comments on the potential for similar pressures *within* individual schools as well as *within* the university research team. And, in her persuasive defence of school-based collaborative enquiry, Groundwater-Smith (2004, p. 1) nevertheless reminds her readers not to overlook how 'schools are made up of individual practitioners with varying careers and social histories'.

Who are the members of a school network?

The literature provides many examples of groups of people who have come together to describe themselves as networks. Some are 'internal networks' (Hargreaves, 1999, p. 125) consisting of members from a single school or even an individual department within a school; for example, see Little (2002), also the work of SEDL (Southwest Educational Development Laboratory) (Hord, 1997). Others involve members from a number of different schools. These may be locally based, such as the EPIC network noted above, or have a national base, like the NLC initiative referred to earlier. Some networks include participants from a range of organisations other than schools. In particular, networks of schools which set out to engage in practitioner research very often include members of universities. For example, the Coalition of Knowledge Building Schools not only comprises participants from several schools but also from the University of Sydney (Groundwater-Smith & Mockler, 2002). This model of schools and universities working together is similar to that of the four research consortia supported by the Teacher Training Agency (TTA) (see Cordingley, Baumfield et al., 2002; Cordingley & Bell, 2002). However, in addition, each consortium has included members of Local Education Authorities (LEAs). Furthermore, networking has also taken place no only within each consortium but also across the group of four.

An additional consideration when examining the membership of a network is the numbers of people involved from its composite organisations. At one end of this continuum are those networks which comprise a small number of *individuals* from each school and other institutions. For example, the PALM (Pupil Autonomy in Learning with Micro-computers) network set out to research how the use of computers in the classroom might promote autonomy in student learning. This involved about one hundred teachers from across twenty-four schools (that is, maybe four or five teachers from each) plus members of CARE (the

Centre for Action Research in Education) based at the University of East Anglia (Somekh, 1994).

At the other extreme are networks which involve entire *institutions*: although this too requires further clarification. Describing a school as a member of a research network does not necessarily mean that everyone working there has an involvement in, a commitment to, or even any knowledge of, the network or its research purposes and activities. Indeed, this may not be necessary for its success. Participation may entail teachers only, or teachers plus students, or teachers, students and others, such as parents, governors, local community groups and so forth. Defining institutional membership for a school may therefore depend on a notion of critical mass and/or critical levels of active commitment from headteachers and other members of senior management teams. Even then, within a single network, they may be differences in terms of the level of institutional support. For example, in the SUPER network (McLaughlin & Black-Hawkins, 2004) there is an element of student involvement in network activities in each of its eight schools. However, the extent of that engagement and the numbers of students concerned vary greatly between the schools.

Why be in a school network?

As already noted, the overriding intention of all school networks is to improve, in some way, the experiences of students and staff. Within this overall framework, there are two related reasons why members of schools choose to get together in this way. First, they share a set of purposes regarding the educational improvement they want to bring about and second, they believe that these purposes will be most effectively addressed by working collaboratively as a network rather than as separate institutions. Lieberman and Grolnick (1996, pp. 10-11) suggest that:

> 'Networks must somehow demonstrate a compelling reason to convince people to participate in what is, after all, still another activity … [that] working together [will] be of mutual importance.'

However, beyond these general considerations there exists amongst networks a vast range of objectives and intentions. This is clearly illustrated by Lieberman and Grolnick's (op. cit., pp. 14-15) analysis of sixteen US school networks. In this they provide a summary of the

purposes of each. These vary from the highly focused to the somewhat more open-ended. For example, the specific aim of the Foxfire Teacher Outreach Network is to support teachers of English in secondary schools who use the Foxfire scheme to teach writing to students, whilst the more loosely defined aim of the Network of Progressive Educators is to 'provide a professional network for people who share the same values and beliefs about progressive education'.

Whatever their particular intentions, schools and other institutions form networks because their members believe that in doing so their aims will be more effectively accomplished. 'What is achieved in the collaboration must be greater than what any of the members … could have achieved individually' (Richmond, 1996, p. 217). The importance of harnessing the inherent power of the group is reiterated throughout the literature on school networks. Jackson (2002, p. 4), in describing the theoretical framework of the NLC programme, notes that 'a key mantra for the initiative' is 'working smarter together, rather than harder alone'. He argues that, in doing so, networks are able to 'provide a supportive context for risk-taking and creativity': potentially useful conditions for practitioner research. Similar advantages for schools working in networks are noted by others. Hopkins (2000, p. 5) writes of opportunities for 'collaborative professional development'; 'the breaking down of isolation'; 'joint solutions to shared problems'; 'the exchange of practice and expertise'; 'the facilitation of knowledge sharing and school improvement'; 'opportunities to incorporate external facilitation'.

Hargreaves (2003b) goes far beyond the local and specific in his advocacy of schools networks. Such organisational structures, he suggests, offer highly effective large scale opportunities for engaging both with and in school-based research: or, to use Hargreaves' terms, *'knowledge sharing'* and *'knowledge creation'* (see also Hargreaves, 1999). He argues that their primary purpose is not just to support the work of individual teachers, schools or even networks, but rather to provide a critical means by which radical innovation can take place in schools, thereby bringing about a systemic transformation of UK education. Knowledge sharing through networking ensures that:

> 'The best professional practices … are not locked within the minds of a few outstanding teachers and restricted to the privacy of their classrooms, but are common property of all who might profit from them' (p. 25).

Similarly, Hargreaves maintains that networking allows *knowledge creation* to take place in a more efficient and robust manner because groups of teachers can draw on the combined intellectual, social and organisational capital of many schools. He criticises the more customary school-based practitioner research and enquiry conducted by individual teachers within their individual schools.

> '[A network] is so much larger than an individual school, it can prioritise a shared topic for knowledge creation and have a much more sophisticated design, both for sharing the innovative workload, so that each school undertakes a limited and variable amount of activity, and for testing it more rigorously than is ever possible in a single … school or department … generat[ing] a far more robust evidence base … in a far shorter time' (p. 40).

He argues that it is no longer feasible to leave:

> '… knowledge creation to the idiosyncratic preferences and limited resources of a single institution. Recent developments in school-based research, such as the BPRSs and research consortia among schools, must evolve within this new discipline if they are to survive' (p. 41).

How do school networks, work?

How school networks structure, organise and conduct themselves, including the types of activities in which they engage, is clearly related to who comprises their membership as well as the reasons underpinning why a group of institutions have elected to work together. Judgements about how are also shaped by pragmatic as well as ethical considerations: what is possible and reasonable, together with what is fair and proper. Both these concerns are certainly pertinent to networks which undertake school-based practitioner research. There is also an inherent tension in the how of networks: they need to be both strong (to support the needs of members) and also flexible (to respond to changes and new ideas). Hargreaves

(2003b, p. 56) contrasts the construction of a cathedral with that of a bazaar. Once the former is built, he argues, it can not be changed and thereby it is in danger of becoming outmoded. The latter, he maintains, is preferable because it is able to respond spontaneously to its users' ever-changing needs and creative developments. However, it is also possible to argue that a bazaar may lack the necessary stability and political authority to sustain embedded changes.

For some networks, enquiry is a key mechanism (*how*) by which to address shared aims (*why*). For example, members of the Norwich Area Schools Consortium (2001) (one of the TTA research consortia referred to earlier) agreed a common purpose of addressing student disaffection in schools. To this end they undertook a number of cross-school research projects with the intention of increasing their collective understanding of the causes and effects of such disaffection. For other networks, however, practitioner research activities may be mainly, or even entirely, absent from how they operate; for example, those networks which exist primarily to exchange information and/or teaching and learning resources. Less typically, for some networks, practitioner research is not only a means by which members set out to fulfil their shared purposes but is also integral to their aims. For example, the eight schools and the university faculty which comprise the SUPER Networked Learning Community choose to work together because they want to understand better, 'the conditions and impact of… a schools-university partnership focused on the uses and generation of educational research' (McLaughlin, 2003, p. 2). Therefore the extent to which participants in any network engage both in and with practitioner research, is partly a balance between means (*how*) and ends (*why*). The spectrum that comprises *'enquiry orientated learning'* and *'learning orientated research'* is also useful here (Cordingley, 2003).

It is possible to identify within the literature a number of conditions, structures, processes and activities which are likely to affect opportunities for collaborative working across institutions, including the development and utilisation of practitioner research. The following are a synthesis of key points established by drawing on texts already referred to in this review (in particular, Lieberman & Grolnick, 1996; Lieberman, 1999; Hopkins, 2000; Cordingley et al., 2002; Jackson, 2002 and 2004; McLaughlin & Black-Hawkins, 2004).

i. *Developing and sustaining supportive and invigorating relationships:* that is, recognising that networks fundamentally comprise people and that the quality of relationships between participants is therefore crucial to their success. This necessitates building openness and

trust as well as ensuring respect for the diverse range of perceptions and interests amongst members. It also requires an acknowledgement that risk-taking, and sometimes failure, are part of the research process as well as the creation of knowledge. Collaborative research relationships including coaching and mentoring are especially valuable here.

ii. *Determining clarity of key purpose(s):* this includes establishing common core values and beliefs amongst members (and in particular, with regard to the purposes and usefulness of school-based practitioner research), plus shared understandings of the ownership of and accountability for that research.

iii. *Engaging and maintaining the commitment of schools leaders:* that is, ensuring from the beginning that headteachers and other leaders are fully committed to the network's purposes and, in particular, that they are advocates for practitioner research as a means of generating knowledge to support school improvement. This also includes actively encouraging collaborative working practices, such as 'leading by doing' as well as offering a range of leadership opportunities for other members of the network. Finally, it requires a willingness on the part of leaders to provide sufficient resources to support research and network activities (see vii. below).

iv. *Building a range of effective and flexible communication strategies across the network:* setting up systems which support interactions between members are essential if opportunities for learning across a network are to take place. Face-to-face encounters are especially important as they also help to support network relationships (see i. above). Meetings are generally more effective when they focus on the sharing of research interests and considerations than on the 'business' of maintaining the network. Researching school networks have specific communication requirements in terms of disseminating research findings in ways which are useful for members who work in a range of different contexts.

v. *Learning from alternative perspectives within the schools:* for those networks focusing on school-based research it is necessary that a range of views and understandings are taken into account when gathering evidence. It is especially important that the voices of students (and a range of students at that) are heard, considered and valued. Parents/carers and governors may also be consulted as well as staff other than teachers.

vi. *Learning from alternative perspectives beyond the schools:* drawing on the knowledge and experiences of people from institutions other than schools, such as universities and LEAs, can be extremely helpful. For example, they may provide training on and expertise

about research methods as well as the substantive topics of school-based research. Developing longer-term critical friendships can be supportive and challenging for all involved.

vii. *Sufficient resources in terms of time and money:* providing some additional funding is crucial if research and network activities are to take place. This may require a creative use of resources by leaders, both to get a network started but also to maintain it. The development of network-wide relationships are crucial (see i. above) and these too require time. Also, it seems that the allocation of extra funding is often seen as a marker of the status and value ascribed to the research work of those involved in the network.

Of course, as already suggested, none of these conditions, structures and processes exists separately from the others. For example, funding arrangements are partly determined by the level of commitment from school leaders; clarity of purpose is dependent on relationships and roles as well as the quality of communications; the involvement of outsiders has inevitable implications for roles, communications and resources.

Three descriptions of researching school networks

The final part of this section offers descriptions of the following researching school networks:

- BASRC: Bay Area School Reform Collaborative
- TTA: (Teacher Training Agency) Research Consortia
- SUPER: Schools-University Partnership in Education Research

The reasons for their selection is threefold. First, all are portrayed in the literature as networks in which school-based practitioner research, evidence and enquiry are of clear importance. Second, membership of, and research activities in, each network aims to go beyond individual or groups of teachers and students to encompass schools at the institutional level. Third, and within the two constraints noted above, they provide a range of examples of networking and research practices and understandings.

The purpose of focusing on these networks is to illustrate the relationship between the key elements of who, why and how as they are enacted within the context of 'real' schools.

Together they reveal that, whilst there are undoubtedly variations between them, there are also common concerns and characteristics. These differences and similarities are explored particularly with regards to the kinds of research knowledge and skills that can be usefully shared across networking schools as well as the conditions and processes which might support and/or impede such interchanges.

Each network is summarised using the following headings:

- *Who?* (are the members of the researching school network)
- *Why?* (be in the researching school network)
- *How?* (does the researching school network, work)
- *Selected writings on who, why and how* (by network members / associates)

Decisions about where to place information have, at times, seemed rather arbitrary. For example, the early work of BASRC was supported with a substantial grant, donated through foundation and corporate sponsorship. This has relevance not only to *who* (the key involvement of charitable and business organisations), as well as *why* (such funding encourages schools to join a network) but also *how* (with regards to the effect of resources on the conditions, structures, processes and activities of a network). Indeed, these interconnections need to be taken into account throughout all three descriptions. The final section of each provides a list of selected writings about the network. This is intended as a resource for readers who wish to pursue further those areas in which they are specifically interested. Full details of texts are available in the reference list.

Throughout the descriptions there is an emphasis on those characteristics which are distinctive to each of these three researching school networks. The resulting portrayals are necessarily incomplete: unlikely to capture fully the complex and shifting nature of the networks or the range of perceptions held within them. For example, some details have been omitted so as to provide succinct summaries; material, which might have been useful, was not always available in the consulted texts; information that was given may no longer accurately reflect the networks' current circumstances. Also, it is inevitable that much of the literature focuses on the experiences of members who are engaged in research and / or network activities rather than on the views and understandings of those who may be more passive,

antagonistic or even oblivious to the accomplishments of the network of which they are ostensibly a part.

Exploring BASRC: the Bay Area School Reform Collaborative

BASRC has been selected here partly because it provides an illustration of a network from outside England. It is also distinctive in terms of its scale: for example, the large number of schools involved as well as its extensive funding. Another characteristic of BASRC is the clarity and range of materials provided by its website (BASRC, 2004). Much of the information provided here is derived from this site. Where direct quotations have been used they are indicated in italics.

Who are the members of BASRC?

According to the 2004 website, BASRC involves one hundred and twenty schools (elementary, middle and high) from twenty-eight districts, based in and around the Bay Area of San Francisco, California, USA. There are different types of school membership: such as Leadership and Membership. These reflect levels of funding received as well as expectations about roles and responsibilities. More recently (since 2001) BASRC has encouraged groups of schools within a single district to apply for joint membership and/or funding as Local Collaboratives.

Within this overall structure there are also a series of networks, with a focus on learning and inquiry, comprising key individuals whose role is to support the work of BASRC. These are:

- *Local Collaborative Coaches' Networks*: to support the *field-based coaches* working with teachers in local schools to raise students' performance. They comprise *teacher leaders* and *reform co-ordinators*, as well as classroom teachers. Indeed, the role of *coach* is fundamental to the school improvement and research aims of BASRC. There are three main types of *coaching* provided: *intervention in identified low-performing schools; district coaching; school coaching*.
- *Principals' Networks*: to support those with responsibility for leading systemic improvement in the teaching and learning taking place in schools. They comprise principals, assistant principals, and other school leaders.

- *District Leaders' Networks*: to support those with responsibility for directing district-level reform. They comprise superintendents, assistant superintendents, school board members and other district staff.

The involvement of other organisations in the work of BASRC includes:

- A number of *school-university partnerships*: in particular, members from the *Center for Research on the Context of Teaching*, Stanford University have undertaken research in collaboration with BASRC.
- *Just for the Kids-California*: to provide schools in California with access to data analysis tools and research-based best practices.
- *Consortium of Reading Excellence, (CORE)*: to help improve the way teachers teach reading through the implementation of researched-based reading and literacy programs.
- Finally, there is the involvement of members from private sector corporations and foundations, whose financial support has been crucial in terms of establishing and sustaining the work of BASRC.

Why be in BASRC?

BASRC was initiated in 1995 by a small group of people, based in the Bay Area, and drawn from education, business and the community. Their overall intention was to bringing about *whole school change*. To support this, the *BASRC Rubric* was developed for schools, comprising the following five components:

i. Best practices of teaching and learning
ii. High standards for students and teachers
iii. Systems to manage the change process
iv. Partnerships with stakeholders
v. A professional learning community

BASRC also has the following *mission statement*:

> BASRC seeks to transform schools across the Bay Area into vital places to learn and to teach. We work with education leaders in both schools and districts to develop, assess and use the knowledge needed for schools to engage in a systematic and sustainable improvement process. BASRC aims to help create a future in which all students learn to high levels and where race, class, language, gender, and culture are no longer good predictors of educational outcomes.

This highlights three interrelated principal purposes, which shape the work of BASRC:

i. To advance social justice and equity (*all students … race, class, language, gender, and culture*)

ii. To bring about whole school improvement (*systematic and sustainable improvement process*)

iii. To engage in and with school-based research (*develop, assess and use … knowledge*)

Therefore in BASRC, the research (purpose iii. is a means, albeit a crucial one, of bringing about school improvement (purpose ii.), which in turn contributes to the primary aim of increasing social justice (purpose i.).

These three purposes, including research, are addressed at various levels within BASRC, including:

i. Schools: *good schools practice shared inquiry to improve the learning of all students, and have a focused strategy for improving instruction.*

ii. Districts: *regularly collect, reflect on, and share data about the effectiveness of their school-support strategies.*

iii. Networks (see *Who?* above): are *professional learning communities whose focus is engaging in collaborative inquiry with the goal of improving our professional practice and creating a more equitable system of schools.*

How does BASRC work?

As with the majority of networks referred to in this section, the conditions, structures, processes and activities which support the work of BASRC have evolved and developed since its inception, whilst its key purposes have generally remained unchanged. BASRC notes these changes but describes itself as being committed to providing:

> flexible support that helps the education system respond to changing policy mandates, funding levels, demographics, and local needs and priorities.

It is also a large association, spread over a wide geographical area. It is therefore inevitable that individuals and institutions within it work more closely with some rather than others and that these alliances develop working practices to suit their own particular needs. Nevertheless, there are certain characteristics which run throughout the organisation and conduct of BASRC; for example, the provision of support materials and *'tools'* from BASRC's central *Research Services*. For the purposes of this description the following five have been highlighted as having particular relevance to research and/or networking. These are:

i. Foundation and corporate funding
ii. *Focus on high performance* and *best practice*
iii. *Cycle of Inquiry*
iv. Role of networks
v. Dissemination of findings

Foundation and corporate funding: the monies available to BASRC are considerable, especially when compared to the two networks described later, and therefore can not be overlooked. In 1995 fifty million dollars was donated as part of a 'matched funding programme'; by 1999 that requirement had been fulfilled bringing the total budget to one hundred million dollars. BASRC argues that:

> It is critical to engage the private sector in our efforts to mobilize the resources needed to transform teaching and learning for the children who need it most.

This strategy is not perceived as merely complementing adequate public funding, but rather as a necessary means of averting financial hardship in schools as well as supporting more generally economic growth in the Bay Area.

> Our response to the crisis in California's public schools today will directly affect the long-term economic viability and overall quality of life of the Bay Area for years to come.

Schools are expected to apply to BASRC to become members and receive funding. In the first round of grants, schools were asked to submit *portfolios* based on the *BASRC rubric* (outlined above, in *Why?*) From this eighty-seven *Leadership Schools* were established, each receiving funding for three to five years of one hundred and fifty dollars per student, to pay for support service, school-based research, teacher professional development and so forth. Funding has also been allocated to other institutions and organisations; for example, to support school-university partnerships and the series of networks operating within BASRC.

Focus on high performance and best practice: These associated concepts are central to BASRC's research which then informs and directs its school reform work. That is, there is a clear expectation that research will focus on those students, classrooms, schools and districts with *high performance* test scores and which therefore provide opportunities to investigate models of *best practice*. Findings from these studies are then introduced into other BASRC classrooms, schools and districts by *BASRC coaches*. Assumptions underlying this approach are that what works well in one school context can, to some extent, be transferred to another, and that finding on what works *best* provides particularly useful research evidence to support change. A recent example of such work is the *Best Practice Study*, established in 2004, which intends *'to identify effective strategies … in high performing, high improving and gap closing schools and districts'*. Linked to this research project, a number of *Best Practice Institutions* have already been identified, which allow researchers and other educators to explore *'how high performers get results …* [thereby] *improving student achievement … closing the achievement gap … learning how high-performers address obstacles to success'*. In addition, schools and districts can use the *Needs Assessment Tool Kit* (provided by BASRC's *Research Services*). This provides:

> ‘diagnostic tools to compare current practices to the practices of sustained high performers, plus diagnostic tools to prepare another school system to conduct ‘best’ implementation of the other site's best practices’.

Cycle of Inquiry: This is key research strategy for BASRC, which is expected to be used at classroom, whole school and district level. Indeed, Copeland (2002, p. 5) describes it as *‘The engine of BASRC’s theory of school change’*. As its name suggests it is conceived as a cyclical process. It comprises the following six stages:

i. *Identify problems (based on data)*
ii. *Refine the focused effort*
iii. *Identify measurable goals* (school, grade, and/or departmental level)
iv. *Build concrete action plan*
v. *Take action*
vi. *Analyze results from the data*

The cycle then begins again, with the new Stage i., *identifying problems*, being partly determined by the *analysis of results* in Stage vi. The purpose of the cycle is, therefore, to provide the information needed to bring about school change, through evidence-based decision-making: *a data-driven continuous improvement process*. A fundamental aspect of this process is that it should draw on the knowledge and experiences of a wide range of a school’s community (teachers, but also parents, students and administrators). In this way collective decisions are made about which problems to address and what kinds of what solutions should be developed. In addition, *teacher leaders* and *BASRC coaches* support the cycle’s implementation and BASRC’s *Research Services* provide associated support materials, including videos and on-line training.

Role of networks: in 2002 BASRC set up a series of networks as part of its overall framework (see also *Who?*) which are open to any individual members within the Collaborative. The networks are conceived of as *professional learning communities* which focus on *collaborative inquiry*. They are intended:

- To provide time and opportunities for reform leaders to meet
- So they can *learn, collaborate and solve problems with their peers* who are doing *similar work and confronting similar challenges*
- Thereby, *increase their own effectiveness*
- And, in particular, learn how *to best support inquiry-based reform in schools*

Dissemination of findings: A challenge for many researching networks is how to ensure the effective dissemination of their work both within and beyond the network itself. This is a concern which BASRC recognises and has set out to address. Its *Research Services'* guidelines refer to the:

> 'Aggressive dissemination of findings to inform BASRC stakeholders, support practitioners and policy analysts and to build the field of education research'.

To this end, BASRC produces its own publications, taking into account the needs of a wide range of audiences. These include:

- *BASRCWorks*: produced five time a year, highlighting the ongoing work, including research, taking place in schools and districts.
- *InDepth*: an issue-themed publication with a focus on school-based inquiry.
- *BASRC Annual Reports*: summary of the overall progress of the Collaborative
- *Policy Update:* a monthly email newsletter summarising state education and BASRC news.
- *The BASRC website:* this provides research information as well as links to other materials
- *Research reports*: commissioned by, or undertaken in close collaboration with, BASRC; for example, *After the Test: How Schools are Using Data to Close the Achievement Gap* (by Kiley Symonds) and *Leadership of Inquiry* (by Michael Copland).
- Papers presented at academic conferences: for example, at the 2003 American Educational Research Association (AERA) Conference, four papers were presented as part of a symposium entitled *Coaching: A Strategy for Building Sustainable Leadership Capacity in Reforming Schools and Districts.*

Selected writings by members/associates of BASRC

Below is a list of reading to explore further the *who, why and how* of this school research network.

- BASRC (2004), website providing information plus access to other writings on BASRC.
- Copland (2002), the concept of distributed leadership and its relationship to school-based inquiry; the use of BASRC's *Cycle of Inquiry*.
- McLaughlin and Talbert (2000), four year study of the effects of BASRC on the achievement of schools and students.
- McLaughlin and Mitri (forthcoming), the purposes and effects of the *Cycle of Inquiry*.
- Symonds (2003) *After the Test: How Schools are Using Data to Close the Achievement Gap*, using data to identify and redress differences in the academic performance of students from a range of ethnic backgrounds.
- Symposium held at the American Educational Research Association conference (2003), purposes, strengths and tensions of coaching to support whole school change.

Exploring the Teacher Training Agency (TTA)Research Consortia

In many ways this researching school network can be seen as a small-scale precursor of, and pilot for, the Networked Learning Communities initiative already referred to in this section. Like the current NLCs it comprised separate networks (or consortia) working independently of one another, but with the understanding that opportunities for networking across and between them would be explored.

Who are the members of the TTA consortia?

Four research consortia were established, each one based within a particular geographic area. In terms of *institutional membership* the TTA expected each consortium to include a number of schools as well as at least one institute of higher education (HEI) and one local education authority (LEA), although the actually numbers from these three sectors varied between the different consortia, as follows:

i. *Leeds School-Based Research Consortium*: six primary schools; Leeds LEA; the University of Leeds.

ii. *Manchester and Salford School-Based Research Consortium*; eight primary schools; Manchester LEA and Salford LEA; the Manchester Metropolitan University and the Manchester Victoria University.

iii. *North-East Schools Consortium*: six secondary schools; Newcastle LEA, North Tyneside LEA and Northumberland LEA; the University of Newcastle.

iv. *Norwich Area Schools Consortium*: seven secondary schools, including one special school for children designated as having emotional and behavioural difficulties; Norfolk LEA; the University of East Anglia.

The total number of institutions involved in this initiative was: twenty-seven schools; seven LEAs; five universities; plus the TTA.

In terms of the membership of key individuals, a teacher research co-ordinator (TRC) was established in every school in each consortium. Their responsibilities were dependent to some extent on where they worked but they were all expected to help to organise school-based research activities and to attend consortium meetings. Each consortium was also allocated a link person from the TTA. Other principal roles varied across the consortia. For example:

- *Manchester and Salford* consortium: appointed a *consortium co-ordinator* from one of their participating universities. Also each *TRC* was linked to a *tutor*, either from one of the universities or LEAs.
- *Norwich Area* consortium: appointed three *consortium managers*, one headteacher, plus a member from the university and from the LEA. Also, each school was assigned a *university mentor* to support the research work taking place.

Why be in the TTA consortia?

This initiative, funded and supported by the TTA over a three year period, was launched in 1997. It formed part of their programme for *promoting teaching as a research and evidence-based profession*, with the intention of raising the achievements of students through the enhancement of teachers' research skills. Within this focus on school-based practitioner

research, the primary purpose of the consortia was to develop two interconnected forms of knowledge and understanding concerning first, the *processes* of such research and second, its *substantive content*. For some members of the consortia the former was more of a priority whilst for others it was the latter; furthermore, this balance, between the two, varied across and within institutions as well as over time.

TTA purposes: for the TTA, the primary purpose of the consortia was to explore teachers' *engagement in and with research* as a means of improving students' learning. Indeed, this phrase is reiterated throughout the literature about the consortia and in particular in the writings emanating from the TTA itself. As such it was particularly concerned with the *processes* of school-based research, including the kinds of research support and the types of research evidence teachers find useful. In each of the annual reviews for this initiative, the TTA set out their three overall aims. These were, to:

i. Encourage teachers to 'engage' with research and evidence about pupils' achievements, for example, to use other people's research to inform their practice and/or to participate actively in research.
ii. Increase the capacity for high quality, teacher-focused classroom research by supporting teacher involvement in the development of research proposals for external funding.
iii. Develop long-term, medium scale data sets which provide related quantitative and qualitative data about what teachers and pupils do and how that affects pupils' achievement.

Consortia purposes (1) research processes: within this broad framework, provided by the TTA, each consortium established its own set of purposes relating to school-based research *processes*. For example, in their final summary to the TTA, the *Leeds* consortium described its *'central objective'* as being:

> 'To encourage the development of teachers as knowledgeable participants in educational research, directed towards the application of new and effective classroom techniques and strategies'.

A further eight subsidiary aims were given, of which the following six have a particular emphasis on increasing the usefulness of research *processes* for teachers as well as supporting teachers when engaging in those *processes*. These are to:

- Enhance teaching performance through exploration of evidence-based research and reflection on how best to incorporate it within chosen research foci.
- Motivate teacher engagement in and with fresh research initiatives so as to develop into critical research users.
- Improve understanding of the complexity of classroom phenomena […].
- Improve educational provision by strengthening the connections between school improvement planning … and the practice and impact of specific research-based action.
- Conduct research activities in a co-operative spirit of shared enterprise.
- Disseminate information about research processes, pedagogical approaches, and results.

Whilst these aims are specific to the Leeds consortium, it is possible to identify a number of common themes across the aims provided by all four consortia; for example, regarding the process of undertaking collaborative research and also the dissemination and use of research findings.

Consortia purposes (2) substantive content of research: At the same time, members of all four consortia had also chosen to join this TTA initiative because they wanted to explore particular issues of concern and interest in their schools. As would be expected, the *substantive content* of the research undertaken varied more widely across the consortia than the aims relating to research *processes*. The following is a summary of the main research topics undertaken:

- *Leeds* consortium: initially children's literacy and numeracy skills but later focusing on mental mathematics.
- *Manchester and Salford* consortium: school improvement through literacy, numeracy and science but later also incorporating children's speaking and listening.
- *Norwich Area* consortium: enhancing pedagogical skills in dealing with the problem of student disaffection.

- *North-East* consortium: improving critical thinking skills in classrooms.

Decisions about substantive issues were largely determined by the contextual circumstances of schools and other institutions comprising each consortium. For example, the *North-East* consortium was built on an existing network of teachers who had already been collaborating with an LEA and an HEI to develop the teaching of thinking skills. In the *Manchester and Salford* consortium the focus chosen by each school was based on priorities already identified by Ofsted with regards to literacy, numeracy or science. Their later consortium-wide theme of *speaking and listening* developed from these, when it was agreed by the schools that the children's language skills affected all three core areas of the curriculum.

Consortia purposes (3) balancing the relationship between the processes and substantive areas of research: in practice, for all four consortia, researching the *substantive* areas inevitably required them to consider the nature of the research *processes* in which they were engaged, and *vice versa.* For example, in the summary of the final report to the TTA, the *Norwich Area* consortium provided ten aims which had shaped their work. Some of these focused on the topic of the research undertaken, concerning student disaffection; for example, to *'implement changes designed to motivate and engage disaffected students in the learning process'*. Others, however, related more generally to the research processes undertaken; for example, to *'guide teachers to familiarise themselves with relevant existing research literatures as an informative starting point for their own investigations'*.

To understand the balance of purposes between the *processes* of research and its *substantive content* it is necessary to take into account the different priorities of consortia members. For example, it is likely that teachers and other members of schools in the *Norwich Area* consortium were more concerned with finding out how to motivate disaffected students than with how to undertake a literature review, whatever the connections might be between these two sets of activities. Similarly, some university members in the consortia chose to investigate the *process* of developing research relationships between themselves and teachers; (see, for example, the work of Baumfield, *North-East* consortium; also Elliott, *Norwich Area* consortium). This was, however, unlikely to have been a major research interest for those teaching in schools.

How did the TTA consortia work?

In the same way in which there are a range of reasons why schools and other institutions chose to be members of the TTA consortia, decisions about how they preferred to work together also varied. Indeed, these differences can be found not only between consortia but also within each consortium and indeed within individual schools. There were also shifts and developments at all levels across time. Therefore, identifying the key conditions, structures, processes and activities, which have supported the research of the consortia members is not straightforward. Nevertheless, the following three areas appear to be important when considering how this particular researching school network, worked. These are:

i. Engagement in and with a range of research processes, structures and activities.

ii. Partnerships between schools and other institutions.

iii. Whole-school, whole-consortium and cross-consortia learning.

Engagement in and with a range of research processes, structures and activities: there were a number of research processes, structures and activities which were common to all consortia, and were based on the requirements and expectations of the TTA. These included:

- All research had to be clearly focused on classroom *pedagogy/teaching and learning processes,* rather than on national policies or curriculum issues which were outside teachers' remit to change.
- Each school had to appoint a teacher as TRC, and provide support for them to develop their role as both researchers and co-ordinators of research (for example, giving them time to fulfil their duties).
- Each consortium had to disseminate its findings: for example, in the form of structured annual reports. These were expected to address learning about research both in terms of the *processes* and the *substantive content* of that research.

Within these overall parameters each consortium chose to undertake their research activities using a variety of methods and approaches. These were partly determined by their appropriateness to the substantive issued being considered and partly by pragmatic and other context related reasons. However, such diversity was also actively encouraged by the TTA as

it provided a range of opportunities, across the consortia, to gather evidence with regards to the kinds of research *processes* which are useful to teachers. The selection below illustrates some of the variety used in each consortium:

- *Leeds consortium*: peer observation; reading and discussing published research materials; 'looking at learning', that is, close observation of children; sharing of understanding and progress across the team of TRCs.
- *Manchester and Salford consortium*: baseline assessment of teachers' attitudes to research; video observation of classroom techniques and pupil response; pupil 'logs'; consultation with outside experts on substantive issues; analysis of National Test results.
- *North-East consortium*: peer observation; video observations; peer coaching in both substantive issues and also research skills and techniques; professional dialogues.
- *Norwich Area consortium*: qualitative and quantitative data sets on classroom and school practices, plus teacher/student perceptions of such practices; cases records of initiatives (using classroom and peer observation; pupil tracking; pupil questionnaires; teacher interviews).

Partnerships between schools and universities: As explained previously (see *Who?*) the membership of each consortium included not only schools but also at least one LEA and one university. Over the three years of the initiative the changing relationships between these different institutions became, for some members, a focus of interest and concern. In particular, the nature of the research relationship, developed between members of schools and universities, was scrutinised. The following provides a summary of some of the key issues, including strengths and tensions, that arose:

- In each consortium, the university provided an administrative base for the research work. University staff also acted as research tutors and mentors providing support to teachers in various forms; for example, training in research methods; guidance with literature reviews; co-researching in schools; practical support, such arranging for the transcriptions of interviews and copying of videos; helping with the writing and disseminating of research findings.

- University (and sometimes LEA) members also had a specific role in terms of supporting the developing research role of TRCs. Indeed, in the final report to the TTA, academics are described as *master craftsmen* and TRCs as progressing, with their help, from *apprentices*, to *crafts people*, and finally to become *coaches, quality assurers, co-ordinators and initiators* in their own right.
- Before the project started, a number of schools were already working with local universities and all the schools had existing connections with their LEAs. Where such relationships were already well established, there appeared to be greater potential to generate new ideas, probably because factors such as trust and local knowledge had already been secured. However, the long-term sustainability of such relationships was endangered by the competing demands on time and space embedded in institutional cultures, especially those relating to radically different forms of performance assessment. Adequate funding to support research relationship was therefore considered important.
- Although each consortium had its own particular organisational structure, there was an expectation that however such arrangements were made they would be premised on the notion of lateral representation from across all the institutions involved. However, and especially initially, this was not also straightforward to achieve. Teachers, in particular, often held a hierarchical view of research in which the academic was seen as 'better' than that undertaken by teachers. Although it was acknowledged that universities members generally worked hard to be approachable and accessible, these differences were potential barriers to their collaboration with colleagues from schools.

Whole-school, whole-consortium and cross-consortia learning: it was always a strong intention of the TTA that learning about research would take place at a number of different levels and within a series of interconnecting communities. These included not only small groups of teachers in individual schools, but also whole-school, whole-consortium and cross-consortia learning. However, although the TTA set out to identify possible patterns and structures (for example, the impact of school size, the relative importance of shared research topics, the role of universities and so forth) establishing how far such networked learning took place amongst consortia members, remains uncertain. This is not a criticism of the work of the consortia but rather a reflection of the complexity of such processes and their role within the professional experiences of teachers, academics and LEA advisers. Thus, it is possible to describe the consortia over the three years' existence, as:

> ‘Shifting from a loose confederation of separate if related concerns and interests to a complex, interlocking set of communities with a shared understanding of themselves as part of a single initiative.’ (Cordingley & Bell, 2002, p. 14)

But also appropriate to acknowledge that:

> ‘The task of learning across boundaries formed the working environment, a research goal, a means to the end of improving teaching and learning — and a perpetual puzzle.’ (Cordingley, et al., 2002, p. 2)

The above comment comes from a paper, co-written by members from all four consortia, plus the project’s overall manager. This *perpetual puzzle,* which they have identified is, of course, not an enigma exclusive to these consortia: indeed, it remains a persistent challenge to any member of a researching school network.

Selected writings by members/associates of the TTA consortia

Below is a list of reading to explore further the *who, why and how* of this school research network:

- Baumfield (2001), roles of and relationships between universities, schools and LEAs.
- Cordingley, Baumfield, Butterworth, McNamara and Elkins (2002), general overview, particularly of processes, conditions, and activities.
- Cordingley, P. and Bell, M. (2002), general overview of the consortia at the end of the initiative.
- Edwards (1999), school-university research partnerships.
- Elliott, (2002), school-university research partnerships.
- Leeds School-Based Research Consortium (2001), final report.
- Manchester and Salford School-Based Research Consortium (2001), final report.
- North-East Schools Consortium (2001), final report.
- Norwich Area Schools Consortium (2001), final report.
- TTA (1998), evaluation of the consortia.

Exploring the Cambridge SUPER Networked Learning Community: Schools-University Partnership in Education Research

Because SUPER is a network of which I am a member, I am particularly aware of not only the strengths but also the limitations of the literature referring to it and to which I have contributed myself. Therefore within the portrayal of this network there is more opportunity for critique than is perhaps possible in the previous descriptions.

Who are the members of the SUPER network?

In terms of institutional membership there are currently nine organisations based in East Anglia, England, comprising eight secondary / upper schools and the Faculty of Education, University of Cambridge. Together this constitutes a population of approximately eight hundred teachers and ten thousand students all of whom potentially could be both the researchers and the researched. SUPER is also a Networked Learning Community, and thus has opportunities to link with other NLCs via the Networked Learning Group, which in turn is part of the National College of School Leadership. There are also key individuals in each of the SUPER schools who are required to fulfil particular roles and responsibilities to support both research and networking activities. These are:

- *Teacher research co-ordinators (TRC):* are expected to co-ordinate and support research generally in their schools and network with each other and the Faculty.
- *Student voice co-ordinators (SVC):* are expected to co-ordinate and support research in their schools around issues of student voice and meet across the network and with the Faculty.
- *Headteachers:* are expected to support the management of research in schools and to network actively with each other and members of the Faculty.

Also, within the Faculty there are the following key roles:

- *Critical friends (one per school):* are expected to support research in the schools and also to undertake their own investigations into the nature and development of the research and the networking taking place in the school.

- *Network manager:* is expected to co-ordinate networking activities as well as be a critical friend.
- *Network research officer:* is expected to research the SUPER network as a whole and also be a critical friend.

Why be in the SUPER network?

SUPER was set up in 1999. It developed out of the interest and support of Professors Donald McIntyre and David Hargreaves at the Faculty and from a range of existing associations they had with a small number of local headteachers. Professor McIntyre successfully applied for funding from the Wallenberg Foundation and in his proposal to them he highlighted two fundamental and related aims of the project. These were: not only to support practitioner research taking place in and between the schools, but also to research the processes and conditions necessary for such research to flourish.

From this the following overall shared research purposes have developed:

i. To explore the conditions and effects of schools and a university working together to generate and to make use of educational research.
ii. To engage with and in school-based practitioner research.
iii. And, in doing so, to address the following questions:

    - What kinds of research are useful, why and to whom?
    - How can a school develop a research culture? And, what does this mean?
    - What kinds of networking structures, processes, activities and relationships help to develop and sustain research within and between the institutions?

There are also three interconnected and shared research foci or themes, chosen by the TRCs, headteachers and members of the faculty. These are:

i. Independence in learning, for students and staff.
ii. The development of student voice in learning and in the use of evidence.
iii. Learning about leadership.

They have been constructed to be deliberately broad so as to provide teachers, students and schools with opportunities to research specific areas which are relevant and of interest to them, rather than imposed by others. This openness has also allowed scope for connections to be made across the network. (The role of SVCs was established as a direct result of the second research focus/theme).

How these broad research purposes and foci are understood and acted upon by each of the nine institutions, as well as by the individuals within them, is therefore largely determined by their own contexts, interests and concerns. For example, it seems that teachers are generally motivated by the shorter-term practical application and usefulness of research in their classrooms; headteachers are interested in the overall effects of research on their school improvement priorities; members from the Faculty are more motivated than either of these groups by the need to undertake longer-term research and which is publishable. Therefore although there is sharing and collaboration within schools and across the network, the reasons underlying such processes are not necessarily straightforward.

How does the SUPER network work?

Similarly, identifying the conditions, structures, processes and activities, which have supported the work of SUPER, is not unproblematic; it is also necessary to take into account the range of needs and demands of different members and at different times. Therefore, within the framework outlined below there are significant variations between how (and how much) each school (and the staff and students within it) sets out to engage in its own research and how it chooses to research and to network with others. Nevertheless, the following three areas seem to be crucial to the development and sustainability of the SUPER network: the role of key individuals; clear but broad defined research foci; strategies for network meetings.

The *role of key individuals* as described below appears to be central (see also *Who?* above). However, their effect on research and networking activities is largely determined by how far they are able to encourage and enthuse other members of their institutions to become involved in the work of SUPER.

iv. *TRCs:* are expected to be released from timetable for the equivalent of one day a week to co-ordinate research taking place in their school (e.g. supporting teacher-researchers) and to engage in networking activities (e.g. meeting half-termly with other TRCs). They are able to be most effective in those schools where their time is consistently protected.

v. *Headteachers:* are able to provide opportunities and resources, including time, to enable research and network activities to take place, most crucially by ensuring that TRCs are able to fulfil their role. However, it clear that the support of headteachers in terms of the creative use of resources / time is important for all those engaged in research activities. Headteachers are also important in terms of establishing the status of practitioner research in their schools (e.g. by building research into the school development / improvement plan; by engaging in research themselves; by responding positively to the research findings of members of their school, etc.).

vi. *Network co-ordinator/manager from the Faculty:* is able to develop and maintain communication strategies for the network (e.g. face-to-face meetings) as well as to encourage debate around key issues such as network relationships and roles (e.g. shared responsibilities, mutual trust, etc). She is also able to provide research training sessions for members of SUPER schools, including not only TRCs and SVCs, but also teachers and students-as-researchers.

vii. *Critical friends:* are able to support research in the schools by offering practical help and information (e.g. also training students as researchers; mentoring teacher-researchers to conduct, write and disseminate research) as well as access to the Faculty facilities (e.g. library services and specialist knowledge of academic colleagues). Critical friends are also able to provide an outside perspective about the school with which they are paired (e.g. asking helpful and, at times, demanding questions and providing feedback on what they observe taking place).

Earlier efforts to engage the network as a whole in more focused collaborative research undertakings were not always successful because of differences between schools, especially their members' context-specific needs and interests. However, the more recently established *three shared research foci/themes* (see *Why?* above) have provided a common structure for the network's research activities, whilst at the same time being sufficiently flexible to be interpreted in ways which are relevant to individual schools, teachers and students. For example, the theme of student voice has been developed in one school so as to gather

students' feedback on teaching and learning across the curriculum; in another school it has become a key process by which to gather evidence in any research undertaken there; in yet another, it has informed the reasoning behind the introduction of a programme of student-as-researchers. This range of activities not only takes into account the contexts of the schools but also provides rich opportunities for learning across the network as the different approaches to the theme of student voice are discussed in terms of not only the substantive issues with which they engage but also the research processes involved.

There are a *range of meetings* which take place regularly within the SUPER network. Their primary purposes are:

i. To develop and sustain research activities in the schools.

ii. To develop and sustain research activities across the network.

iii. To support and strengthen relationships between key members.

iv. To encourage effective communication across the network as a whole.

However, none of these objectives is achievable merely by either organising or attending a meeting *per se*. Their value is in the opportunity they provide for people to get together, talk to one another and share their concerns and enthusiasms. Meetings which focus on the exchange of ideas rather than giving out of information have been the most fruitful.

The following network-wide meetings take place about once or twice a term, and are co-ordinated and supported by the project manager and research officer from the Faculty. They are intended to support, develop and sustain the roles of the following key people:

- TRCs
- SVCs
- Headteachers
- Research critical friends

Additional structures for meetings include:

- *External steering group*: comprising representatives from each of the other groups noted above: meeting once a term to report on and monitor the activities in the network.
- *Annual overnight conference*: to evaluate progress and discuss future intentions of the network.
- *Research support/training sessions*: for staff and/or students, facilitated the Faculty (e.g. teaching and learning days, to share research activities with others in the network).
- *Internal steering groups:* attended by members of individual schools, plus critical friends.

Selected writings by members/associates of the SUPER network

Below is a list of reading to explore further the *who, why and how* of this school research network.

- Black-Hawkins, K. (2003), research critical friendships.
- Ebbutt, D. (2002), developing a research culture in schools.
- Jones, D. (2002, 2003), role of a TRC.
- McLaughlin, C. (2003), facilitation and development of a researching school network.
- McLaughlin, C. & Black-Hawkins, K. (2004), research partnership between schools and a university.
- Richards, J. (2003), case study of a researching school.
- Worrall, N. (2002), teaching as a research-led profession.
- Worrall, N. (2003), role of a NLC co-leader.

RESEARCHING TEACHERS, RESEARCHING SCHOOLS, RESEARCHING NETWORKS: A REVIEW OF THE LITERATURE

Concluding thoughts

This literature review has considered the notions of first, teachers as researchers, second, schools as researching institutions and finally, networks of researching schools. What has emerged from our study is not only a complexity and range of interpretations and understandings of these concepts but also the richness and diversity of how they are enacted in practice. Indeed, the idea of a *network*, or even of a *network of researching schools,* appears so open that formulating generalisations remains problematic. There is, as we have demonstrated, much evidence of the great commitment and efforts shown by members of many schools and other institutions who are enthused by their involvement in school-based research and associated networks. Therefore, to support and make good use of their endeavours it seems necessary to challenge further our thinking about these ideas. The following concluding thoughts are intended to highlight those areas which might particularly benefit from greater research and theoretical debate.

- It may be that experiences and exploration of such networks are still so limited, and the idea of a *researching school* so undeveloped, that we are still some way from being able to advance strong hypotheses about what kinds of networks are likely to be most fruitful in supporting researching schools.
- It does seem that the need for an external involvement, which is often a university, within a network of researching schools is strong although it is also important to recognise that there are many complications and inherent tensions in the idea of school-university research partnerships and other collaborations. However, school-university partnerships are probably better developed and more fully understood so far than school-school research partnerships.
- Engagement in researching school networks is perhaps made especially intellectually stimulating by the considerable diversity of ideas in play, including some of a very ambitiously transformative nature. However, progress in terms of the practical usefulness of such networks is probably being slowed down by the same diversity of ideas and by the possible impracticality of much of the rhetoric.

- Progress is likely to be surest when developments are driven primarily:

  i. by school-level support for, and co-ordination of, teachers' classroom concerns and aspirations,

  ii. by university or external research involvement both for support purposes but also to explore the functioning of researching schools and networks,

  iii. and by government and national agency financial support and political/ rhetorical openness.

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